Playing the Story: The Emergence of Narrative through the Interaction between Players, Game Mechanics, and Participatory Fan Communities.

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

If all games are understood as ultimately driven by the operation of their mechanics, then that operation cannot fully exist without the interaction of a player, and by extension the participatory fan community in which that player is situated. This interaction, in turn, can often produce a form of constructed reality known as *emergent narrative*, leading to this dissertation's primary question: Do game mechanics inherently produce emergent narrative? Throughout this dissertation, I will argue that **game mechanics produce an emergent narrative as an inherent consequence of their interaction with players and the surrounding community**. In answering how emergent narrative comes out of the interaction between players, games, and ultimately the surrounding community, I will examine five key issues: player agency, the actual production of emergent narrative, narrative in non-narrative games, the role of participatory fan communities, and the potential use of emergent narrative in applied game design. Each of these areas in turn will be investigated through the lens of a case study on a relevant game.

The main underlying idea that this dissertation adds to ongoing research is that the production of emergent narrative is an unavoidable consequence of playing a game. While the degree and direction of emergent narrative may vary considerably depending on the interaction itself, the very act of interacting between the player, their surrounding participatory community, and the game itself always produces some form of emergent narrative. This distinction makes any play experience potentially meaningful, and helps move the academic discussion of narrative in games beyond outdated ludology-versus-narratology models towards a more fluid and accurate theory of emergent narrative in games. This should allow for better

games scholarship, better game design, and better application of game elements in applied contexts.

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DEDICATION

This dissertation is dedicated to my supportive family who made it possible for me to study an area of passionate interest, even if they did not always understand it. It also dedicated to those who still believe in the power of story in games.

PREFACE

"Come play with me, Uncle Ry" my young niece calls to me during a visit to my parent's house back in Brandon, Manitoba. This refrain is a familiar one whenever my niece is around, and curious to see what kind of answer I will receive, I ask her laughingly, "why do you always want to play?" Without missing a beat, or worrying about deconstruction, semiotics, or any other form of analysis, she simply responds "because playing's fun."

I find myself spending time with a four-year-old niece who knows I "know a lot about" games and wants to learn how to play the wooden snakes and ladders tabletop game she received for Christmas. This particular game has quite a long history behind it, dating as it does back to the ancient Indian game of gyan chauper (Toppsfield 13). Gyan chauper, which bears a strikingly little changed resemblance to its modern descendent, was part of a family of Indian games whose dice-roll and token movement mechanics would eventually inspire some of the "classic" board games of the modern era, including commercial titles such as *Sorry!*, *Parcheesi*, and *Monopoly*.[1]

In ancient India, as in modern-day Canada, the main purpose of playing snakes and ladders was to amuse young children, but it also carried with it a mythological and culturally-infused model of the life that lay before them. Landing on a ladder or sliding down a snake were actions that, particularly in ancient Indian religious contexts, echoed the never-ending conflict between virtue and vice that sometimes moved one forward in life and sometimes moved one back. While the game mechanics themselves are primarily rooted in chance rather than in skill—although there are variants on the rules that allow players for example to elect

[1] Please note that for purposes of this dissertation, I will only be capitalizing and italicizing games published under a proper name. For example, *Monopoly* and *Tetris* would receive italics and capitalization, but neither would be afforded to soccer, snakes and ladders, chess, or go.

not to climb a ladder if they so choose—they are intrinsically intended by design to mechanically model and reflect the various decisions one might make over a lifetime. The up and down, back and forth, fortunes of the individual player not only mimic the struggle between vice and virtue, but create an emergent narrative of winning and losing in the community of players and spectators. In the end, this model has proven resilient enough not only to survive in India from ancient times to the present day but to spread to popular adoption in cultures around the world.

For my young niece, however, she just wants to know how to play—or rather, more importantly, she wants to know how to win. It quickly becomes evident that if the rules of the game make it more difficult for her to do so, she will happily edit them on the fly—normally without seeing the need to first discuss such revisions with her opponent. One might think with such an open-ended understanding of the game system that the exercise of playing the game itself is effectively rendered redundant. My niece, after all, could simply declare herself to be the winner just as easily as modifying the rules to ensure she wins.

Yet she does not. Such an action does not appear to even merit consideration. If she is to achieve satisfaction through defeating me at the game, my niece must allow some modicum of an opportunity for victory for her opponent, even if it is only a semblance of one. This is more than simply a chance to prove that she is better than me at the game. It is an opportunity for her to assert her skills, her success with her cultural development, and her progress towards maturation. It is also an opportunity for her to assert her social identity and her individual worth, even if she has not quite yet learned how to count all one hundred squares on the board or to sit still for an entire game. Like her token, however, she is taking steps in that direction.

Like her understanding of the rules of snakes and ladders, my niece's understanding of terms like "play" and "games" is fluid, but it is not without limitations. While playing together, we embody a manifestation of Huizinga's *magic circle*[2] (8), although it is one whose boundaries are constantly changing and are permeable. The real world, and the underlying issues my niece and I respectively experience within are not absent in the game world, they are reflected. By interacting with the game mechanics, we enact our own thoughts, desires, and ambitions, establishing a sense of self through player identity.

In interaction with the game mechanics, our own narrative emerges.

[2] Huizinga's magic circle refers to the idea that the world created by a game is separate from the external world and ultimately an artificial abstract.

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INTRODUCTION

While humans are not the only animals that play, the human obsession with games remains a globally widespread if not universal attribute of human social organization. While not everyone plays, engagement with a game in one form or another remains indisputably popular with a full range of age groups and ethnic backgrounds. Games represent, not only a form of entertainment, but a means of both challenging and invigorating the human psyche in the individual while forging the bonds of either teamwork or competition in the group. Through interaction with the game, players and those who watch them, gain not only a diversion but a means of further developing identity.

From snakes and ladders to soccer to the latest top-selling digital games, the phenomenon known as game exhibits countless diverse attributes. A universal definition of *game* is inherently elusive and will likely continue to be for the foreseeable future. However, a consensus can be reached on some of the commonalities that all things considered games—or at least the vast majority of them—must share. Most games, for example, include some form of conflict as well as some principle of uncertainty. All games, however, are ultimately driven by the operation of their mechanics, and this operation is fundamentally dependent on the interaction of a player. Through the interaction between player and game mechanic—and by extension the surrounding community—it can be understood that games produce a form of constructed reality which can be referred to as *emergent narrative*.

The primary question this dissertation asks is: Do game mechanics inherently produce emergent narrative? Throughout this dissertation, I will argue that **game mechanics produce an emergent narrative as an inherent consequence of their interaction with players and the surrounding community**. The design of game systems, spaces, and experiences create the

meaningful consequence of narrative through the process of emergence. I will be focusing on the emergence of narrative from the interaction between players and game mechanics—and by extension the wider community—as a pivotal and unequivocal function of the relevance and worth of games as meaning-making entities.

Certainly, the concept of a relationship between games and narrative is hardly a new one. In the still relatively nascent field of game studies, the currently scholarly discussion of the relationship between games and emergent narrative has long been haunted by the spectre of the ludology versus narratology debate. While I would argue that this debate was never adequately resolved, for many game scholars, it is an issue whose time has passed, a symptom of an emerging field of study attempting to define itself against previously established disciplines. Considering the ludology versus narratology debate was incompatibly framed in the first place, narrative discussion—even of the more game friendly emergent variety—became something of a forgotten subject as game scholars—now no longer in quite the same need of justifying their own field of study—moved on to supposedly more game-focused paths of analysis like the questions of player-focused or mechanics-focused games.

The problem, however, is that while game scholars turned their attention away from the relationship between narrative and games, game designers turned their attention towards it. Considering this development, it is critical that game studies re-opens discussion on narrative, but from the perspective of emergence, which is the major motivation behind this dissertation. In the digital sector, the economic eclipsing of cinema and books by video games cemented their legitimacy as a force of popular culture, while at the same time technological advances and better writing allowed digital storytelling in games to mature. In tabletop gaming, the profusion of game cafés and indie Kickstarter projects, have seen far more thematic board

games and independent role-playing games through to publication. For this reason, I maintain that now more than ever there is an urgent need for a better understanding of the relationship between game mechanics and narrative.

Perhaps most telling, however, is the increasing interest in using games as an applied platform to address real-world issues through the application of curated emergent narrative. At the time of writing, UNESCO's Mahatma Gandhi Institute of Education and Peace (UNESCO-MGIEP) has sponsored a study looking at using games to generate empathy towards pressing global concerns (Ore). With a similar intent, I have already created a game and conducted a university-sponsored study on the use of the board game *Kitchen Table* to encourage empathy towards people with anaphylactic food allergies. This game will be used as a case study in chapter five.

My experiences in game design, experimental emergent narrative analysis, narrative production and publication, and game scholarship itself puts me in a unique position to address the question of the emergence of narrative from the interaction between player and game mechanics. Overall, my contributions to the ongoing scholarship on the subject will be to look at emergent narrative not as an occasional and accidental consequence of interacting with some particularly thematically-driven games, but as an intrinsic and ultimately unavoidable aspect of playing a game. By establishing emergent narrative as a constructed reality of the experience of interaction, my goal is to allow for not only a better conception of game and narrative as not mutually incompatible, but also allow for more effective use of this relationship in the design of games.

Further to this point, I will show the intentional use and cultivation of emergent narrative in game design to be an effective means of addressing real-world problems and

issues. Through the creation of *applied games*, the power of emergent narrative will be made increasingly directable, further distancing games from the supposed sole function of entertainment. By changing the debate from an either/or discussion and pointing it in the direction of application, games—and the emergent narrative they produce—can be pushed to reach new potentials.

To fulfill these goals, this dissertation features five chapters, each dealing with a different aspect of emergent narrative. The first chapter asks: **what is the relationship between player agency within games and the emergence of narrative from game mechanics?** The second asks: **how do game mechanics, which are seemingly divorced from narrative, in fact generate it?** The third asks: **does emergent narrative exist in non-narrative games?** The fourth asks: **what is the relationship between a game's participatory fan community and the emergence of narrative through game mechanics?** Finally, the fifth asks: **If narrative is emergent from player interaction with game mechanics, how can designers use that interaction to generate meaningful play and to mount effective rhetoric through applied games?**

After identifying and defining key terms that will be relevant to the dissertation as a whole, I will use this introduction to outline each of the five chapters and provide justification for their inclusion. Each chapter, in turn, will be divided into four or five more specific areas of consideration that investigate and support key elements of the over-arching argument for both the individual chapter and the thesis as a whole. Each of the chapters will also analyze a relevant case study that will demonstrate how discussed ideas might be applied and how they are connected with the emergence of narrative from game mechanics. Case studies are critical to this area of research as they represent microcosmic evidence of the unfolding of the larger

emergent narrative phenomenon. As the chapters are driven by the relationship between emergent narrative and a particular concept, they will each individually define and discuss a specific key term such as agency, non-narrative games, participatory fan cultures, and applied games. Following this discussion, I will explain some of the limitations of this dissertation's scope, indicating what topics of study are within the realm of consideration and which are not.

To put this discussion in context, the issue of the relationship between games and narrative has been a thorny issue in the field of game studies. While the initial narratology versus ludology debate ultimately gave way to debates over player-focused or game-focused approaches to analysis, the underlying issue of the function of games as vehicles of meaning making continues to persist. In the end, the potential of games as a media and cultural force remains narrowly focused towards specific games, components, or issues, and the wider function of games as vehicles for emergent narrative is still poorly understood. Throughout this dissertation, I will strive to shed light on this connection, reinforcing the notion that the emergence of narrative stems from player and community interaction with game mechanics, and that this emergence could be utilized more effectively and beneficially in the long term.

BRIEF OVERVIEW OF KEY DEFINITIONS

To serve as a quick reference, and to establish a basic understanding of terms which I will use to define others, I will briefly explain my conception of the following key terms: *play, games,* and *player; narrative, emergence,* and *emergent narrative;* and *interactivity, immersion,* and *game mechanics*. Each of these definitions will be expanded upon further in this introduction, but for the purposes of this discussion a working understanding of each term will be required. This dissertation will define *play* as a loosely governed, mostly voluntary

activity that is somehow detached from traditional avenues of production. *Games*, by extension, are artificial structures meant to direct that play, usually towards some outcome, through the interactions between players and game mechanics. It should be noted that this dissertation considers all forms of games to be viable and related subjects for analysis, but broadly categorizes games into three main categories: digital games, which includes video games, mobile games, and any game defined by its primary incorporation of digital interface; tabletop games which include board games, card games, pen and paper role-playing games, and any game which is primarily played using analog pieces but does not require substantial athleticism; and physical games which include most sports, playground games, and any game activity where the emphasis is on physical movement of the body rather than on interaction with a digital device or analog pieces.

A *player*, naturally, is a subject who interacts with a game through the operation of the game mechanics; that is to say someone who plays the game. *Narrative*, meanwhile, is a series of events whose connection generates meaning. *Emergence* refers to the capacity for a phenomenon to come into existence—to emerge so to speak—out of the interaction of disparate elements rather than as a directly conceived linear entity. Emergent narratives, by consequence, are meaningful phenomena that arise out of player interaction with game mechanics. *Interactivity* refers to the capacity by which a subject can directly influence an object, which in this case refers to the degree to which a player might play a game. *Immersion* can be described as the degree to which a subject, in this case a player or an audience member, can become experientially absorbed by an object such as a game to the exclusion of his or her external reality. Finally, *game mechanics* represent the rules-based systems that act as the tools

of interaction, allowing the player to act within the artificial environment of the game space and influence the outcome of his or her game.

PLAY, GAMES, AND PLAYER

The term *game* has long been difficult to define, so much so that in the introduction to *Characteristics of Games*, authors George Skaff Elias, Richard Garfield, and K. Robert Gutschera outright refuse to define it (3). While the terms *game* and *play* are certainly inter-related, distinguishing between them can be a delicate balance of semantics. It is tempting to explain game as a form of structured play, although Huizinga and many other theorists largely identify play as unstructured behaviour within a structure (1). However, some of the inherent contradictory problems with this definition immediately become apparent. Complicating the problem is the lack of true equivalents in many other languages. To play in English, can mean to play a game, to play an instrument, to perform a character, to enact a strategy, to manipulate and exploit another person, to not take things seriously, to engage in activities just for "fun"—itself an equally problematic and English-centric term (Sutton-Smith 3). In his book *The Ambiguity of Play*, cultural anthropologist Brian Sutton-Smith outlines the great challenge academia has had in reaching a consensus understanding of a term like play:

> …there are multiple kinds of play and multiple kinds of players… Different academic disciplines also have quite different play interests. Some study the body, some study behavior, some study thinking, some study groups or individuals, some study experience, some study language—and they all use the word *play* for these quite different things. Furthermore, their play theories… come to reflect these various diversities and make them even more variable.
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In this sense, achieving a universal understanding of the concept of play seems inherently out of reach. With so many competing understandings for the definition of play, this dissertation will only consider those most relevant to field of game studies.

My understanding of *play* as a loosely governed, mostly voluntary activity, detached from traditional avenues of production, is rooted in prior scholarly discussion around the subject with a few caveats of my own. For one, I would note that play is not always voluntary—although it usually at least appears to be—but that external factors such as social pressure and even economic incentives, particularly in the realm of professional sports, might coerce a player into playing. In most contexts of play, however, there is a sense at least that participation is willful, owing to the association of play with leisure, or rather outside the means of traditional production. This understanding however, should not be confused with the notion that play is not and cannot be productive, as the popularization of gamification and indeed the production of emergent narrative serve as testament to the constructive capabilities of play, which may help to explain why it has been so persistent throughout our history as a species.

In *Homo Ludens*, Huizinga is quick to point out that play as a behavior at least has antecedents whose emergence far predates that of what could be understood as language or culture (1). As evidenced by his titular reference to the human species as "playing man," Huizinga argues that humans are, as a species, fundamentally a playful species and are certainly far from alone in the animal kingdom in this regard. Play or play-like behavior has been frequently witnessed and deeply documented amongst a plethora of other species, most notably close primate relatives and other mammals that share humanity's tendency towards intelligence and social bonding (Schweller 43). In all species that play, however, the nature and

purpose of play remains a contentious issue for debate. While accepting non-human animal play behaviour to be comparable to human play, Huizinga finds the biological justifications for such behaviours to be lacking (12). In his view, play seems, at least on the surface, to be a dubious use of an organism's resources of time and energy, resources which could presumably be—as far as rudimentary Darwinian species survival needs are concerned—better spent looking for food, defending one's territory, or procreating. From this understanding, Huizinga argues that play is neither functional nor rational (4), that it is fundamentally not serious and a voluntary act. Huizinga goes on to identify two main functions of play, the first being "a contest for something" and the second being "a representation of something" (13). The first function can be readily applied to the world of games, most of which are indeed some form of competition or conflict, but the second function seems more reflective of semiotics, with play in this case serving as a sign or referent for something else much like the photographs of Roland Barthes (3). This is not to say that games themselves cannot also be signs, referent texts that openly embrace their artificiality. However, if games are to be considered products of play, then these two functions must also be considered to be at work within them. Play then, I would argue, is an act of signal exchange not unlike Gregory Bateson's notion of "metacommunication" which he describes in "A Theory of Play and Fantasy" (316). The production of emergent narrative through interaction is a form of semiotic evolution.

In Huizinga's view, the distinction between game and play is largely a matter of organization. Play, in its most authentic form, is freedom, is the antithesis of ordinary or "real" life (8). In this sense, Huizinga gets almost romantic about his notions of play as a means of exploring the potential of the human biological form, arguing that "in play, the beauty of the human body reaches its zenith" (7). While play remains ethereal, acted, and constantly liable to

change (21), games are then, somewhat paradoxically, a form of structured play where the freewheeling nature of play is moulded and directed through mutually agreed upon pseudo-arbitrary boundaries such as those of the magic circle. While I agree with the spirit of Huizinga's notion that play is linked to freedom, I would note that existence of a magic circle is in itself a form of structure, and therefore play, at least in the form of games, can never be fully unstructured. Games then are in effect structured play scenarios, but the degree to which they might be structured might vary considerably. If play is understood as a more loosely structured version of games, then I would argue that play and games exist on a spectrum of structure, with less structure on one end and more structure on the other. The line at which play becomes a game, however, is the line at which a clear and consistent structure can be observed. Even in this case the players are still *playing* the game, meaning play is an intrinsic element to games.

In most mammals, play also serves as a means of indirect training—which is why it is more common amongst younger members of the species who have yet to learn to fend for themselves—and to establish social bonds and hierarchy. As Huizinga distinguishes humanity from other species by focusing on how human play gets structured into games, nonetheless games retain these indirect objectives, serving as a public demonstration of a group member's skill and position while at the same promoting cohesion and common culture as a team. Indeed, Huizinga outlines the idea of the *magic circle* as a collection of abstract artificial boundaries, between the game and the real world, setup to heighten the specificity of the game and afford it an almost mythical status (Salen and Zimmerman 93). Huizinga, and similar theorists, generally emphasize that play is voluntary (7), thus underscoring its role as a means of entertainment as well as bonding. This point, however, can potentially separate games from

play. In the ancient Roman gladiatorial games, for examples, the participants were often slaves forced to compete, and while it may have been a sadistic form of entertainment for Roman audiences, for the gladiators themselves this situation seems a long way from being playful, never mind voluntary, and yet these events are still often referred to as games (Carter 98). While I do not agree that play is always voluntary, I would argue it generally should be regarded as such in most cases.

Games on the other hand, while still a form of leisure, nevertheless have a stronger inclination towards work-like elements, particularly in the form of professional sports. While it can be assumed that most professional athletes do still generate pleasure from their chosen disciplines, the seriousness required for competitiveness tremendously distances these acts from the realm of child's play. In other words, play has become work, although it has not exceeded Huizinga's understanding of why individuals within a culture might find themselves compelled to participate:

> From the life of childhood right up to the highest achievements of civilization, one of the strongest incentives to perfection, both individual and social, is the desire to be praised and honoured for one's excellence. In praising, another each praises himself. We want to be honoured for our virtues. We want satisfaction of having done something well. Doing something well means doing it better than the others. In order to excel, one must prove one's excellence in order to merit recognition, merit must be made manifest. Competition serves to give proof to superiority.
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In this sense, Huizinga's understanding of the structure of games, and why the desire to play them is so strong, becomes intrinsically linked to cultural reverence, to an ambition to seek and achieve a sense of glory in the field of sport. Nevertheless, professional sports teams, leagues, and world tournaments such as the Olympics or the FIFA World Cup, continue to function in much the same way as traditional play, albeit on a much grander scale. Much like the gladiatorial games before them, today's major sporting events serve as catalysts for the

emergence of narrative, the unification of one side versus an opposing one, and the establishment of a hierarchy of excellence. In many ways, they can potentially accomplish similar social objectives as a war, while providing a reprieve for either side from much of the bloodshed. In this sense, I would argue that games provide a very useful function, not unlike humour, in potentially serving as a release of tension. Games have been known, however, if not to outright create tension then to serve as a catalyst for it—such as in the case of playoff riots—so the function of games cannot be viewed unilaterally as a means of release. Instead, I would argue that games can have a multitude of social impacts, both positive and negative, and the mechanism through which that impact reaches the wider fan community is the process of emergent narrative.

Since Huizinga's time, the rise of game scholarship—and ultimately game studies—has provided a great deal more material to help flesh out this understanding of the distinction between game and play yet constantly viewing the two as intrinsically related. One of his key early critics, Roger Caillois, accused Huizinga of romanticizing the concept of play as mysterious and disconnected from the physical world (4). Caillois also supported and built upon many of Huizinga's key ideas, characterizing play as free or voluntary, separate from everyday life, based on uncertainty, and fundamentally unproductive, rules-based, and imaginative (9-10). These notions, by extension, drove home the implicit understanding that games, if not completely frivolous, are at least auxiliary to needs of everyday existence. In other words, games are at their core fundamentally vehicles for entertainment. While Caillois recognized the boundaries between the playing world and the working world as more fluid than Huizinga had theorized them, he still understood games as existing in isolation from everyday life. I would argue that, while games do operate in their own virtual worlds to some extent,

these worlds are not and never can be fully separated from the external reality that constructed them. Each impacts the other, however greatly or marginally, through the process of emergent narrative.

Noted games studies scholar Jesper Juul in many respects echoes this notion of fluidity between virtual and physical worlds, through his repeated attempts to define the term game. In *Half-Real: Video Games between Real Rules and Fictional Worlds*, Juul revisits some of his earlier definitions; particularly his classic model that postulates six criteria for what defines a game. This list of criteria argues that a game must include: a rule-based formal system of play, variable and quantifiable outcomes, differing values for differing outcomes, the ability of players to exert effort to influence these outcomes, the ability of players to feel emotionally attached to these outcomes, optional or negotiable consequences of actions (6). Like Huizinga before him, Juul ultimately sees games as an intersection of rules and make-believe.

Of Juul's list of criteria, at least four of the five items are directly connected to outcome—with the other two intrinsically linked as well—in particular to whether the game has been won or lost, by what degree, and through how much player input and agency. In other words, Juul defines games by their win conditions. Compared to Huizinga's notion of games as organized episodes of play, with a degree of structure but also a degree of fluidity, Juul's criteria seems to lack this flexibility. Indeed, the play of the game seems mostly a function of keeping score, administering the success or failure of the game—and its players—based on entirely numerical considerations. In effect, Juul views games in terms of quantity rather than quality. I accept that most games do have a win condition as these elements are very effective in motivating player engagement are often a natural product of the increase in structure. Even

so, I would not say that a win or lose condition, or even an official end-game condition, is a necessary component of all games.

Of course, the definition of games remains a contested area of discussion. In *Rules of Play: Game Design Fundamentals,* Salen and Zimmerman compare and contrast many of the other leading scholarly definitions of games, including the likes of Greg Costikyan and Chris Crawford, looking for the manners in which play is a subset of games and games are a subset of play (71). At the end of their comparison, they put forward a synthesized argument that defines games as entities that involve systems, players, artificiality, conflict, rules, and a quantifiable outcome (80). As for play—which they happily point out has many diverse uses in English, many of which are seemingly completely unrelated to games (302)—they ultimately come to define the term as free movement within a rigid structure that somehow comes to oppose this rigidity. In this sense, however, play itself seems to be a game, a pursuit of freedom—of player agency—within a defined boundary, and as such its meaning once again becomes conflated with that of game. I would argue then that Salen and Zimmerman's distinction between game and play is not so much a distinction built around defined edges but degrees of separation along a gradient of similarity. Like Juul, however, Salen and Zimmerman's understanding of games is somewhat problematic, particularly the requirement that the outcome be quantifiable. Quantification implies a numerical result, a score that measures the success of players within the game, even if it is a simple binary win or lose condition. Many activities commonly understood as games; however, do not readily seem to lend themselves completely to this numbering tendency.

For example, the popular children's game of monkey in the middle, does in some sense have a quantifiable outcome, players on the outside try to pass the ball to each other while

keeping it away from the aforementioned *monkey*. Yet, when the ball is caught, and the monkey presumably wins, the game does not traditionally end. Rather, the erstwhile monkey player simply trades places with the player who last touched the ball before it was caught, with that player now taking the place of the monkey and play resumes. In many cases, this transition is relatively seamless with players moving in and out of the role of monkey often repeatedly, and the end of the game being mostly defined not by the outcome of a score or the meeting of a victory condition but by the loss of player interest in maintaining the game. True one could view monkey in the middle as a series of independent matches, each ending the moment the monkey victoriously captures the ball and beginning anew the moment a new monkey takes his or her place. However, most sessions of play barely pause when these transitions occur, making them more like play changes than the beginning and ending of separate games. In this sense, while there is an apparent win condition in the game for the monkey, there does not seem to be a means to win outright for the other players whose main objective is merely to keep the monkey from intercepting the ball. So even if the monkey capturing the ball is accepted as the game ending, the game is asymmetrical in its quantifiability. In many play sessions, there is no concrete rules about how often the ball must be passed, or even how much of a reasonable opportunity must be given to the monkey to intercept it. Now certainly one could add a score-keeping mechanism to the game—perhaps measuring how many throws a player makes before being caught, how long a player spends in the middle, or how much risk is taken in making throws—but traditionally the game is played without this mechanic in favour of a more fluid and organic structure.

Indeed, many games whose existence predates the rise of print culture—and in particular the rise of literacy and rules standardization in the 19th century—are actually quite

fluid in their interaction with outcomes. Digital games, by their electronic nature, have to be fundamentally rooted in binary operations to some degree—which could perhaps explain why many theorists, accustomed to considering digital games, have found themselves so drawn to these quantifiable outcomes. Nevertheless, this dissertation maintains that while scorekeeping can be a quintessential aspect of many games, it would be more accurate to say that games have measurable trajectories rather than necessarily quantifiable ones, with the distinction being that these trajectories could be measured through quantitative methods, qualitative methods, or both. In some cases, particularly in the case of casual games or open-ended games like some role-playing or improvisational games, they may even resist measuring altogether.

In the end, however, neither play nor games may be truly separated from the necessary incorporation of a player, and by extension the wider community from which the player comes. Judd Ethan Ruggill and Ken S. McAllister argue in *Gaming Matters* that games themselves are inherently boring and must constantly struggle to maintain the attention of both audience and players in order to justify their continued existence (6). While this attention is much more easily attained when the game is believed to be culturally significant, such as the aforementioned professional sports tournaments, Mary Flanagan addresses the issue in *Critical Play: Radical Game Design*. In this text, Flanagan calls for game designers to take into account the wider stakeholder groups invested in their products, including players, audiences, scholars, the general public, the developers, and of course the designers themselves (259), although this list could also include educators, non-profit enterprises, and any others who might view games as a means of educating or addressing social issues. While games do indeed exist somewhat paradoxically as a structured form of play which itself is inherently unstructured, I argue that it is through this complex interaction between structure and non-structure, between enjoyment

and work that define the relationship between play and games and explain why both are so socially powerful. Through this dissertation, I will demonstrate that games are not only mechanical entities, but social entities that are intertwined with the community that supports them as much as the players playing them.

In this sense, games are a form of what Rita Raley calls *Tactical Media*, or media objects which by their very nature can be used to achieve a strategic or tactical objective (6)—tactics being more localized while strategies are more overarching. Similar to video game philosopher Ian Bogost's concept of "persuasive games" (*Persuasive Games* 46) which game designer Jane McGonigal argues can "fix reality" (*Reality is Broken* 7), Raley argues that better game design embraces the inherent means by which its play creates meaning, and uses this understanding to achieve its objectives. In this sense, games with their inherent structure serve as engines of narrative emergence by design, whether or not that design is for bad or, as Jane McGonigal asserts, for good. Raley points out that by embracing ideas like play and applying them to work, if not structured into games so to speak, work can be made more enjoyable and workers can be more effective. Edward Castronova discusses this idea as well in *Synthetic Worlds: The Business and Culture of Online Games* where he argues that if the *World of Warcraft* online community were treated as a purely economic entity, it would have a GDP in excess of many developing nations (67). In this sense, players, defined by their act of playing, become actors outside of their traditional realms, shaping their identity or expressing new ones through the field of play. While Raley is viewing players through the context of activism, and Castronova through the lens of economics, I will approach understanding the concept of players through emergent narrative. In this sense, I do not see players as resistant disruptors or resource gatherers—although they can certainly be both of those things—but as

active agents in the construction of the emergent narrative that defines not only the game but the entire play experience, ultimately serving as the conduit to the wider participatory fan community.

This connection between the player, the game, and the surrounding community, underpin the system by which emergent narrative is generated as the play evolves into something more. As Mary Flanagan explains in *Critical Play: Radical Game Design*:

> For many game players, games exist for entertainment, for passing the time, for fun. They are a diversionary activity, meant for relaxation or distraction—a "not-work" space where players are free to engage in fantasy narratives, amazing feats, and rewarding tasks. But what if certain games have become something more? What if some games and the more general concept of "play," not only provide outlets for entertainment but also function as means for creative expression, as instruments for conceptual thinking, or as tools to help examine or work through social issues.
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In this section, Flanagan argues that while most games may be initially "diversionary" activities for most players, the act of playing, and becoming a player, creates a more diverse artistic, conceptual, and ultimately cultural role. Through her demonstration that "games carry beliefs within their representation systems and mechanics" (4), Flanagan reveals that the act of playing is an act of expression for the player, and as such creates something far more meaningful than mere entertainment and enters the realm of narrative. Like Flanagan, I agree that the act of playing a game is an act of meaning production, although I define that meaning production to be a process of emergent narrative.

NARRATIVE, EMERGENCE, AND EMERGENT NARRATIVE

This dissertation bases its definition of *narrative* on the research of Christian Metz (28) and H. Porter Abbot (3-4), understanding narrative as a discursive temporal unfolding of events

from which human beings can derive order and meaning through interpretative experience. Mieke Bal defines *narratology* as "the ensemble of theories of narratives, narrative texts, images, spectacles, events; cultural artifacts that 'tell a story'" (1). Narratology then, which etymologically derives from the study of narrative, is the cumulative assemblage of narrative elements and theories into a discourse.

Meanwhile, *story* and *narrative*, while related terms, have a few important distinctions. Peter Verstraten defines story as "the specific way plot elements are ordered" (12), meaning it diverges from narrative in its specificity. In other words, while a story might remain consistently the same, the way it is told differs through the production of new narratives. By extension, this means that a narrative has far greater flexibility to be non-linear, while a story must general conform to the same essence. In effect, the story is a reality, constructed by and through the narrative, which the narrative conveys through the communication of information in one way or another.

Game mechanics, through interaction with the player, represent one means of narrative to be conveyed through emergence. Both understandings of story and narrative reflect the means by which game mechanics and player interact. Game mechanics can be understood as the tools which players use to interact with a game (Sicart "Defining Game Mechanics"). They can be physical or digital objects such as playing cards, dice, and digital avatars, or abstract rules such as player turns, penalties, and experience levels. Ultimately, game mechanics are the definable tools through which players and games are able to interact.

Interaction is the capacity for two or more actors, including players and games or audiences and texts (Seaman 227), to simultaneously affect each other. In order for interaction to take place, there must be at least two separate entities, in this case a player and a game.

Furthermore, for interaction to be possible, the two or more entities must have the capacity to communicate with each other to some extent. This communication forms the bridge through which interactivity leads to emergent narrative.

Emergent narrative itself represents the narrative that emerges from the interaction between players and game mechanics, constructed through the experience of playing—and in some cases observing—the game. It should be noted that the emergence of narrative is often not limited to the players themselves, as the experience of interactive play often bleeds into the wider fan community. Through this process, the understanding of what the game means and represents takes on larger community importance, adding to the social value of emergent narrative. While these forms of narrative are distinct from more traditional narratives in that they are less intentional in their storytelling, emergent narratives nevertheless represent a critically important subject for study as games continue to gain relevance in the digital age.

The study of narrative has historically been far more deeply established than the study of games, and many attempts have been made over the years to understand games through a narrative lens. In "Narratology for Interactive Storytelling," for example, Marc Cavazza and David Pizzi, describe attempts to use computational linguistics to enact "computational narratology" (72), in some cases derived from Vladimir Propp's codification of the narrative elements of Russian folk tales in *Theory and History of Folklore* (125). The traditional narratological approach, however, assumes a static text to a certain degree, making it an ill fit for an uncertainty entity as games. Ivo Martinus Theodorus Swartjes explains this problem in *Whose Story is it Anyway?*:

> At least two issues need to be taken into account when adopting existing narrative theories for interactive storytelling. First, narratology studies narratives as static artifacts (i.e., texts) rather than investigating the cognitive process of narrative experience. Although narratology may provide insight into the 'building blocks' of

> stories, and is thus very useful for story generation research, its use for interactive storytelling must be considered with care. It may lead to systems that 'look like' interactive stories, in the sense that they are open to influence by the player, and the resulting event sequences from an outside perspective resemble that of stories, but are not *experienced* as such from the first-person perspective of a user playing one of its characters… Second… no particular narrative theory can be considered normative for interactive storytelling; the choice for one over the other is arbitrary and often guided by practical constraints.
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As Swartjes points out, traditional narratological approaches are inadequate to address the dynamic and continuously evolving nature of games through the emergence of play. While one might be able to effectively apply a static or normative understanding of storytelling to the conventional story within a game, the interactive capacity to allow actors outside the story to influence and alter its outcome in a myriad of ways makes the emergent narrative highly resistant to traditionally static narrative approaches. For the purposes of this dissertation, I will not understand narrative as a stemming in a linear fashion from a singular text, but emerging from the interaction between players and game mechanics.

The term *emergence* is itself defined by Jeffrey Goldstein in the debut article of the academic journal *Emergence* as "the arising of novel and coherent structures, patterns, and properties during the process of self-organization in complex systems (49)." Emergence then is not a repetition of what has come before, or even what has been intended, but rather the phenomenon by which original meaning-rich entities arise from the interaction of disparate elements. In the case of emergent narrative, these disparate elements are the game mechanic, the player, and the surrounding community.

The term "emergent narrative" was coined by Ruth Aylett in "Narrative in Virtual Environments: Towards Emergent Narrative" (83). In this work, Aylett underscores some of the unique elements emergent narratives exhibit compared to their more traditional

counterparts. For example, in emergent narratives the traditional narrative structures such as plot, character, and even setting might not necessarily be defined. For Aylett:

> Emergent narrative may seem paradoxical since the underlying structure provided by a definite plot (or equivalent- a plot in the classic sense may not be the only type of high-level narrative structure) seems needed to make narrative 'hang together'. Yet in an obvious sense, narrative is emergent, since it has emerged from human life experience.
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In other words, the assumption that a defined plot and other traditional narrative characteristics are required is a product of the assumed linearity and static nature of a traditional narrative text. In the case of emergent narratives, this linearity and static nature is replaced by what Aylett refers to as "storification" whereby the interaction of a user and a narrative environment can be used to generate meaningful emergence (84).

While Aylett is certainly a major influence on the direction of this dissertation, and I agree with her in many areas, there are a few key issues where we diverge. For one, while Aylett accepts the traditional narrative structures of plot, character, and setting as not necessarily applicable to emergent narratives, she nevertheless falls back on them consistently as a means of understanding how emergent narrative might function (Aylett and Louchart 338). In this sense, Aylett is still held back by a narratological understanding of emergent narrative, one that implies a bias towards more traditionally studied forms of storytelling such as literature and drama and does not adequately address the uniqueness of games as media.

Furthermore, while Aylett argues that the emergence of narrative is possible when the right conditions are met, and frequently occurs in many different game experiences ("Emergent Narrative, Social Immersion and 'Storification'."), she does not recognize its emergence from all player interactions with game mechanics. In contrast, I maintain that the experience of

interactive play itself is a basic form of emergent narrative, and that engagement with a game intrinsically produces emergent narrative. For Aylett, emergent narrative is an occasional occurrence, triggered by the inclusion of narrative elements in the game-play itself. For me, emergent narrative is a constant occurrence—although its intensity can vary widely—driven by the experiential nature through which players and fan communities derive meaning through interaction with the game.

Partly this difference is driven by Aylett's understanding of games as realms of relatively free action on part of the consumer versus the pre-determined realms of cinema and literature ("Emergent Narrative, Social Immersion and 'Storification'."). By comparison, while I acknowledge the presence of greater player agency within games versus other media forms, I also recognize the fundamental authoring role played by the game designer and the means by which this effects the construction of emergent narrative. In many respects, game design is more about curation than outright scripting in a traditional literary sense, and the player always maintains a theoretical capacity to move beyond the restraints imposed upon him or her by the game's designer. Nevertheless, the element of design is always present, and therefore emergent narratives are paradoxically both authored and organically-derived to a certain extent.

Lastly, while we agree that emergent narrative can be used in an applied context to address real world problems, our approaches differ considerably into attempting to address the problem (Aylett et al. "FearNot!–an Emergent Narrative Approach to Virtual Dramas for Anti-bullying Education."). Aylett's *FearNot!* game for example, owing to her more traditional storytelling tendencies, functions more like an interactive novel than a traditional game. In this attempt to generate more empathy towards victims of bullying, *FearNot!* takes players through a series of pre-scripted interactive episodes that force the player to decide how they will

respond to a particular situation. While *FearNot!* can be understood as a game, the actual empathy it seeks is ultimately driven by glorified cutscenes, meaning the game relies more on borrowed elements from other media to achieve its goals rather than embracing its unique advantages as a game. By comparison, the *Kitchen Table* game which I designed and developed to encourage empathy towards persons with anaphylactic food allergies, emphasizes the actions and randomized challenges of the game-play itself—such as the struggle to complete a recipe that everyone can safely eat—to generate empathy, rather than relying on a semi-interactive experience with pre-scripted storylines. Other advantages of this approach include greater adaptability and modularity, less reliance on quickly outdated graphics engines, and the greater empathy created by having players directly assume the roles of the people they are meant to empathize with rather than exposing to sympathetic onscreen characters.

This possibility of using emergent narratives to achieve applied goals has only grown in popularity in recent years. According to Richard Walsh in "Emergent Narrative in Interactive Media," the concept of emergent narrative has achieved "an established currency in... game studies as a potential (and desirable) effect of interactive media" (1) and this direction of analysis "has implications for our larger understanding of the process of narrative sense making" (1). Despite his recognition of the growing acceptance of emergent narrative as a viable and potentially beneficial by-product of gaming, Walsh positions himself as a critic of emergent narrative arguing that "emergent narrative is not the unifying concept it appears to be" (1). For Walsh, the relationship between emergence and narrative is fundamentally incommensurate. He reinforces the notion that emergence from interaction with game mechanics is intrinsically at odds with narrative sense-making. This point, of course, is one on which Aylett and I disagree. In this dissertation, I will show that not only are emergence and

narrative interrelated phenomena, but also the very act of playing a game is complicit in the creation of emergent narrative.

In effect, both Walsh and Aylett—while approaching the subject from different angles—are still seeing emergent narrative through the lens of the ludology versus narratology debate. The notion that games, through increased interactivity and modifiability, often disrupt the conventions found in other media, is linked to the understanding that narrative—and by extension emergent narrative—and games must be foundationally incompatible. Espen Aarseth, in "Quest Games as Post-Narrative Discourse," uses this justification to argue against applying narratological approaches to games, associating narratology with a media bias towards more linear media such as literature and cinema (361). Games, being structured mechanisms of play behaviour (Salen and Zimmerman 6), are variable in their pathways but experienced chronologically. In other words, what emerges from the player engagement with game mechanics can, although Aarseth may disagree, be considered narrative.

My conceptualization of emergent narrative departs from the long-standing ludology versus narratology debate which dominated game studies for many years (Frasca 2). In this debate, prominent ludologists like Marku Eskelinen, Greg Costikyan, and Jesper Juul rejected the association of game mechanics with narrative, arguing that narrative elements were functionally unimportant and interrupted gameplay, and that narratology impoverishes game studies against the biases of other media ("Games Telling Stories?"). I agree that tacked on storylines are not essential to a positive game experience—although I would argue that they can certainly enhance that experience if designed and executed effectively. I also agree that approaching the study of games solely from the perspective and inherent biases of another media form is foundationally problematic. However, I disagree with assertions made by Juul

and others that narrative elements are fundamentally incompatible with game mechanics ("Games Telling Stories?") as well as his division of digital games into games of progression and emergence ("The Open and the Closed" 323), arguing instead that game mechanics produce emergent narrative through the interaction with the player and that what Juul refers to as progression is merely another form of emergent narrative phenomenon.

The figure most often perceived to be representative of the other side of the ludology versus narratology debate—although she herself has expressed reluctance to identify with that mantle (*Avatars of Story* 181)—would perhaps be Marie-Laure Ryan. In *Narrative Across Media*, Marie-Laure Ryan argues "narratology, the formal study of narrative, has been conceived from its earliest days as a project that transcends disciplines and media" (*Narrative Across Media* 1), allowing for the application of narratological approaches to the study of games just as they could be applied to any other form of media. Like Aylett, this gives Ryan the tendency to view games through the lens of other media forms, which can sometimes run her afoul of the very biases frequently cited by the ludologists as problematic. However, this situation could be ameliorated by approaching games through more of a multimedia lens—as opposed to a cinematic or literary lens. For my part, while I recognize games, as others such as Ryan have before me, as composites of other pre-existing media (Manovich 298), I view them as considerably more than merely the sum of their parts. While some application of analysis from other media forms is valid, games must always be understood first and foremost as games. In this respect, it can be demonstrated that games are actually a uniquely effective means of generating emergent narrative through the process of engaging the player interactively with the game mechanics.

In the end, the ludology versus narratology debate never reached a satisfactory conclusion. At the 2009 Digital Games and Research Association (DiGRA) Conference, Ian Bogost famously declared the debate a "smokescreen" with narratologists constructed as straw men for ludologists to define their positions against ("Video Games are a Mess"), pointing out that the so-called narratologists were never quite in full disagreement with the ludologists and vice versa. In effect, the ludology versus narratology debate was constructed as a teething period for the nascent era of the discipline of game studies. As game studies embraced its newfound status as a mature and respected field of study—or at least had gained the confidence to assert itself as such—it no longer needed to concern itself with older debates that implied an inferiority complex towards other media. An unfortunate side effect of this transition, however, was the sidelining of emergent narrative into the same category as narrative in the more traditional sense, meaning emergent narrative never fully received the scholarly attention—despite, as Souvik Mukherjee asserts, in *Video Games and Storytelling*, the increasing relevance of narrative in game design (1-2)—on its own merits that it deserved. Through this dissertation, I will attempt to fill this gap by treating game mechanics and narrative elements not in opposition to each other, but as interconnected complementary elements that drive gameplay forward through emergence. While I will attempt to move the discussion on narrative and games away from the past debate on ludology versus narratology, I will draw on it from the time to time—particularly in chapter two—when framing current understandings of the relationship between games and narrative.

As the field of game studies shifted away from questions of traditional narrative, much of the discussion on the question of approaching the study of games came down to a player-focused or a game-focused form of analysis (Juul *A Casual Revolution* 4). Player-focused

approaches consider first and foremost the perspective of the player, asking questions such as what factors draw player to a game or preclude him or her from engaging with it, and what motivates a player to be engaged with the play experience even in the face of repeated failure (Juul *Art of Failure* 2). By approaching games through the lens of the player, it becomes possible to imagine psychological, sociological, economical, political, geographical, anthropological, and even biological approaches to understanding games and the emergence of narrative. While all these approaches might offer insightful information about the emergence of narrative from the player's involvement with the game, the player cannot fundamentally be separated from the thing which he or she plays. That is to say, that studying the player as somehow separate from the game itself cannot convey a complete picture of the experience, and therefore leaves a solely player-based form of analysis open to biases and missed opportunities in the same way that applying a solely literary approach would.

Conversely, applying a strictly game-focused approach—concentrating on the mechanics of the game itself at the expense of the player's involvement in said game—to game studies impoverishes the analysis in the opposite direction. Certainly, one could approach the study of a game through the lens of mathematics, computer science, statistics, engineering, or other formal sciences, and uncover useful and relevant information. However, by privileging the position of the game mechanic at the expense of the player, this form of analysis inherently exposes a bias and missed opportunity to under the function of both elements, not as disparate units, but as symbiotic phenomena. In this dissertation, I will strive to account for both player-focused and game-focused approaches in order to ensure that the functionality of games and players as complementary systems is not lost. After all, it is the interaction between these two

elements which ultimately defines the existence of each, and allows for the emergence of narrative to occur.

In understanding the relationship between players and games as part of a cohesive whole, I argue that effective game design may be able to help co-ordinate both elements towards a particular end-goal. The very real and sometimes controversial subject of *gamification*, the exploitation of game-like mechanics to drive an external agenda, became a particularly strong buzz word in circles hoping to harness newly respected power of games for one purpose or another. Gamification, in effect, is the attempt to use game-like elements in a traditionally non-game setting—such as a place of work—in order to achieve some sort of result, such as the motivation of employees to be more productive or patients to live healthier lifestyles. In other words, gamification is an attempt to manipulate the emergence of narrative to serve a purpose in a non-game context.

Persuasive games—which are similar to *gamification* in that they are driven by an external agenda, although they more firmly rooted in the status of a game—purposely and effectively put *procedural rhetoric* at their design's forefront (Bogost *Persuasive Games* 46). Bogost coined the term procedural rhetoric as "the art of persuasion through rule-based representations and interactions, rather than the spoken word, writing, images, or moving pictures" (*Persuasive Games* ix) or "the art of using processes persuasively" (*Persuasive Games* 3). Like gamification, persuasive games attempt to use emergent narrative, through the process of procedural rhetoric, to affect a purposeful result.

Despite these similarities, game designers associated with persuasive games, such as Jane McGonigal and Bogost, have sought to distance their work form the trend towards gamification. McGonigal remains a strong advocate for "games for good," arguing that

gameful designs should be directed towards "using games to fix reality" (*Reality is Broken* 7), arguing that traditional gamification leaves too much room for moral ambiguity. Bogost takes issue both with his colleague's progressivism as idealistic naiveté ("Reality is Alright."), as well as with corporate gamification, which he dismisses as a "practice of marketers and consultants who seek to construct and then exploit an opportunity for benefit" ("Why Gamification is Bullshit" 64). For Bogost and McGonigal, not only is emergent narrative a real phenomenon, but one that could potentially be exploited for both positive and negative means.

Where they fall short however, is in attempting to assign a moralistic stance to the phenomenon of emergent narrative, rather than recognizing it as an unavoidable by-product of the interaction between players and games itself. Bogost, for example, is critical of gamification's exploitative rhetoric, but dismisses similar patterns in his own gameful designs. As a product of the operation of game mechanics, I will argue that procedural rhetoric can simply be understood as emergent narrative with intent. I would maintain that as a tool of game design, the use of emergent narrative is independent of ethical considerations. Like any media form, the effects of games are a consequence of design and use, rather than the tool itself. The use of emergent narrative for social, economic, or authoritative purposes are all equally valid. In contrast to Bogost and McGonigal, I define all games as encompassing "procedural rhetoric," intended or otherwise, mounted through emergent narrative.

The question of emergent narrative deriving from games remains divisive. According to Henry Jenkins, emergent narrative can be inherent if "the design and organization of game spaces have narratological consequences" ("Game Design as Narrative Architecture"). Even games that superficially lack narrative definition in favour of mechanical abstraction can still produce emergent narrative through their operations. In this dissertation, I will go beyond

Jenkins arguing that as game designers must rely on a cultural context to communicate with players, even abstract game mechanics inevitably produce emergent narrative through their cultural associations.

GAME MECHANICS, INTERACTIVITY, AND IMMERSION

If games are understood as rules-based systems of play, then *game mechanics* are the nodes of interaction through which a player might engage in the play of the game. The emergence of narrative through games is ultimately tied to the interaction between narrative and semiotics. While narrative analysis of games in the past has been limited by theoretical structures more appropriately applied to other media forms (Juul "Games Telling Stories?"), emergent narrative remains a compelling attribute of games derived through the interaction of player, game, designer, and audience. With game mechanics as the point of interaction (Sicart) transposed across various media (Ryan 1), they also serve as the point of signification (Danesi and Perron x), with narrative emerging and diverging from that signification. As these systems can traverse many other forms of media—and augment player agency through game mechanic-driven emergent narrative—there is a considerable capacity for emergent narratives, arising from game mechanics, to move into other media realms. Much still remains unknown, however, about the potential communicative power of games.

Game mechanics, however, hinge on the existence of interactivity. Without the interaction of a player, these rule-based systems lie dormant awaiting the possibility of being called into play. In this sense, game mechanics represent tools for the creation of emergent narrative, but only become activated when an interaction occurs. Game mechanics are also determined by the means through which interaction occurs. Different types of games,

incorporating different forms of media interactions within them, can allow for a wide variety of potential mechanics. The advent of a new information technology can dramatically impact the means through which players interact with game mechanics. In *The Language of New Media*, Lev Manovich, while still using the evolution of film as a comparative analogue, argues that revolutionary technological changes in digital production, storage, and distribution intrinsically altered both the creation and the consumption of media (4), by consequence not only the ways in which games were designed but also how they were played. While I would argue that a cinematic bias still underlines his observations, the understanding that the mechanical aspects of a media form are an aspect of its cultural production is still quintessential to understanding games as a mechanic-based cultural medium.

Manovich's understanding of the cultural ramifications of information technology is further built upon by Bogost's understanding of "unit operations" which sees not just digital games but all media forms as configured systems, arrangements of "discrete, interlocking units of expressive meaning" (ix). While Bogost favours "discrete, disconnected actions" over "deterministic progressive systems" in this understanding, this dissertation puts forward the idea that the net effect of multiple nodes, interacting with one another and players, can have a domino effect, whereby each action loses its inherent disconnectedness. Under these circumstances, it is not difficult to imagine how meaningful narrative could emerge from such interactions and the potential for such nodes—operating in relation to one another—to form a basis for a network of intercultural communications.

Central to the understanding of the dissertation is this concept of interactivity, *which* fundamentally underpins all discussions of games as interactive media. As a term, interactivity has been subject to multiple competing definitions from a variety of fields, but for the purposes

of this dissertation, the four models of interactivity put forward by Salen and Zimmerman—namely cognitive or interpretive interactivity, functional interactivity, explicit interactivity, and interactivity beyond the object (59)—will serve as the primary theoretical framework. Cognitive or interpretive interactivity refers to the capacity of the interaction to produce a meaningful understanding, a fundamental building block of emergent narrative. Functional interactivity means the capacity for the interaction to be used to serve a particular purpose. Explicit interactivity describes the interaction defined by a series of set choices not unlike preset options on an interactive story. Finally, interactivity beyond the object refers to the capacity for the interaction to generate meaning well beyond the original confines of the game. In this sense, I would argue that the interaction between the player and the game could be seen to extend to the surrounding community.

In many respects, games in fact serve as abstract tools that allow players—and to some extent spectators—to engage in an activity that produces emergent narrative through the pursuit of greater *immersion*. In his book *In-Game: From Immersion to Incorporation*, Gordon Calleja argues that "games introduced us to a symbiotic relationship with machines that we took for granted" (2). In this sense, Calleja understands games as artificial immersive relationships fundamentally built upon interactive mechanics.

Calleja goes on to outline six dimensions of player involvement with games. These dimensions include: kinesthetic involvement, spatial involvement, shared involvement, narrative involvement, affective involvement, and finally ludic involvement (4). Kinesthetic involvement refers to a player's ability to move or control movement within the game. Spatial involvement, likewise, refers to a player's ability to explore or learn a game's domain. Shared involvement refers to a player's ability to interact; co-operating, collaborating, or competing

with others. Narrative involvement refers to the player's interaction with the ongoing story elements featured in the game, while affective involvement references the player's ability to generate game affects. Finally, ludic involvement consists of the player's ability to make choices in pursuit of game goals or those the player has assigned for him or herself. Put together, these six dimensions of involvement help define how player immersion in a game can be understood. While I agree that all six of Calleja's dimensions can describe player immersion in games, I would argue that there is considerable overlap between many of the concepts. For example, spatial involvement generally implies kinesthetic involvement, as it is difficult to explore a virtual world without the capacity to move through it in some way. Likewise, narrative and ludic involvement, which respectively deal with a player's immersion in the story and the game mechanics, may seem distinct at first, but ultimately converge through the process of emergent narrative.

Regardless of the means through which it is achieved, I would argue that immersion overall represents the degree to which a subject immerses him or herself into an artificial environment at the expense of the external one. This mechanics-driven symbiosis is a function of interactivity (Seaman 227). While it can exist between players and the game, as well as between players themselves, the ability to play presupposes interactivity (Salen and Zimmerman 57). Immersion, then, is in effect a form of interactivity, although all interactivity is not equally immersive. Yet, the more immersive a virtual experience becomes, the more the interactivity will seem almost subconscious.

In a theoretical state of extreme total immersion, all connection to the external reality would be lost in favour of the virtual reality. Full immersion to this capacity, however, is functionally impossible. All players bring with them a pre-existing sense of self, constructed

separately from the immersive experience that impacts the decisions they make in a virtual world, even as the emergence of narrative from their interaction with the games impacts their ongoing construction of self in the external reality. Likewise, I argue that the authorial touches of game design carry with them elements of the external reality, meaning no immersive reality is ever fully separate from the external reality that constructed it.

In this sense, I deem it more appropriate to understand immersion as a condition of spectrum rather than absoluteness. In some respects, it resists quantifiability in the way that most forms of interactivity—such as controllers or playing cards—can be easily defined. Immersion is ultimately a qualitative concept, although one that can use quantitative elements to serve its own end. In the end, if interactivity is the degree to which a player can directly influence the game, immersion can be thought of as the degree to which a game can influence the player to the extent that he or she engages with the virtual reality at the expense of the external one. Both, however, are critically important to the function by which emergent narrative is derived through these various interactions. Having reviewed the theoretical history of these important terms, and determined my own conceptualization of them in response to that history, I will move forward incorporating these terms and others in the chapters to come.

CHAPTERS OUTLINE

With the dissertation's understanding of key concepts established, this introduction will now move on to previewing the five chapters in the dissertation. In answering how emergent narrative comes out of the interaction between players, games, and ultimately the surrounding community, I determined five key areas that needed further analysis and discussion. The first

chapter deals with the issue of player agency, for if players do not have some capacity to genuinely interact with a game, emergent narrative itself becomes a non-starter. The second chapter examines the means through which game mechanics can be understood to produce emergent narrative and even storytelling through their interactions with players. Building on this discussion, the third chapter will examine the existence of narrative in non-narrative games, for if emergent narrative is to be understood as universal to games it must also be found in the least narrative versions of them. With the connection between emergent narrative and the interaction of players and game mechanics understood, the fourth chapter focuses on the wider participatory fan community and looks at its involvement in the construction of emergent narrative. The last chapter will look at potential applications of this research through the use of applied games. All chapters will work to answer the critical question of how game mechanics inherently produce emergent narrative. The answer begins with the question of player agency.

Chapter One—Emergent Narrative and Player Agency

Chapter One will focus on the interaction between individual players and games; in particular, the degree to which players can influence the emergence of narrative through game mechanics. It will be driven by the question: **what is the relationship between player agency within games and the emergence of narrative from game mechanics?** The discussion will focus on exploring agency in games compared to other media forms, considering linear versus emergent narratives, and potential obstacles to agency.

Throughout the process of player interaction with the game, semiotic evolution occurs. Each time the player interacts with game mechanics, semiotic signification increases. Roland Barthes' death of the author (15) can be applied equally to the game designer as the novelist or

filmmaker. As games must continuously invoke audience decision-making in the progression of events, players assume greater input into the events of a game than audiences of more "passive" media like literature or film (Fiske *Reading the Popular* 65), conflating authorship at the outset. The designer's role is limited, but cannot be fully removed (Fiske *Reading the Popular* 65). While "sandbox" games or game-like environments do offer wide capabilities for audience modification or construction, the tools and resources available for performing both are fundamentally determined by design decisions. Pre-existing design remains an essential foundation upon which players, through interaction with these structures, can impart their own influence.

Any study of player agency should account for possible player choices both within and without the explicit mechanics (Thue et al. 210), as an increased player-induced variability expedites potential semiotic evolution. This effect is increased as design moves toward "co-creation," the collective creativity between multiple agents (Sanders and Stappers 6). Agency implies immersion, requiring that the player be sufficiently invested in the game to want to affect its outcome and that the game possesses a mechanic through which the player might achieve that objective (Mateas 22). With languages and images equally accepted as "semantic" systems (cf. Kress and van Leeuwen 73), game mechanics—along with pre-established media elements incorporated within games—become semantic systems through co-creative interactivity.

John Fiske identified a limited "semiotic democracy" amongst television viewers to actively resist the intended meaning of programming through the creation of their own meaning (*Television Culture* 236), but he identified video games as media where agency, although limited, was stronger (*Reading the Popular* 73). While narrative emerges through

player interaction with the game, the player's influence over this emergence is both fleeting in time and limited in scope. To explore player agency through emergent narratives, this chapter's case study will focus on TellTale's digital game adaptation of *Game of Thrones* in which an attempt is made to transform a linear narrative from a popular franchise into an emergent one, with mixed results. While other media forms of the transmedia franchise—the *Game of Thrones* television show for example or the *A Song of Fire and Ice* series of novels by George R. R. Martin on which it is based—can also be argued to have some degree of emergent narrative owing to the fact that fan communities are publicly discussing the story and in so doing influencing the various directions the narrative might take. If a character becomes very popular, for example, it might encourage the writers, or Martin himself, to use the character more often or send him or her to a dramatic end. If this is to be considered emergent narrative, however, it is a far more diluted version of it than can be found in true player agency through interaction with a game mechanics, where the player would have far more capacity to directly influence the direction of the story rather than hoping to sway a writer through a community consensus. As this chapter will show, while elements of emergent narrative may exist in other media forms, games are uniquely positioned to leverage their emphasis on interactivity through player agency. The process through which games use that agency to produce emergent narrative will be explored in the following chapter.

Chapter Two—How Game Mechanics Generate Storytelling

Chapter Two will examine the process of emergence, demonstrating its connection to narrative through the operation of game mechanics. The main question is: **how do game mechanics, which are seemingly divorced from narrative, in fact generate it?** This

question will be addressed by looking at the connection between game mechanics and emergent narrative, the past theoretical debate on narrative in games and the current status of narrative in game studies, the issue of whether or not games need narrative, and the limits of generating narrative emergently from game mechanics.

While emergent narratives can be conflated with non-linear narratives, emergence is ultimately driven by the variability of interaction between the game, its player, and the wider community. Also, the interaction between players implies an inherent non-linear underpinning of games in general (Veale, Hand 3). Metz and Abbot's understandings of narrative can be compared with Bogost's "unit operations," the idea that all media forms represent configured systems featuring "discrete, interlocking units of expressive meaning" (*Unit Operations* ix). Games represent a means for interactively sharing knowledge and experience through emergent narrative. By understanding narratives as an emergent consequence of player interaction with game mechanics, I believe that game studies can gain a better understanding of the function and importance of games.

Emergent narrative can also be understood as an immersive application of Csíkszentmihályi's flow (3). Driven by the intensity of interactivity, the more emergent narrative can be observed amongst a game and its players, the more it has engaged its players. Much like the literary "turn to the reader" brought on by reader response theory (Freund 2), games—which rely on heightened audience involvement—must privilege the act of interaction. While there has already been scholarship around the audience construction of narrative around books (Radway "Identifying Ideological Seams" 93) and some games (Castronova 7; Corneliussen and Rettberg 1), the role of emergent narrative from game mechanics in constructing and facilitating these audience interactions requires more research. To explore

how game mechanics generate story, this chapter will do a case study of *Tetris*, an often-cited example of a game that supposedly does not require narrative and yet still possesses some narrative elements. This example will lead into the third chapter that more closely examines the emergence of narrative in non-narrative games.

Chapter Three—Narrative in Non-narrative Games

Chapter Three covers a more in-depth examination of the presence of narrative in non-narrative games. The central question for this chapter is: **does emergent narrative exist in non-narrative games?** To respond to this question, this chapter will look at non-narrative games, compare them to explicitly narrative ones, examine how different types of games might impact narrative, and question whether narrative can truly be eliminated from a game.

Traditionally, narrative in games was associated with the established story elements inserted by the designer. Games that abandoned such elements in favour of abstraction were called "non-narrative" games (Juul "Games Telling Stories?"). This chapter examines abstract games, including the board game *Settlers of Catan*, widely credited with internationally popularizing the idea of a "Euro game," which emphasizes strategy, economic management, and thematic abstraction over reliance on luck, conquest, or traditional narratives (Ford and Liebler 54). While many Euro games offer limited inter-player interaction, *Settlers* emphasizes resource trading and other methods of inter-player interaction, unlike an isolated single-player digital game like *Tetris*.

Despite their non-narrative tendencies, both *Settlers* and *Tetris* often contain explicitly narrative thematic elements—late medieval European pastoralism and Russian iconography respectively—but the traditional Chinese game of Go has been a standard bearer for abstract gaming for millennia. While many game scholars have noted the existence of narrative in some

games—particularly those which strive to achieve it—I am uniquely insisting on the existence of emergent narratives in all games, including the non-narrative ones, which I will be using this case study to prove. By performing a case study on this game, in particular the recent showdown between human grandmaster Lee Sedol and digital challenger AlphaGo, the emergence of narrative will be demonstrated, even in the face of heavy abstraction, through the interaction of game mechanics, players, and the participatory fan culture. The importance of participatory fan culture in particular will be explored at length in the fourth chapter.

Chapter Four—Participatory Fan Culture

Chapter Four will focus on fan communities built upon emergent game narratives asking the question: **what is the relationship between a game's participatory fan community and the emergence of narrative through game mechanics?** To answer this question, this chapter will consider the nature of participatory fandom, the evolution of fan communities around games, the emergence of fan communities from player interaction with game mechanics, the inability to separate games from the communities who support them, and how emergent narrative might be used to serve fan communities. The main argument will be that these communities stem directly from narrative emerging through game mechanics, such that fan discussions surrounding the object of their passion are extensions of emergent narrative.

While studying fan culture as it pertains to games, there is a tendency to view games as "escapist" diversionary activities, isolating players from reality. Huizinga's magic circle, according to this perspective, is constructed and deconstructed only in the time and space in which the game takes place, leaving no impact outside of that specific margin. Many game

scholars—notably McGonigal in *Reality is Broken* (2)—take issue with the reductive explanation of escapist motivation as driving participation in games and other highly immersive media. While I accept that escapism can be a powerful motivator, I disagree with the negative connotation implied towards it by McGonigal, as all media require dedicated attention for their consumption. As McGonigal would agree, games are not separate from the world in which their players inhabit, and their influence—be it positive or negative—can be felt long after play has finished.

Fandom has been described as "a collective subculture composed of fans of [a] wide range of media whose shared interests serve as the basis of their communal identity" (Kington 211). In *Fans, Bloggers, and Gamers*, Jenkins describes "convergence culture" as the moment when fans are central to how a culture operates (1). While a great deal of research has already been done on the "convergence culture" in areas as diverse as romance novels (Radway *Reading the Romance* 1) and comic books (Tamagawa 107), analysis of game fandoms, such as Celia Pearce's avatar studies (215) and studies on *World of Warcraft* (Corneliussen and Rettberg 3), are limited. Incorporating a multitude of different media forms, the reliance of games on much greater audience interaction augments this convergence to a heightened extent. I consider the fan communities that arise around games to be emergent narratives that are also ultimately derived from the mechanics of the game. Driven by competition, rules discussions, buzz over upcoming releases or modifications, strategic analyses, and other gameful aspects, player communities arise from emergent narrative. The case study for this chapter will focus on the use of games by improvisational theatre to bridge the gap between player and audience and increase participation through emergent narratives. Having defined and demonstrated the

connection between the three elements of player, game mechanics, and participatory fan community, I will use the fifth chapter to focus on emergent narrative in an applied capacity.

Chapter Five—Emergent Narrative and Applied Gaming

Chapter Five will focus on the possibility of intentionally orchestrating emergent narratives through game mechanics to serve real world applications. The main question will be: **If narrative is emergent from player interaction with game mechanics, how can designers use that interaction to generate meaningful play and to mount effective rhetoric through applied games?** To breakdown this question, the chapter will explore the concept of applied gaming, as well as the limits, effectiveness, and potentially positive or negative uses.

The analysis will focus on persuasive games such as *The McDonald's Game*, as well as the tabletop board game *Kitchen Table*, the latter of which will be the focus of this chapter's case study. Bogost defines persuasive games as "games that mount procedural rhetoric effectively" (*Persuasive Games* 46). However, with the understanding that game mechanics inherently produce emergent narrative, and that the authorship of this narrative is contested, one must also contest the assertion that only games that intentionally and effectively apply *procedural rhetoric* are considered persuasive. Through this chapter, I will maintain that all games are engines of rhetoric, even separated from player or designer intent, demonstrating that purposeful game design has wider implications. By designing mechanics that better allow narrative to emerge through play, rather than in opposition or interruption of it, game designers can create immersive experiences that provoke players into asking questions or understanding new perspectives in a way unlike any other media form.

CONCLUSION

Through the analysis of player agency, game mechanics and storytelling, narrative in non-narrative games, participatory fan cultures, and applied games, I will demonstrate not only the existence of emergent narrative stemming from the interaction of players, game mechanics, and surrounding communities, but also that this phenomenon can and should be used as a media tool to address real-world applications. Using each chapter's discussion of theories and case studies, I will flesh out different areas of the main argument in a manner broad enough to cover the wide range of possibilities in the media form known as games as well as be consistent with my own areas of research and expertise. While this dissertation has given me the opportunity to more deeply investigate the issue of emergent narrative, there remain multiple areas of concern that are simply beyond this dissertation's scope.

This dissertation will be concerned mainly with the discipline of game studies, meaning the discussion of narrative will only be able to focus on the understanding of narratology as it relates to the study of games. References to narrative analysis of other forms of media will be made from time to time, but only to inform and reinforce the understanding of games as a source of emergent narrative. Likewise, while this dissertation may identify ways in which the development of emergent narrative may be used to suit one purpose or another, I will be primarily concerned with the means by which emergent narratives are produced rather than the content of the emergent narratives themselves. Furthermore, while I may touch on the subject of cultural production through emergent narrative, it remains too far beyond the scope of this dissertation for significant analysis, although it remains an area in need of further research.

In the end, this dissertation's main goal is to address the present state of emergent narrative in the ongoing discussions surrounding the study of games. By establishing the emergence of narrative as experience present in all player interaction with game mechanics, I hope to bring the academic discussion of storytelling in games out of the murky and increasingly dated shadow of the ludology versus narratology debate, and into the spotlight that better reflects its growing role within the game development industry. Over the course of this dissertation, I will demonstrate that analysis of emergent narrative is not only relevant to understanding current games, but absolutely critical to understanding games as complex phenomenon. While player-focused or game-focused approaches play a part in this analysis, the composite nature of games requires a multi-faceted approach to analysis. Through understanding games not as anti-narrative or beyond narrative, but as engines of emergent narrative production through their interaction with players and participatory fan communities, I aim to improve not only the playing experience, but the relationship between external and virtual realities as a whole.

CHAPTER ONE: EMERGENT NARRATIVE AND PLAYER AGENCY

The emergence of narrative from the interaction between players, player communities, and game mechanics would be impossible without agency. In attempting to influence the direction of a play experience, the player, the designer, and the surrounding play community all compete for agency. Agency, then, is the fundamental driving force for the emergence of narrative, reinforced in games by their status as a medium built fundamentally on their capacity for interactivity, which implies the existence of a degree of autonomous agency. Nevertheless, most games—by their very structure as finite entities—have a mathematically limited number of potential outcomes, such as various scores or even a Boolean win or lose condition, which by extension demonstrates that the existence of agency can only exist within certain limitations. A key question remains, however: **what is the relationship between player agency within games and the emergence of narrative from game mechanics?**

This chapter will explore this question in great detail. At first, the discussion will be focused around the question: **what is meant by a term like *agency*, specifically in the context of game?** The second question asks: **how does the relationship between games, uniquely well-suited to the production of emergent narrative, and agency compare to other forms of media, particularly in relation to authorship**? Expanding on this, the third question will ask: **how does agency operate in traditional linear narratives in games?** The fourth question asks: **what barriers work against agency, not only in playing the game, but in making the decision to participate**, particularly in light of various social, cultural, economic, physical, and other factors that might impact a player's ability to engage in a game. Throughout, it will be demonstrated that where player agency does exist in the interaction with a game, it is invariably interconnected with the emergence of narrative from player interaction

with game mechanics. Finally, the digital game TellTale's *Game of Thrones*, an adaptation of the popular transmedia franchise, will be considered as a case study. This will demonstrate the agential tensions between player interaction and linear storytelling that plague many traditionally narrative games, and will explore how designing narrative to be more emergent—and less linear—makes for a more satisfying approach to game design.

AGENCY AND ITS RELATIONSHIP TO GAMES

If games are indeed the form of the media that most greatly emphasizes the role of the audience in affecting the outcomes of content, then the true nature of agency in games cannot be avoided by any academic discussion of emergent narrative in games. I will use this section to explore the question of what agency is and how it relates to games and ultimately emergent narratives by examining the role interactivity plays in developing not only immersive audience engagement but a satisfactorily agential experience. Much of the contention surrounding game studies centers around the hypothesized uniqueness of games as an "interactive" medium (Aarseth "Quest Games as Post-Narrative Discourse" 361). As difficult as it is to define something as seeming commonplace and universal as a game, one of the key characteristics that distinguish games from most other media is the emphasis on player interaction; more specifically, the agency of a given player to affect the outcome of the game as part of what Gordon Calleja referred to as a "symbiotic relationship with machines" (2). Games as a medium, according to prominent ludologists like Jesper Juul, do uniquely emphasize, and privilege, the position of the player in a way unlike any other medium such as cinema or literature (*Half-Real* 15), while other scholars such as Henry Jenkins (*Fans, Bloggers, and Gamers* 39) and John Fiske (*Understanding Popular Culture 110*) ask questions about the

degree to which players can act beyond the confines of the game. In this chapter, it will be argued that while player agency is limited in many respects by the intrinsic boundaries of a game's design, the player's ability to resist, circumvent, adapt, or simply move beyond those limitations is ultimately rooted in the way in which the interaction between players and mechanics produce an emergent narrative, evolving the game itself away from its original design. In other words, if players do indeed have true agency in games, then that agency is ultimately one of narrative emergence.

Agency is simply the ability or capacity for a given party to act of his or her own volition in a given environment. In *Hamlet on the Holodeck*, Janet Murray builds on this assumption and adds a subjective energy by arguing that agency is "the satisfying power to take meaningful action and see the results of our decisions and choices" (126). In games, Murray sees agency as an aspect of the player's immersion, which she defines as "the experience of being transported to an elaborately simulated place" (98). In effect, giving the player a degree of autonomy alone is insufficient, the autonomy must be granted in the context of the game world itself. Player agency is fundamentally linked to the interaction between the player acting as an agent and the game environment in which he or she is placed. In "I Contain Multitudes: Creativity and Emergent Narrative," Ruth Aylett (83) and Sandy Louchart argue that "a significant initial condition [for agency] is the richness or otherwise of the story-world, the number of actions in character repertoires, and the number of inter-related goals that they pursue" (399). In other words, for agency to exist, the player must simultaneously have a range of autonomous options at his or her disposal, a game environment upon which to impose the selection of one option or another and a series of related potential outcomes which may be pursued. This interaction of the player with the game, in turn, drives emergent narrative. The

emergent narrative system does not need to clearly communicate its formal restrictions to be meaningful, nor does it have to present a particular pre-existing win condition (Swartjes 105). The narrative of the emergence can even be understood in the moment it occurs or in retrospective reflection long after it has already taken place.

In "A Preliminary Poetics for Interactive Drama and Games," Michael Mateas builds upon this conceptualization of agency, as an essential foundation within games from which emergent narrative can spring forth, noting how agency might be perceived to exist when it is actually limited:

> Agency is the feeling of empowerment that comes from being able to take actions in the world whose effects relate to the player's intention. This is not mere interface activity. If there are many buttons and knobs for the player to twiddle but all this twiddling has little effect on the experience, there is no agency. Furthermore, the effect must relate to the player's intention. If, in manipulating the interface elements, players do have an effect on the world, but they are not the effects that the players intended (perhaps they were randomly trying things because they didn't know what to do, or perhaps they thought that an action would have one effect but it had another), then there is no agency.
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For Mateas, merely being able to move and interact with game elements is an insufficient condition for legitimate agency. In order for agency to exist, the player must be able to direct his or her actions towards a satisfactory outcome, which is to say a meaningful conclusion. In this sense, agency is not only necessary for the emergence of narrative from player interaction with game mechanics, but without this emergence, the very interactivity of the game—and its status as a game—is ultimately called into question.

However, not all games allow their players equal amounts of agency. Even the capacity of the player to opt in or out of a particular game might not be agential in nature. For Mateas, the degree of agency within a game is ultimately a product of the balance between the contents

of the game environment and the rules-based mechanisms through which a player might interact with that environment:

> Players will experience agency when there is a balance between the material and formal constraints. When the actions motivated by the formal constraints (affordances) via dramatic probability in the plot are commensurate with the material constraints (affordances) made available from the levels of spectacle, pattern, language and thought, then players will experience agency. An imbalance results in a decrease in agency.
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Here Mateas argues that the level of agency within a game is directly proportional to the balance between the formal restrictions of the system of rules and the meaningful actions possible within the game environment, ultimately resulting in the emergence of narrative. For example, a game that allows for a vast number of possible actions without any reasonable grounds for choosing one over the other can be equally devoid of agency as a game that forces players along a narrow linear path through the illusion of agency, reducing the player to little more than a spectator (Swartjes 18). Mateas, however, focuses mostly on the individual player's relationship with the game, rather than other extenuating potential agents—such as the designers of the game or the wider player community—impacting the player's ability to have agency within the game in different ways.

While one might assume that games are a voluntary activity—and both Johannes Huizinga and Roger Caillois have reinforced this assumption in *Homo Ludens* (26) and *Man, Play, and Games* (6) respectively—their association with leisure, as well as interactivity, does not guarantee that games are an agential vehicle. Viewing a work of traditional linear cinema or a television program[3] is also generally considered voluntary, and yet does not have the same

[3] It should be noted that while the majority of films and television programs employ a linear delivery, this is not always the case. The dawn of the digital age has seen an increase in experimentation with interactive cinema (Veale), and reality shows on television—particularly those revolving around some form of talent contest—often invoke audience voting in deciding which participants make it to the next round.

potential for agency that games are considered to possess. As a foundationally interactive medium, whatever agency might be present in any given game is ultimately derived from the ability of that game to facilitate interaction between the player, the game mechanics, and the surrounding community. In other words, a game is only truly interactive, and therefore agential, when it incorporates the conditions for emergent narrative.

For the purposes of this chapter, however, it is important to note that player agency can both be understood as the agency of an individual player, such as a lone individual playing a single-player game like solitaire or *Tetris*, or a group of players, such as those on a team or in a multi-person race. The actions of the individual in both of these scenarios is not entirely separate from those of the group, even in the case of one-player games, as the player is ultimately coming into the game, not only with past experience with games and play that inform his or her decision-making process, but also with exposure to the wider community that plays the game. After all, an individual must not only be made aware of a game, usually through a social context, but he or she must also be taught how to play the game, which is ultimately a social act. Even if it is as simple as reading printed out instructions, or those digitally rendered on the screen, the communication of these instructions—usually through language although sometimes through visual imagery or audio as well—is fundamentally a designed act that facilitates the play of the game, prejudicing not only how the player will interact with the game, but whether or not he or she will be interested in playing the game in the first place. In this way, a player's agency in relation to a game is defined, not only by what he or she is capable of doing within the confines of the game-world itself, but also what conditions and motivations guide him and her into interacting with the game in the first place, sowing the seeds for the emergence of narrative.

In terms of the game itself, the design of the mechanics—and the degree to which agency is allowed, restricted, or cultivated through helpful structuring—can be used as a measure of the effectiveness of the agency within the game, by extension the degree to which it produces meaningful experiences in the form of emergent narratives. In *Rules of Play: Game Design Fundamentals*, Katie Salen and Eric Zimmerman argue that strong design can use player agency to produce "meaningful play" which arises both from the engaging influence of the game mechanics on the player and the satisfactory consequences the player's actions have on the execution of the game. For Salen and Zimmerman, player agency is intrinsically linked to the production of meaningful play:

> [Meaningful play] emerges from the relationship between player action and system outcome; it is the process by which a player takes action within the designed system of a game and the system responds to the action… [It happens] when the relationships between actions and outcomes in a game are both *discernible* and *integrated* into the larger context of the game.
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In this sense, agency within a game is fundamentally a relationship between the player and the game mechanics that exists as something of a feedback loop, which—when successful—leads to the generation of meaningful play. In order to support agency, the options that a given player has at his or her disposal must be discernible. He or she must have the capacity to understand what autonomy he or she has in the play environment. Likewise, the agency must be integrated and therefore relevant for the larger game world if it is to support ultimately the emergence of narrative. In the next section, the uniqueness of games as a vehicle for emergent narrative will be explored in comparison to other forms of media.

If the means through which games deal with emergent narrative is truly unique, it must differ from the means by which other media forms deal with emergent narrative. This next section will consider the relationship between agency in games and agency in other related forms of media, particularly those often considered to be less interactive. The question of agency in games, versus agency in other media forms, will be examined through deconstruction of the idea of authorship, investigating the narrative paradox, and examining how the process of mediation—both historically and contemporaneously—might impact the ability for agency to develop in a game and ultimately produce emergent narrative. At the crux of any discussion of the issue of agency in games—particularly as it relates to the emergence of narrative—there inevitably arises a question of authorship. If authorship over a game, or any text for that matter, can be called into question, it creates an opening for greater agency on the part of the player and indeed the audience. After all, if games are distinguished as a media form by their capacity to confer the power to interact with the content in a meaningful intentional way, then the very act of that transfer of command over the game environment—which varies between games but must always exist to a certain degree—represents a seeming breach of the traditional relationship between author and audience. Emergent narrative—defined at its foundation as a product of interaction between players, game mechanics, and the surrounding community—must then undermine the very idea of authorship at the same time it is championing its extension to new agents. In effect, it is the authorial extension of Aylett's "narrative paradox," whereby the need to extend control over a virtual character and his or her environment finds itself inevitably in conflict with the linear and designer-implemented story plot already constructed by the designers ("Narrative in Virtual Environments: Towards Emergent Narrative" 84). As mentioned in the introduction, Aylett views the emergence of

narrative as possible in some games but not all, a point on which we disagree. Nevertheless, I still must address her paradox in order to support my argument for the universality of emergent narrative in games.

Aylett attempted to resolve the paradox herself in "Emergent Narrative, Social Immersion and 'Storification'," considering the issue to mostly be linked to scale of the narrative and the degree of freedom with which the player has to act. "Two issues are of interest here. The first is how far the pre-determined nature of much narrative can be relaxed. The second is how far the user of a [virtual environment] can freely participate in a narrative rather than acting as a spectator." For Aylett, agency through emergent narrative can be conceived as a spectrum, with a completely static plot on one end written by the designers without any input from the player and a completely open world on the other with so many theoretical possibilities that the player has no firm foundation against which to construct his or her own actions. Understanding this as a spectrum allows for the movement of possibility in agency between player, designer, and ultimately spectator. It does, however, still assume a linear nature to the implementation of narrative—implying that a game must lean one way on the spectrum or another—which ultimately runs counter to the emergent possibilities of narrative. For example, if a game allowed a player to choose one of two forward paths instead of one, it would still be linear—the player must still move forward after all and the results of each path is likely already scripted. In allowing for more choice, however, the designer has given the player greater control over, albeit limited, the outcome of the play session. If one imagines that instead of giving the player only two forward paths to choose from, the game designer allows for a much wider variety of player actions—including some for which an outcome has not already been foreseen—player agency increases tremendously. The play

experience itself is still temporally linear, as the play session must begin at one time and progress towards some form of end at another time. In other words, while linearity might always exist to a certain extent in games, that degree can vary widely across a gradient and so too can player agency.

To understand how Aylett's narrative paradox might be resolved in games, it seems appropriate to first examine how similar questions of authorship and agency have been approached in more traditional forms of media, for which the question of linearity and interactivity has been less of an issue. In terms of the development of rhetorical criticism, it is hard to overstate the impact Roland Barthes' concept of the "Death of the Author" has had since the release of that essay in 1967. Barthes' essay is named as a pun of Sir Thomas Malory's *L'Morte d'Arthur*, a compilation of Arthurian legends originating from various sources (Lynch 81). As it is a composite text, a held-together narrative universe of knights, kings, and medieval monsters, it is derived not from a single author but multiple authors. It becomes most potent in its configuration as one text, however, far more than it would be as a mere sum of its parts. Malory's text is a rather apt analog on which to base Barthes' scathing critique of modernist literary scholarship which—at the time at least—placed undue emphasis on the importance of the author's intentions for a given text.

Of course, Barthes' disassociation of a text from its author was not a new phenomenon. Oral storytelling traditions, arguably humanity's oldest narrative art form, rarely identified a specific author of their tales, if indeed there ever was one. In oral cultures, stories passed down from generation to generation—and from person to person in a group—were not so much designed works as evolved works; changing and adapting with each telling, and invoking the input of not only the storyteller speaking the tale but the audience interacting with it. In many

cases, the role of the storyteller was itself fluid, passing haphazardly from person to person like the position of the current speaker in an everyday group conversation. In this sense, oral storytelling was in fact a form of emergent narrative, a tradition whose use was ultimately sidelined by the advent of the printing press.

The historical assumption of the privileged status of the author is largely a by-product of the printing press, which technologically directed agency towards the author. The modernist emphasis on the importance of the author is in fact a by-product of a series of distortions of more emergent forms of storytelling from the dawn of civilization, through the printing press, and ultimately to the industrialization of literacy and education (Anderson 22). Marshall McLuhan, as later elaborated upon by Elisabeth Eisenstein (88), even went so far as to argue that the advent of the printing press enabled a new way of thinking previously impossible, what Walter Ong referred as "a psychological breakthrough of the first order." McLuhan, however, saw this transformation as not only embedded in the print revolution, but in the introduction of, as well as adaptation to, any new media. Coining his well-known catchphrase "the medium is the message," McLuhan explained that "This is merely to say that the personal and social consequences of any medium—that is of any extension of ourselves-result from the new scale that is introduced into our affairs by each extension of ourselves, as by any new tech" (7). As such, every technology, new as well as old, represents an ever-evolving symbiosis between the medium and those who consume it, calling into question—like Barthes with the agency of the author—the degree to which any one individual can exert agency over the process. In effect, the emergence of narrative from game mechanics is a related phenomenon to the interactive experience one could have with more traditional media through cultural interpretation and technological potential.

In *Whose Story is it Anyway?: How Improv Informs Agency and Authorship of Emergent Narrative,* Ivo Martinus Theodorus Swartjes explains the relationship between this interpretive "mediation" as an expression of emergent narrative:

> Mediation relates to the interpretant. When presented with a story, a reader will make a mental model of the fictional reality of the story. This is more than an understanding of the fabula alone, but also includes a model of how this storyworld and its characters behave, and what this means, embedding the information actually presented within a larger frame of common sense and personal experiences. We come to 'know the characters'; it allows us to make predictions about what happens next, or to fill in details that are not (yet) stated.
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In this sense, while a text might appear to be authorial and linear, the reader's interpretation of that text is emergent and ultimately impacted by his or her interactions and experiences outside of the text in question. In reading the story, the reader acts out his or her own form of agency in constructing his or her understanding of the narrative along emergent lines. The content of the text reacts to the reader's own experiences in much the same way that a player might interact with a game mechanic, allowing a narrative, inspired by the author's original intent but invariably divorced from it to a certain extent, to emerge.

This process of mediation has been further exacerbated each time a new media technology began interacting with the audience of an older one, particularly as dominant media technologies began to move away from linear interpretation to emergent narrative. In this sense, the increased digitization of media, combined with a greater emphasis on the role of audience, allowed for the development of not only more agency in the construction of media, but also a greater degree of emergence. According to McLuhan, while speech increased reaction, writing led to an increase in specialization (79). This specialization, in effect, meant that members of a community who previously would have been performing largely similar activities were now diversifying into a range of different occupations, increasing the potential

agency commensurately with the increase in possible outcome. The development of the written language changed the cognitive capabilities of the societies that incorporated them, allowing for information to not only be stored as a permanent record, but also to be a source of authority (Innis 141), affording power to those who could wield it, and there by decreasing the agency of those who did not. The development of the printing press, as argued by McLuhan (79), Anderson (22), and others, allowed this authority to be mass produced and spread across a much wider audience pool—an extension of power over space and time as McLuhan's colleague at the University of Toronto, Harold Innis, would argue (141)—and ultimately allowed for the development of the nation-state (Andersen 22). In the 20th century, McLuhan viewed the expansion of the broadcast medium—in particular, television, which was the dominant media form in Canadian society at the time of McLuhan's writing (Druick and Kotsopoulos 16)—as emblematic of an ongoing shift towards digital media and ultimately conceptual focus away from national identity, and its outdated notions of the authorship of authority, and towards a broader cultural community which McLuhan called a "global village" (6). To McLuhan, all technologies were "extensions of our physical and nervous systems" (90), suggesting that agency was not in the hands of any single author, but in the never-ending interaction between the communicator, audience, and the constantly evolving different forms of media that all influenced each other. As such, the question of authorship, and therefore agency, was not unique to a particular form of media, but relevant to all forms of media including games. The emergence of narrative from player and audience interaction with game mechanics was not unlike the experience of audiences with other media, with the same larger trends around communication and culture ultimately impacting player agency.

In the years leading up to the turn of the 21st century, Lev Manovich would take this trajectory further, examining the then rapidly changing relationship between consumers and producers of media, driven by the advent of the personal computer and then of the worldwide web. Manovich's views on audience agency were mixed to say the least. On the one hand, he wrote a great deal about the capacity for "new media" to disrupt traditional ownership of production, storage, and distribution, affording its users a greater capacity to influence the media they consumed than ever before (4). On the other hand, Manovich was often critical of the tendency of software designers to artificially direct users down a very specific path, creating the illusion of choice and placing significant restraints on any attempts to act outside the parameters of the programming. As he put it: "Although software doesn't directly prevent its users from creating from scratch, its design on every level makes it 'not' to follow a different logic—that of selection" (129). In Manovich's viewpoint, then, while the advent of digital media had allowed some of the shackles of the old to be tossed aside, new restraints inevitably emerged in their place. Emergent narrative, even the kind that emerges from game mechanics, can never be fully separated from the technological, economic, and cultural conditions that spawned its creation and therefore can never achieve a fully pure form of agency.

At the same time, however, these technological, economic, and cultural conditions never fully remain static. In this constantly changing context, many issues resolved or forgotten in one form would re-emerge in another, and the dynamic situation could allow agency to emerge. Barthes' issues of authorship—and particular the conflation of authorship with authority—can seem at the same time both age-old and cutting edge. The author is not only dead, but was never truly born in the first place, although this point may come across as

disingenuous, at worse, or at best an oversimplification of a very complex web of ever-changing, but often concrete, media-making. In many cases, the publicly acknowledged author of a given text remains a major point of assertion, particularly if that author is said to represent a culturally marginalized group. In the girl games movement of the 1990s, for example, a great push was made to encourage more women to enter the field of game design—and consequently design the type of games that female audiences might be more interested in playing—based on the understanding that the overwhelmingly male-dominated video game industry was consequently dominated by masculine authorship, and only an increased emphasis on female authorship could rectify the situation (Kafai et al, 7). If the author truly did not exist, it would not matter if said author was male or female, so the author must live on to a certain extent even if the audience interpretation of the text is held as equally valid. Furthermore, while the impact of digital and cultural transformations, such as the Internet, continue to unfold, many of the older print-based media forms—and those whose identity and means of thinking is still primarily framed by an upbringing in such a culture—continue to wield a massive if overall declining influence (Ulmer 13). The transition between different media, like the narrative that emerges from them, is ultimately fluid, with only vague nodes of beginnings and most endings evolving into further adaptations. In this sense, while knowledge of the designer of a game might be lost over time, and the game may evolve far away from its original conception, the authorial stamp of the design can never be fully lost, even in the case of emergent narrative from game mechanics.

Many recently released games, like the *Morte d'Arthur* that inspired Barthes, are themselves composite works of two, three, or even a large organization of "designers" working towards the creation of specific game for a specific release date. Games with a centuries-long

past, particularly sports or classic tabletop games such as chess, mancala, or go, may have at one point had an original designer, but the identity of said designer has long been lost to history. Often in these cases, the rules for these games have historically been fluid and ever-changing, in many cases only being finalized through their adoption by industrialized cultures in the 19th and 20th centuries seeking to impose an objectively "modern" understanding of the game through the printing of rulebooks. However, it would be more accurate to say these games evolved rather than were designed (Elias et al), with their industrial codifications based mostly on contemporarily existing commonly held assumptions of gameplay. In this sense, there exists a tension within games itself, between linear and emergent forms of narrative, that are ultimately driven by Aylett's narrative paradox ("Narrative in Virtual Environments: Towards Emergent Narrative" 84).

AGENCY IN EMERGENT NARRATIVE VERSUS LINEAR NARRATIVE

In order to understand the means through which the interaction of players, game mechanics, and participatory fan communities produces emergent narrative, I must first address the question of how much agency might differ in an emergent narrative versus a linear one. The following section will deal with the question of how emergent narrative interacts with agency differently than linear narrative. In response to this question, this section will examine the agential potential for linear narratives, authorial attempts to bring greater emergence into a linear context such as generativity and iterative design, and the conflict between the need for rules-based systems and the desire for more open-world possibilities. While it has been demonstrated that there is some agential potential for an audience member of a traditionally linear media form through the process of emergent interpretation and mediation (Swartjes 52),

the emphasis in games on interactivity means that agency in the emergence of narratives cannot rest on interpretation alone. Aylett's narrative paradox ("Narrative in Virtual Environments: Towards Emergent Narrative" 84) still haunts the attempt to bridge authorial game-designed narrative on the one hand with greater player agency in the creation of emergent narrative.

Like Aylett, Swartjes sees the narrative paradox as a problem that cannot be ignored if agency in emergent narrative is to succeed. He identifies the problem, however, as primarily one of character.

> Emergent narrative shuns the idea of author-given plots, based on the argument that this is incompatible with agency in virtual environments; rather, narrative is a direct result of autonomous action at the character level. This does not fit comfortably with traditional conceptions of narrative authorship in which plot-centric considerations are essential.
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By discarding traditional plot-centric analysis in favour of character-based approaches to narrative—which therefore allow greater flexibility for the player to act "in character"—Swartjes argues that emergent narratives, and games in particular, can co-exist with authored storylines, provided those storylines can tolerate a certain amount of variability. In contrast to Aylett's diverging spectrums, Swartjes attempts to resolve the paradox through the convergence of designer-based narrative and player desires to embody a character with agency, arguing that by "better understanding agency [one] can reduce the tension of the narrative paradox: the player does not *want* complete navigational and expressive freedom per se, but wants to be able to pursue action that is *meaningful*" (19). For Swartjes, the player can feel satisfactorily agential within the game, and still follow a reasonably linear narrative trajectory, if his or her reasons for doing so are adequately compelling through the production of an emergent immersive experience. The player's motivations for his or her action may not be

traditional game goals such as overcoming a challenge or besting a competitor, but even in the pursuit of the unfolding of an engaging story there is a degree of agency (Swartjes 4). The player need not even identify his or her avatar as his or herself, instead viewing it as a performance and even allowing for its death if it serves the greater purpose of the story (Swartjes 106).

Even in a traditional literary text, authors can become sufficiently immersed within their own text during the writing process, allowing the characters which they had created seemingly to take a life of their own, running "away with the plot" and diverting the direction of the narrative away from the author's original intent (Swartjes 58). Popular franchises, such as J.K. Rowling's *Harry Potter* series and Stephenie Meyer's *Twilight* books, can even spawn communities of fan-fiction, taking advantage of the Internet to spread unlicensed adaptations of popular characters (Hellekson and Busse 6). While a reader of a book cannot fully alter the course of its story like a player might affect the course of a game, both are able to influence the outcome of a series through the mobilization of a fan community. In this sense, it is important to note that episodic franchises, as opposed to one-off content releases, are therefore more likely to be engaged with—and therefore take advantage of—the emergence of narrative through participatory fan communities.

In an emergent narrative, this reciprocal relationship between author and text is accelerated by the increased interactive capabilities of audience members to influence the story's emergence. In some cases, the emergent relationship, in contrast to Aylett's narrative paradox ("Narrative in Virtual Environments: Towards Emergent Narrative" 84), form something of a symbiosis. In "Game Characters as Narrative Devices. A Comparative Analysis of *Dragon Age: Origins* and *Mass Effect 2*," Kristine Jørgensen describes this symbiotic

relationship through the use of companion characters both to present player agency and move the plot along:

> …both player characters and other characters carry narrative progression, but companions are the most important devices for creating a richer narrative experience. While the player characters in both games are important for the growth and development of companions by working as advisors in personal and moral dilemmas, companions are scripted with particular potentials for development which the player may or may not activate. In this sense, the game designers have effectively removed narrative control from the player without making the player feel powerless in the progression of events, and enabled narrative progression through using companions as distributors of narrative information.
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Through Jørgensen's analysis *Dragon Age: Origins* and *Mass Effect* 2, she finds that while player agency has decreased to a certain degree through the introduction of companions whose presence and connection to the linear plot restricts the player's options, the interaction with these characters still facilitate a form of emergent narrative. Furthermore, by allowing the player to trigger or not trigger certain scripts, the player still retains a degree of agency, even if he or she is not aware of the alternative directions the story could have taken had different actions or decisions been made.

In this sense, the makers of *Dragon Age: Origins* and *Mass Effect 2* are exhibiting intentionally designed releases in authorial control, allowing for a greater integration between the game's narrative foundation and its interactivity through the process of emergent narrative. Swartjes calls this purposeful relinquishment of traditionally linear authorial control in favour of greater emergence "generativity":

> Generativity means giving away some of the full control that an author can have over the experience, in ways that might not always be understandable or predictable. Furthermore, with the co-creation view there might not even be *one*, but *many* authors…It is perhaps not so much that the interactor becomes the 'author' of his or her own story, but rather that the whole author versus audience or character versus plot distinction disappears.
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In other words, while the author has not become dead per se, the position itself becomes increasingly irrelevant. By allowing the conditions for emergent narrative to occur, authorial agency is decreased but emergent agency is more greatly enabled and traditional linear elements of narrative such as plot and character are no longer as critical or distinctive as they once may have been. Games, by privileging emergent generativity over the imposition of linear storylines, can better make use of their own in-built interactivity.

Nevertheless, full generativity would be equivalent to full agency in a game, which—as pointed out by Mateas (145)—can actually work to undermine agency. In order to facilitate some meaningfulness to the emergence of narrative, some parameters must be set in order to limit the number of potential outcomes to a conceivable amount. In most games, the most obvious representation of these parameters are the rules, often officially codified in a written form. The act of rule-making itself is an act of authorship, and imposes a form of literary agency over a particular game—even one that had historically been more emergent—at the expense of competing agencies. For Murray, writing and designing the rules for a game is an example of "procedural authorship" (26), while Ian Bogost would later describe it as "procedural rhetoric" (*Persuasive Games* 1). In either case, the meaningfulness of the enterprise is ultimately being derived from the operation of the system of rules through the interaction of players and the games. In other words, the rules are effectively guidelines for the production of a particular type of emergent narratives.

Rules, however, being fundamentally intended to restrict certain forms of behaviour in favour of others can be seen to be diametrically opposed to pursuit of agency. Trying to explain how this impact might be understood, Swartjes outlines two ways in which the imposition of rules could impact agency:

> **(1)** The author determines which rules are included in, and which rules are excluded from the dynamic model. **(2)** The author determines what the rules *are*. Meaning (1) suggests that there are certain boundaries to the possible courses of events, in other words, authoring is creating microworlds with a specific focus. Meaning (2) suggests that the rules themselves are subject to authorial vision, in other words, authoring is modeling fictional worlds rather than real ones. Simply put, we can *make up rules*.
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Following the Swartjes' first model, a picture is created of an author acting as more of a curator, using their agency in the selection of which rules will be appropriate for a given game and which will be considered inappropriate. This model, however, still presumes the existence of an emergent form of the game that pre-exists the establishment of rules and from which one could also theoretically derive a conflicting set of rules. These alternate sets of rules would find themselves in competition over which was the definitive understanding of the game, meaning agency between them might be undermined. From the perspective of emergent narrative, there could be a pressure to identify one form or another as the true authorial interpretation of the game, with purposeful codifications designed to discourage or eliminate agential emergences that ran counter to it. Swartjes' second model, on the other hand, presents the image of the idea for the game—apparently uninfluenced by external factors—emerging complete from the mind of the designer without any measurable pre-conditions. This form of authorial emergence seems overly romantic, and certainly runs counter to Barthes' notion of the reader's interpretation of a text being equally important as an author's, privileging as it does the position of the designer over that of the player. In either case, however, the authority over the game is made, at the expense of emergence, by the codification of written rules.

Even once rulebooks are printed, the person or organization that published those rules can only gain authority over a given game, if the rules receive wide recognition and acceptance amongst the playing community. Particularly in games that existed long before the codification

of rules in written form was common, there may be a great diversity of opinion on not only the interpretation of said rules, but which rules should be included, and which should not. Even with a massive international agency, such as the International Olympic Committee (IOC), overseeing such rules and attempting to impose a standard on a particular game, the need for games to continue evolving is ever-present, and the source of frequent rule updates, debates, and discussions. In this sense, the wider playing community can impose agency to a degree over the game, through dialogue derived from emergent narratives from previous experiences with the game.

The evolution of the sport of football is particularly demonstrative of how the development of a popular game, even one theoretically as simple as two teams competing to move a ball deeper into their opposing team's territory, can evolve emergently in a myriad of different ways as diverse player interaction drives new understandings of the game through the discussions in the playing community. This evolution represents not only an alternative approach to authorial design, but the agency of the willing participants in the evolution is acted upon through emergent narrative. Originating from an ancient informal game played with a variety of unwritten loose rules, football evolved into various competing forms such as association football or soccer, gridiron football, and rugby (Walvin i) and a plethora of other related sports. Each variant gained a degree of authority amongst the community that not only played the sport or watched it, but embraced it as part of its cultural identity. For Aylett in "Narrative in Virtual Environments," the soccer game cultural environment is awash with this form of cultural identification. She argues that in a "football match we see that there too character is specified (being life, each footballer plays themselves) and relationships are also specified: both between teams and within teams" (85). For Aylett, the role prescribed each

player on the field is analogous to the role of a character in a narrative, but in this case the narrative that emerges is ultimately driven by the agency of the player in relation to the game, to the other players, and to the surrounding community.

This external community, however, can act to resist agency through the standardization of rules and acceptable heuristics. Despite a common ancestry, and a past where rule changes were far more fluid, the general forms of each variant of the sport have been codified by major sporting organizations with a vested interest in keeping their version of the game, with the exception of an occasional rule change here and there, largely consistent. For example, the Fédération Internationale de Football Association (FIFA), the governing body of association football, is extremely unlikely to suddenly endorse a rule change whereby players could pick-up the ball, as is common in rugby or gridiron football, and carry it in their hands towards their opponent's net. Such a move would not only run fundamentally against FIFA's current interpretation of the game, it would greatly disrupt—and most likely anger—the community of players and fans that have amalgamated around the game in its current form as an aspect of their emergent identity. In this instance, while rules may have been more fluid in the past—such as the 19th century instance at Rugby School in the United Kingdom that inspired the transition of that eponymous version of the sport from a game primarily played with the feet to one primarily played with the hands—the modern codification imposed a certain degree of authorship but only enough to slow the evolution and diversification of the game, not to stop it altogether. Today, while most official games follow strictly enforced rules of play, the increasingly global popularity of football and similar sports, itself continuously spawns new variations and understandings of the sport. While the advent of digital media has allowed an

ever-greater dispersion of new rule proposals and ideas, various groups of players and fans continue to find ways to adapt the game to their own specific cultural contexts.

It should be noted that creating a game by design and by evolution are not necessarily mutually exclusive actions. Indeed, the evolution of a particular game is ultimately driven by the insightful suggestions of particular individuals at a given time, even if the identity of these individuals becomes no longer known. These suggestions are in themselves small acts of authorship, mixing personal thoughts with communal cooperation and ultimately the influences of not only other games, but other media forms. In other words, it is not so much that the author is dead, as the state of authoring is all but fleeting, a moment of time built upon acts of authorship that came before and are ultimately overwritten by acts of authorship that will yet be done. Authors who write rules might aspire to have their original content made permanent, but games are not, and cannot, be understood as static entities. Instead, they should be seen as dynamic creations that evolve and adapt to changing contexts, or in failing to do so, perish, and find themselves replaced by better-suited games. In this sense, emergent narrative uses agency to drive the transformation of games away from design and towards evolution. The initial 1990s release of Capcom's popular arcade game *Street Fighter 2*, for example, featured an unintended glitch that allowed players, in the split second before they were about to receive a major combo attack, to counter and override that combo with a combo attack of their own. This exploited feature became so popular with fans of the game that it ultimately became an intentional mechanic in all later editions of the fighting game franchise (Wai-ming Ng).

Furthermore, the dynamic nature of games is fundamentally driven by the emergent narratives derived from player agency coming back and influencing the very game mechanics that produced them. Salen and Zimmerman recognize this effect and instead of resisting its

inclusion, place it at the forefront of their philosophy on game design, namely "iterative design," which they describe as follows:

> Iterative design is a play-based design process. Emphasizing playtesting and prototyping, iterative design is a method in which design decisions are made based on the experience of playing a game while it is in development. In an iterative methodology, a rough version of the game is rapidly prototyped as early in the design process as possible. This prototype has none of the aesthetic trappings of the final game, but begins to define its fundamental rules and core mechanics. It is not a visual prototype, but an interactive one. This prototype is played, evaluated, adjusted, and played again, allowing the designer or design team to base decisions on the successive *iterations* or versions of the game. Iterative design is a cyclic process that alternates between prototyping, playtesting, evaluation and refinement.
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Iterative design, in essence, formalizes the naturally occurring tendency for games to evolve over time as the result of interaction between players, game makers, and the surrounding community through the process of emergent narrative, being codified here by Salen and Zimmerman into a design philosophy. From Salen and Zimmerman's perspective, since design of a finished product is the main goal, there is an attempt to use various iterations of the game to generate the emergent evolution to drive the game towards a final version. However, the finality of the game is fundamentally arbitrary and something of a fallacy, a point in its development at which its designers feel it has reached a satisfactory, or perhaps even fantastic, level of refinement. Absolute perfection remains continuously out of reach and could never fully be realized as such a state would deny the game the very dynamism upon which it has been built. The cyclical process of prototyping, playtesting, evaluation, and refinement could easily continue, even after the game's official release. In the digital realm, it has since become the norm to constantly update games and add additional downloadable content. This emergent

behaviour, in turn, continues to produce ongoing rules modifications, updates, and even the development of a franchise.

This dynamic nature stands in stark contrast to Manovich's understanding of software as a fixed entity that strives to limit user choice, inherently designed with a natural path for users to follow, and which is often nearly impossible for them to resist (129). He is not wrong to assert that software, and by extension the digital games that derive from it, are fundamentally limited by the parameters of their code. All programming is fundamentally driven by a binary structure of zeroes and ones, and while it can create the illusion of play outside of these confines, the operation of the code is ultimately a structure that cannot be exceeded while keeping the game intact. In this sense, it is not unlike a digital version of Huizinga's magic circle (10) in that allowing too much interaction beyond the confines of the game's environment could result in a "spoil-sport" scenario where the game world itself is shattered (Huizinga 30).

However, while the software code of a game may appear—particularly during the early decades of the video game industry—to be irrecoverably fixed in place, and therefore not subject to emergent iteration, it could still experience emergent tampering. Hacking or modifying the game code through a device, such as the Game Genie for the Nintendo Entertainment System, represented an early form of resisting established digital game rules in favour of alternative ones, often without the consent of the original developers although some embraced these emergent responses to their games. Later on, many software applications, and popular digital games in particular, were often subjected to multiple updates and release versions, each driven by a new idea or understanding of the user community's interaction with the product. Blizzard's *StarCraft* real-time strategy series is a good example of this iterative

evolution, as online competitive play demonstrated which units where considerably more advantageous to build than others, leading to a balancing of unit abilities in later editions. A similar development occurred in Nintendo's *Super Smash Bros* series. Through this process of repeated iteration, and ultimately derivation and divergence, the use of mechanics by individual players can impact the unfolding of new developments. In some cases, such as hack or mod cultures, players can even modify existing games to serve needs and purposes well beyond the publisher's original intentions.

Sandbox games, in particular, have often embraced the player's right to determine their own goals within a game environment, emphasizing the player's emergent agency as more important than that of the designers. *The Sims* series, for example, overcame initial reservations about its non-linear domestic gameplay to become one of the most successful digital game franchises of all time (The Sims Studio, Paulk). In "Signifying Play: The Sims and the Sociology of Interior Design," Charles Paulk cites this embrace of greater agency on the part of the player in this domestic simulation as a large aspect of its widespread appeal:

> The trouble with attempting to pinpoint the game's allure is that no two people approach it in quite the same manner. The Sims is nothing if not flexible—as much a digital bin of Lego as a proper videogame—and players are encouraged to experiment. Some coerce their Sims into soap opera narratives, others engineer autobiographical what-if scenarios, and a fair number cook up ever-more elaborate ways to kill off their little creations. In short, people relate to the game in a fascinating variety of ways.

What Paulk is hinting at is the conflict between structure and freedom that each game must juggle in order to maximize player engagement, a balance that is ultimately achieved in the production of emergent narrative. By giving the players the building blocks to work with—and the domestic setting ensures that a majority of players should already be familiar with them—*The Sims* allows players to explore different directions of play, following the Taylorist

accumulation of wealth and material, redirecting the game into telling their own narratives, or even acting against the interests of their own characters.

Built upon the metaphor of a child playing in a sandbox, sandbox games generally provide their user with a rich universe, or creative interface, where the player is encouraged to construct the world according to his or her own design. He or she is often also free to explore in a non-linear fashion, but this conflates the term sandbox game with that of open world game. The sandbox term has been loosely applied to games and game-like entities as diverse as *Minecraft* and *Second Life*, a virtual environment developed by Linden Labs which had no overarching player goal other than to serve as an avenue for their creation. In the case of *Second Life*, there is considerable debate over whether or not this online world can even be considered a game, although its online environment is almost inarguably game-like (Boellstorff xxi). The term sandbox is often associated with the term open world, although many see a distinction between the two terms. Open-world games focus more on non-linear exploration, while sandbox games, as their name would suggest, focus more on world construction (Messinger 204). It should be noted that these terms are not necessarily mutually exclusive. Many sandbox games are themselves also open world games, allowing players the option, at any given time, of focusing on construction or exploring the universe to see what other players are constructing, or have constructed. The terms themselves, as defined here, have also not quite received universal acceptance. Even amongst the game community, there are still many who view these two terms as largely interchangeable (Kurt "Open-ended Video Games" 167). Both genres, however, present at their core an endorsement of the agential production of narrative through emergence rather than linear storytelling.

It should also be noted that the openness of the games is not absolute, but a degree of spectrum, particularly relative to more traditional digital games which tend to follow a linear level design. Open-world games, however, can never truly be fully open, allowing players to perform any and all actions imaginable. As mentioned previously, all digital games are ultimately subject of their programming, and while sandbox or open world games do provide more fluidity of game action within the game itself, the magic circle—in this case rigidly enforced by technological limitations—is still firmly in place.

Many of these games, as well, still employ an optional linear structure that the player is often strongly encouraged to follow. The frequently controversial *Grand Theft Auto* series is particularly well-associated with the sandbox game term, and while it does allow for a wide range of actions from its players, the open-world nature of the game is ultimately underwritten by a traditional linear narrative. Throughout the series, players take on the role of street level criminals who must engage in violence, destruction, and—naturally—car theft in order to progress through the game's story. Periodically the players are contacted, usually by a colourful non-playing character (NPC) already associated with them through the back-story, who assigns them various missions to complete. The players are free to ignore their assigned tasks, but in many versions of the game, doing so leads to constant pestering as to why they still have not completed them (Rockstar North). Furthermore, certain player actions—in particular reckless driving and violence—can draw police attention and often lead to the end of the player's play period, particularly if he or she gets arrested. In this sense, while it creates the illusion of open action to a certain degree, the *Grand Theft Auto* series is ultimately still driven both by a linear progression and stringent rules that limit what a player is capable of doing both in terms of haptic controls and within the game itself.

While terms like sandbox and open-world games are mostly applied to digital games, they can also be applied to analog environments. The emphasis on codifying rules has made them a particular rarity in physical games such as sports, but they are relatively abundant in table-top role-playing games—many of which are very much open-world universes that the players can explore, with sand-box elements in the form of character creation, or in the case of the game master, scenario-construction. Some role-playing games, particularly more independent ones like *Fiasco,* even emphasize world construction at the expense of any particular player's survival (Morningstar 34). Improvisational games, such as those seen in improvisational theatre, can be seen as an extension of this idea, whereby the objective of the game is not in ensuring one's particular character—or avatar—succeeds, but that the universe created, however fleeting, is a satisfactory one.

By narrowly focusing on the key strength of games as a medium, namely their capacity to purposefully privilege the player's position in the operation of content (Juul *Half-Real* 15), open-world and sandbox games attempt to generate satisfaction for their players by creating the conditions for increased emergence. While this element is a fundamental element of all games, implying a degree of agency on the part of the player or team, these types of games embrace it more openly as part of their design philosophy, whereas other genres of games may portray almost an illusion of agency by comparison such as that found in a fixed wrestling match or a choose-your-own-adventure style game with a greatly limited number of potential endings. Many of the *TellTale* games, such as its *Walking Dead* series or its adaptation of *Game of Thrones* or *Fables* in *The Wolf Among Us*, require the player to ultimately arrive at one of a limited number of possible outcomes, creating an inherently linear pressure throughout the game's narratives that works against the player's ability to affect the outcome. While all games

have to offer a degree of player input—or cease to be considered games—the level of that input can vary widely.

In many respects, that input is also deeply controlled and restricted. Game rules must inevitably limit the capacity of a player to act towards his or her goals, therefore undermining player agency and ultimately emergence. A tennis player, for example, cannot legally, in most cases, win a match by simply incapacitating his or her opponent with a blow to the head. The magic circle works to delineate what actions are acceptable and unacceptable within a given context. The rules that restrict player behavior can be explicit—such as do not take the ball beyond a particular boundary—or implicit—such as do not over-celebrate a goal (Elias et al 233). The implicit rules are often dictated by social contracts, and are often instituted, governed, and disputed—if at all—by the players and the extended community including coaches and fans. In most sports, however, the objective a player is meant to be striving for—be it to help his or her team score more goals than a competitor or to cross a finish line before his or her opponents—is generally clearly defined. The player does have some recourse to pursue alternative agendas during the game—such as seeking revenge against an opposing player for a perceived slight or boosting one's own star power at the expense of one's teammates—he or she generally does not have the power to determine or spontaneously revise the criteria by which the current game is being determined to be a win or a loss, although subjectively members of his or her fandom might find something celebratory in his or her actions even in spite of an official loss. In this sense, the interpretive emergence (Swartjes 57) continues well after the individual match or session has ended and can impact future approaches to the game, building meaning through an iterative process (Salen and Zimmerman

1). In this sense, the emergence of a satisfactory narrative can be viewed as more important than a straightforward victory.

In some tabletop games, particularly in tabletop role playing games such as *Dungeons and Dragons* and the aforementioned *Fiasco,* there can be considerable flexibility as to what can be considered a successful outcome. Most board games, including classic examples like *Settlers of Catan* or *Monopoly*, have clearly defined mathematical conditions for victory—such as, respectively, the first player to reach ten victory points or the last player to remain when all the others have gone bankrupt. Role-playing games often emphasize story elements and mystery-solving over specific win conditions, opening up the door to greater player agency. In many open world role-playing games, for example, there is a specified quest the party of players is expected to fulfill, but they are not necessarily obligated to pursue. Depending on the contexts of the campaign and the conditions of the world, they are—at least in theory—able to go off in their own directions, completely eschewing the clues offered by their game master (GM) much like a *Grand Theft Auto* player might ignore the persistent calls for new missions.

To be fair, however, while this possibility exists, it is rarely pursued. Most players, while enamoured with the possibility of a world or universe they could explore at their leisure, are content not only to stick with the party, but to follow the path of breadcrumbs laid out for them by the GM. In this sense, player agency is being limited by social construct—players know that by abandoning their party, they may be denying their erstwhile comrades the necessary resources to achieve the goals outlined by their quest. In another example, the failure—or outright refusal—to pursue the path previously mapped by the GM in construction of the scenario, might lead to the GM feeling all of his or her preparation work was for nought.

In either case, such actions might have consequences, not only within the game, but within the exterior social context that surrounds it.

The net result of this social contract is that while tabletop role-playing games tend to be built upon the promise of an open-world—both the in-game requirement of a quest-style goal and the social pressure of ensuring everyone has a role to play—leads towards linearity in spite of the emergent nature of the interactive gameplay. This pressure, which often pushes players towards a pre-conceived outcome such as a major boss fight, fundamentally works against player agency in that it limits the degree to which players can effectively act against it. One method of resisting it, however, is emergent narrative, or rather resisting the dominant narrative unfolding in the game through subversion, inspired revision, or alternative interpretations.

Many newer tabletop role-playing games, in particular those of the independent variety, have realized this tendency towards linearity, and have seen it as potentially problematic, leading to repetitive—and by extension boring—gameplay. Some, such as Fate (Hicks and Donoghue), have tried to combat the issue, by empowering the GM to rely less on preparation and more on improvisation, and some games, such as *Fiasco*, have addressed the problem by simply doing away with GM altogether, allowing for a game that evolves—and arguably is con-currently designed—by the players as a product of their playing it.

However, *Fiasco* does not give its players completely free rein. Before each play session, the players must choose and acquire a specific playset—or create one themselves—that offers up specific character relationships and potential objects, needs, or locations that could define those relationships. Which relationships are established, and which modifiers they are associated with, is officially determined by a dice-roll mechanic, although players can

choose to circumvent this mechanic without too much, or any, damage to the consistency of the game. Nevertheless, the structure of the "setup", as the *Fiasco* instruction book describes it (Morningstar 15), is a limitation on the players, but it also provides a springboard for the players to determine how they might want to see their characters interact with each other. While the group of players could create their own relationships, and their own narrative, on the spot through improvisation, group improvisation without any context cues is considerably more difficult. By applying a slight restriction on the context of the narrative which the players are trying to create, each player can be more easily brought onto the same page, and emergence, albeit of a more limited variety, can be more strongly encouraged.

Indeed, as the players interact with the mechanics of the game, a symbiotic relationship develops that continuously builds upon the ongoing interaction in ways that would not be possible if the players and the mechanics were kept separate. This "semiotic evolution" increases signification with each interaction between the player and the mechanic. Both the game designer and the player come into the game, almost unavoidably, with pre-conceived notions of how they think the game will unfold and what they hope to get out of the experience, but the gameplay itself, through interaction of player, designer, community, and mechanic, ultimately drives the emergence of narrative from the game in divergent, if somewhat limited, directions. In this sense, all four groups have a degree of agency.

John Fiske explores this idea further in his "Video Pleasures" chapter of *Reading the Popular* (63). Fiske centred his case analysis around video game arcade culture, which at the time was still the subject of potent controversy despite being very much on the decline. Arcade machines had dominated the video game industry landscape in the 1970s and the early 1980s—and continue to have a prominence in some parts of the world, particularly East Asia.

Nevertheless, competition with more affordable home consoles and personal computers, hardware issues, an increasingly less effective business model—as well as growing distrust of the very "arcade culture" Fiske describes—ultimately led to their near disappearance from many of their traditional markets in North America and elsewhere. Fiske's case study, then, represents a historical slice of gaming culture at a time of transition, yet one that also acknowledges the resistive role the player community of the 1980s-arcade culture assumed in youth culture (Fiske *Understanding Popular Culture* 110). Often feared and largely rejected by the wider culture in which they were housed, arcades—while remaining a product of the industrialized, capitalized society—lent themselves easily to the culture of subversion. At the same time many media, in particular those who themselves had little to lose from the loss of the arcades, assumed reactionary technophobic stances against the arcades. Many of the arcade's patrons identified themselves in opposition to these reactions, constructing themselves as social outcasts, and forging their own social community centered on the public arena of their common interest. This community was fundamentally emergent from the members' interaction not only with the arcade cabinets themselves and their immersive digital game environments, but also with each other; collectively constructing a dynamic and emergent subculture.

As Fiske's analysis illustrates, the arcade itself becomes a sanctuary, a centre-point for this youth culture to rally around. While their agency within the games itself is limited by the constraints in the design of the games themselves—in particular, their programming—arcades allowed for an avenue of player agency in the form of the scoreboard, whereby players could assert their dominance at a particular game in a very public space, which was also the physical space in which the dominance was established. Scoreboards or leaderboards continue to exist in digital games—and are often a feature of metagame mechanics, particularly in e-sports—but

this pre-Internet era tied excellence at a game to a much more local level. While players may be able to establish—and contest—rankings amongst their local community, or an online community, very rarely are rankings established amongst neighbourhood peers in the way that popular arcades once allowed. As such, the arcade score represents an aspect of player agency that has in some ways been lost and in some ways evolved into this new form.

The video game arcades of the 1970s and 1980s—and the pinball machines that preceded them and eventually co-existed with them—also allowed a degree of physical agency with the game which most digital games eliminated through software control. Pinball machines, for example, eventually adopted "tilt mechanisms" in response to savvy players learning they could improve their chances by tilting the table one way or another. In some games, the tilt mechanism—which shuts down the player's flippers if the table is tilted too much, thus costing him or her his or her ball—was given a lower sensitivity, allowing players to tilt the table to a certain degree before triggering it. Understanding this tilt margin, and skillfully playing within, added a new level of play to the game. In this sense, the player response to an existing mechanical format led to the emergence, in this case by design, of a new mechanic to not only make the use of tilting fairer but to turn it into a new form of play, enriching the overall play itself. Like the pinball machines before them, early arcade machines often focused on physical mechanics to control the action on screen, commonly using haptics such as joysticks, trackballs, and even specifically-built model guns and steering wheels. Some expert players learned to take advantage of these particular tools to gain advantage, such as using a pencil and a strong flat object to enable a player to hit two buttons repeatedly at a faster rate. In addition to physical tampering, some of these games became ultimately subject to

digital tampering as well. In the end, while the games of most machines were meant to be played in a linear fashion, even they could not be fully immune to emergent approaches.

Linear narratives will always have an association with games to some extent, so long as designing games with authorial intent remains popular. The interactive nature of games, however, favours emergence. This means even a traditionally linear game can become more emergent through the inevitable pursuit of greater agency, sometimes even in open resistance to the original developers. Implicit in the existence of this resistance, however, is the understanding that barriers exist, if not to limit agency, then at least to work against it.

BARRIERS TO AGENCY

If total agency is considered to be an impossibility in games—or any form of media for that matter—then I must examine the potential resistance to agency and how that might affect the emergence of narrative. This section will deal with the issue of barriers to agency within games, particularly those that might limit a player's capacity to act within or even play the game due to the influence of cultural, cognitive, physical, economic, or developmental factors. Each of these potential barriers must ultimately be overcome for the player to be able to engage with the game and have a meaningful, immersive, and ultimately emergent experience. Examples from persuasive games, classic board games, sports, and digital games will be used to illustrate how these barriers may come about and how they may potentially be addressed.

Barrier to agency are ultimately those factors, within the game environment, with the player, or within the surrounding community, that act against the ability of the player, or in some cases the designer, to act completely of their own volition in the process of emerging narrative. As has been explored earlier in this essay, questions surrounding player agency in

games, are not altogether different from questions surrounding audience agency in other media, including more traditionally passive media like literature and cinema (Manovich 4). In both of these cases, the audience member or player is ultimately a consumer, entering into a communicative exchange with the text in question based on pre-existing motives or requirements. These prior conditions ultimately influence how the player engages with a game. For example, a player looking for a brief distraction from his or her daily routine is likely to engage differently with a game than a player looking for an epic escapist adventure. In this sense, the decision to play one game or another is ultimately an act of agency influenced by pre-existing emergences and biases.

Persuasive games—games which consciously attempt to put forward an argument through their game mechanics—in particular are subject to these biases, not unlike their counterparts in other media such as non-fiction, essays, or documentary films. Just as a person who is fundamentally opposed to the main idea of a documentary film, such as one that argues the industrial actions of humanity is fundamentally responsible for an increase in global warming, might be less inclined to watch a film based on arguing this point, so too might a prospective gamer decide against trying a specific persuasive game based on the assumption that the game's main arguments are in irreconcilable opposition to the player's core beliefs. As a result, while persuasive games—and documentaries for that matter—can be effective at raising awareness about a particular issue, often this awareness is raised amongst audience members who already agree with the main point, a "preaching to the choir" effect (Hestres). On the one hand, this tendency for intentionally argumentative work to communicate its rhetoric most effectively towards recipients who largely already agree with the central premise serves mostly to reinforce confirmation bias, particularly in media that is more linear in nature

and therefore less susceptible to emergent resistance. On the other hand, the tendency to repel or otherwise exclude those who would fundamentally disagree with the premise precipitates a "backfire effect" whereby those opposed to the main idea are re-affirmed in their opposition—indeed, the perceived attack on their belief prompts a defensive posture whereby they more strongly identify with them—regardless of the truthfulness or objective accuracy of the information being presented (Cook, Arndt, and Lieberman 389). This duality between confirmation bias and backfire effect, along with a wider plethora of news organizations catering to specific points of view, has fuelled an increased polarization of many cultures and societies around the world (Prior 101). While revolutionary advances in digital technology in recent years have made it arguably easier than ever before to access a diverse range of alternative viewpoints, many consumers are instead using this communications infrastructure to immerse themselves almost entirely in like-minded communities at an unprecedented level. Just like a game with an overwhelming number of available player options, consumer agency might actually be undermined by a lack of general structure (Mateas 145), creating parallel, contradictory, and often hostile emergent narratives.

However, a consumer—either as a player or an audience member—still has the prerogative to choose, not only how he or she consumes a particular form of media, but which media he or she wishes to consume. This choice represents his or her initial act of agency. The designers of games, the writers of books, and the producers of films, can take steps to target specific demographics, or to influence how their work is publicly perceived, but ultimately the choice of consumption must be made on the receiving end. Once again agency ultimately rests with the individual's interaction with the work, or his or her decision to avoid interaction, but this decision is fundamentally influenced by external factors.

In this sense, the decision of a player to get involved in a particular game can be affected by the existing emergent narratives, or presumed existing emergent narratives, around it. This effect can limit the agency of the player in deciding to engage in a game. When faced with the preaching to the choir or hostile audience problem, games have a unique advantage over other media—theoretically at least—to engage with audiences outside their traditional rhetorical base. While books can attract readers from outside their main rhetorical clumping by simply being engaging or well-reviewed reads—or films can attract viewers from outside their main argumentative grouping by being engrossing or critically acclaimed—games, due to their heightened focus on player interaction, have the theoretical capacity to use that heightened engagement to attract prospective players through gameplay that might otherwise be turned off by the game's over-arching message.

Games striving primarily to achieve an objective other than simply being fun, have had a rather checkered success rate, partially because the forced diversion of the player's motivation for play away from simply entertainment acted against the player's agency, effectively presupposing the game designer had a better understanding of what the player should be doing than the player him or herself. The rush of "edutainment" games of the 1990s in particular, left many gamers with the impression that when games and education combine, the result is neither terribly fun nor terribly educational. A classic example of an ill-conceived and ill-fated educational game, Nintendo's 1992 *Mario is Missing* title for Super Nintendo Entertainment System, PC, and later the Nintendo Entertainment System, was widely panned by critics and a general flop in the marketplace. Like many educational games of its era, it made the critical mistake of not putting engaging gameplay ahead of its educational objectives,

leading to a game that was cumbersome to play and ultimately lacking in its ultimate goal of teaching players about geography.

This is not to say that educational games cannot be successful if they embrace player agency and emergence rather than working against it. The *Carmen Sandiego* series, which debuted in 1983 and was still releasing installments in the early 2010s, has been one of the longest running video game series, educational or otherwise. *Carmen Sandiego* games, often with question-based titles such as *Where in the World is Carmen Sandiego?* or *Where in Time is Carmen Sandiego?*, generally involve a noir-esque search for the eponymous and enigmatic thief mechanically exemplified through a series of puzzles and information challenges related to geography, history, English, math, and other academic subjects. These games became successful enough to inspire television game show variants of its geography and history-based versions, both of which were effective in immersing participants in the pursuit of a linear goal, the capture of *Carmen Sandiego* through the mastery of a particular school subject, by giving the player not only a strong character role to play (Swartjes 19), but also interactive companions to facilitate an emergent feeling to the experience (Jørgensen 327). Where the *Carmen Sandiego* games succeeded and other edutainment games did not, was in the creation of not only an interesting game universe within which players could immerse themselves, but through an engaging system of gameplay mechanics that allowed the players to feel that they were slowly closing in on the elusive femme fatale. By designing the mechanics to heighten emotional intensity as the player nears his or her goal, the designers successfully link education with entertainment, but only through the player's suspension of disbelief.

Of course, in order for a player to suspend his or her belief, he or she must have a compelling motivation for doing so. By extension, any discussion of player agency must take

into account player motivations, as agency itself can effectively be understood as the capacity for a player to pursue these motivations. The most commonly cited reason for a player to play a game is not surprisingly entertainment (Flanagan 1), but the motivation to play is not solely rooted in the pursuit of amusement as players can be motivated to participate in a game for a variety of emergent reasons (Swartjes 105). In addition to the desire to learn, as presumably underpins one's participation in an educational game, one might be inspired to play a persuasive game by either agreement with the game's central premise or a desire to test one's own beliefs against the world created by the game. As mentioned previously, however, the desire to contrast one's views against opposing viewpoints often leads to the backfire effect, whereby one's pre-existing beliefs are reinforced almost as a defensive response.

However, player motivations can often be far more general or less concrete. The social pressure to play is a strong motivator, and arguably the most common reason many people decide to sit down and play games, even doing so for the sake of others means, in some respects, the surrendering of agency. Perhaps they are not interested in playing the game, but their friend is deeply interested, and in the interest of supporting the friendship, they decide it is worthwhile to give the game a chance. Perhaps they are a parent who hopes that playing the game with their child will help their child's development and forge a stronger bond. Perhaps they are seeking a sense of belonging in a larger social group for which the game is not only popular but emblematic of their cultural identity—many sport fandoms are centred on this cultural cohesion behind a particular sport and team. In any case, the social pressure to join a game is often a major factor in one's decision to play, or even watch others play, a particular game. As such, it remains an intrinsic factor impacting player agency, affecting the rationale behind why a player might play a game or why he or she might feel compelled to avoid it.

In addition to the motive to play or watch a particular game, a player must have the capacity to engage in the game either as player or spectator. The most obvious limiting factor in this regard would be physical capacity. A prospective player lacking use of their legs, for example, might have a difficult time engaging in soccer with the exception of the variety using wheelchairs or some other form of prosthetic. Likewise, a person unable to read might struggle to play a game of *Scrabble*. In this sense, the physical or literary incapacity to engage with the game undermines the player's agency, disallowing him or her from choosing to participate in the game and possibly even its external emergent narrative.

Other factors, however, might also limit a player or spectator's capability of engaging with a particular game, therefore undermining their ability to experience emergent agency. Economic factors, for example, remain a major hurdle of entry for many sports—particular those that require a great deal of expensive equipment, such as ice hockey or rowing. The low-cost requirements for a game of soccer, for example, is one of the most often cited reasons for the ubiquity of the game as the popular sport—never mind the most popular form of football—in the world today (Walvin 1). Even watching a sport such as this can quickly and easily get prohibitively expensive. Prospective spectators would require access to a means of viewing the game in question, meaning they would either have to travel to the location where the game was being played—itself perhaps a considerable expense in addition to the cost of admission, which for professional level games, is often quite high—or obtaining the means to view the game electronically.

Sports, however, are not the only form of game where financial status can prove to be a significant barrier to play and ultimately emergent agency. Most digital games, for example, require access to high technology often out of the price range of many would be players,

particularly online environments, such as competitive *StarCraft*, where the technical speed of a particular player's machine offers a substantial advantage over their competitors. Even tabletop games can be prohibitively expensive, with many newly published games ranging in the sixty to hundred-dollar range (CAD).

Assuming economic barriers can be overcome, emergent agency can only be experienced if the player has the cognitive or physical capacity to engage with the game and to facilitate their role within it. Games that require a considerable amount of reading—tabletop role-playing games are particularly notorious for this—expect prospective players to come into the game already deeply literate and arguably seasoned with basic mathematics. Some sports require significant pre-existing physical skills before a player can successfully join in—advanced horsemanship, for example, is a requirement for anyone wishing to attempt to play a game of polo. Likewise, many digital games assume on the part of their users a certain degree of tech savvy, which they learned either through the education system or through their exposure to similar software or games.

Cultural barriers might also impact a player's ability to play, and therefore the player's agency in a game's emergent narrative. Of these, language barriers are often prevalent problems game designer must address if they wish their game to reach an international audience. The game known in the West as *chess* is believed to be descended from a similar yet noticeably different game, *chataranga*, which originated in the Gupta Empire, modern day India, around the sixth century AD (Pandolfini 2). However, chess is not the only descendent of this ancestral Indian game to survive into the modern day. *Xiangqi* or *Chinese chess*, not to be confused with *Chinese checkers*, is a very similar game to Western chess, and achieves chess-levels of popularity within its home country. There are a few key differences between the

two games such as the design of the gameboard, the arrangement and number of pieces, and the available movements. In recent times, Western chess—carried by the powerful influence of Western cultural dominance—has become the most popular variant of chess outside of East Asia, even in the traditional homeland of chataranga in India (Murray, Harold 1). While Chinese chess, and its closer relatives in Japan and Korea, remain popular in East Asia and in East Asian communities worldwide, the western variant remains far more widely recognized and played amongst diverse international communities. A large number of factors are certainly in play here—Western cultural hegemony being an undeniably major one of them—but the boards themselves hold clues to the comparative accessibilities of the two games. Western chess is traditionally played on boards that feature small figurines as playing pieces. Alternatively, Chinese chess is traditionally represented with Chinese characters inscribed onto wooden tokens to represent the specific pieces. Despite being a similarly designed, or rather evolved, game as Western chess, with much of the same compelling gameplay, the widespread use of Chinese characters to depict playing pieces has restricted the spread of the game beyond Chinese cultural communities until recent times. Western chess, born as it was through a multicultural and multilingual context, used the far more easily translated statuettes, allowing it to spread more easily to external cultures. To be fair, Chinese chess has also adopted these statuettes in recent years, so the spread of this variant of the game may become more widespread, allowing more potential players to make the agential and emergent decision to participate in the game.

In addition to language barriers, however, cultural barriers, particularly those related to class, gender, or race, may also determine who is likely to be able to engage in a particular game. Many games that require expensive equipment, such as the aforementioned polo, have

been associated with those with access to the requisite resources. In the United Kingdom, for example, the sport of cricket, traditionally at least, had been primarily associated with the upper classes, both in its athletes and its fandom, whereas soccer—or football, as they would call it—generally had more of a working-class association (Walvin 1). In most parts of the world, male sports continue to receive far more media attention and financial support, and some parts of the world, Saudi Arabia for example, actively discourage women from participating in sports, greatly undermining their agency in participating in a game's emergent discourse.

Race, as well, can be a major determining factor of one's participation in a game. In Apartheid South Africa, for example, rugby was widely popular amongst the Afrikaans, white South Africans of Dutch descent, but considerably less so amongst the black South African communities who generally preferred soccer (Nauright 1). During the transition to the post-Apartheid era, South Africa's first black president, Nelson Mandela, famously embraced the Afrikaans rugby culture as a means of welcoming the Afrikaans into the new multiracial South African community. In doing so, however, he also opened the door to greater black participation and ultimately emergent agency in the sport, allowing for more opportunities that may not have existed in preceding decades.

Not having the opportunity to participate in a game is not the only barrier of player agency that must be overcome, although it is a critical stepping stone, and one that is linked not only to physical capability, but also cultural and educational access. There is also a question, though, as to what degree skill, or conversely to what degree chance, can determine a player's agency in a game. The Germany-centred Euro game movement of the late 20th century was drawn out of the continent's post-war emphasis on economic development over military

development. Designers from this movement focused their mechanics on emphasizing player skill over chance, seeing games that relied too heavily on luck as detrimental to the ability of the player to affect agency upon the outcome of the game. They were particularly opposed to the derogatorily dubbed "Ameritrash" genre of games—most infamously represented by *Monopoly* or *Sorry!*—that frequently relied on a snakes-and-ladders-esque roll and move mechanic to push gameplay forward. Euro game designers viewed these mechanics as inherently backward and fundamentally unfair to the player. By placing too much emphasis on the role of luck, the player's agency was seen as critically undermined, and therefore the game was deemed to be unsatisfactory by many game critics, even though many of these games, *Monopoly* in particular, continue to enjoy wide brand recognition and ubiquity. This reinforces the notion that, not only are not all conceptualizations of agency equal, but not all players require the same level of agency to achieve emergent satisfaction (Swartjes 105)

The question of emergent agency in Euro games is perhaps best encapsulated by one of the most well-known early Euro games to achieve popularity outside of Europe, Klaus Teuber's *Settlers of Catan*. *Catan* positioned the player as the leader of a small group of settlers arriving at a seemingly uninhabited island rich in resources. After building their first settlement, players race to expand their growing community, trying to be the first player to reach ten victory points and thus secure domination over the island economically. Two dice are used in the game, but they are intrinsically tied to resource production, not movement. At the start of each player's turn, that player rolls the two dice and on a result of one through six or eight through twelve, the corresponding hexes give their neighbouring towns and/or cities the requisite amount of resources in their respective category. Players then use these resources either to trade with one another or the bank, to build roads or settlements, to develop

settlements into cities, or to purchase a development card randomly drawn from the deck. While the dice and the development card deck—which has no negative cards, but may give a player a card they do not need at a particular time—do offer some degree of randomization, the game overall is far less chance-based than *Monopoly* and many of its brethren. Nevertheless, it has often been criticized for being too prone to problems such as kingmaking—a practice which is potentially harmful to the agency of the lead player even as it empowers those who are behind (Elias et al. 279)—and still being subject to die-rolls largely determining the ultimate winner.

As the Euro game movement in tabletop board game design further developed in pursuit of greater agency for the skilled player, it would move away from *Catan's* heavy use of dice and cards. Instead, it began to move more towards a worker placement mechanic, whereby players would compete in placing a series of tokens that would activate a series of resource development progressions towards a shared or personal goal. Some examples of popular games that use this mechanic include *Stone Age*, *Dominant Species*, and *Puerto Rico*. While worker placement games do rely less on chance, their heightened emphasis on player agency does not always benefit player agency. Less-skilled players, for example, who may have a greater chance of success—or at least relevancy—in a more chance-dominated environment, often find themselves quickly outmatched and outpaced in a Euro-style worker placement. Likewise, some worker placement games, such as *Power Grid*, require the player to perform a considerable number of personal calculations, meaning the less strategic players, as well as the less mathematically inclined, are less likely to do well at the game and achieve a strong measure of satisfaction. As such, Euro games often appeal more to the hard-core gamer community, as it increases their agency, and less so to the casual gamer, whose agency it

arguably decreases. As result the two communities of players tend to diverge rather converge through emergence, as games that suit their particular interests become increasingly specialized.

That is not to say Euro games have not been popular in casual gaming circles. *Settlers of Catan*, along with similarly designed and released games like *Ticket to Ride* and *Carcasonne*, have done extremely well with casual gamers, changing the presumed emergent narrative between casual and hardcore tabletop gamers. These games have found a strong balance between the agential need for a player's skills to affect a game's outcomes along with the need for less experienced players to be able to compete with more experienced ones. For some, this "mainstream" success may have invalidated their status as a Euro game, creating a new emergent narrative that the games are for casual gamers. In the end, the Euro game movement's impact on the design of tabletop board gaming has been undeniably influential in the last few decades, and will likely continue to do so for the foreseeable future. Overall the experience of the player engaging with the game mechanics ultimately emerges in narrative form, defining what it means to identify as hardcore or casual.

In the end, any form of barrier—including cultural, cognitive, physical, economic, or developmental barriers—must ultimately be overcome for not only agency to exist, but the game itself to be considered a game. In overcoming these barriers, players enact their own agency, and in so doing set into motion the emergence of narrative from their interaction with game mechanics. In the next section of this chapter, these ideas will be applied to a case study on Telltale's *Game of Thrones* game, as an example of how agency might be limited or augmented in an apparently linear narrative game.

CASE STUDY: TELLTALE'S GAME OF THRONES

In 2014, the Telltale Games Company released *Game of Thrones*, a narrative-driven episodic adventure set in the universe popularized by the George R. R. Martin novel series *A Song of Ice and Fire*, as well as the eponymous American television program. *Game of Thrones* is set in a grim fantasy world, where ruthless medieval rulers wield tyrannical authority and the delicate manoeuvring of the social strata, often at the expense of ethical considerations, can be the only true method of survival. Understandably, it is a rich environment—and one with an already dedicated fan base—so it was not surprising that Telltale would jump at the opportunity to create their own interpretation of this world through one of their trademark graphic adventures (Schröter 73), not dissimilar from their adaptations of *The Walking Dead*, *Fables*, or *Tales from the Borderlands*. In developing *Game of Thrones*, however, Telltale inevitably ran into a major thematic problem: in order to hinder the success of the story's protagonists, the game itself inevitably had to also curtail the victory potential of its players. In other words, they encountered Aylett's narrative paradox ("Narrative in Virtual Environments: Towards Emergent Narrative" 84), attempting to impose a linear storyline in an emergent context, and undermining the very player agency they were championing in the process.

One of the major areas where Martin's *A Song of Fire and Ice* received critical praise was its revisionist approach to traditional fantasy arcs and tropes, in particular the notion that a brave and noble hero—or very occasionally heroine—can only save the day by being true to himself while braving new circumstances, and by doing so, he will overcome any villain, any evil, or even any overwhelming odds, in order to restore a virtuous balance to his universe

(Battis and Johnston). This idea is very similar to—and could be read as an extension of—Joseph Campbell's notion of the hero's journey as mapped through the "monomyth" as he explains in the following description:

> The standard path of the mythological adventure of the hero is a magnification of the formula represented in the rites of passage: *separation—initiation—return:* which might be named the nuclear unit of the monomyth.
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While much of Campbell's understanding of the hero's journey is still in place in *A Song of Ice and Fire*, Martin twists these notions, and plays with reader expectations, by killing off his protagonists at surprising intervals. While Martin's sword and sorcery series was hardly the first work of fiction—or even the first fantasy—series to do so, it quickly gained a reputation amongst both fans and critics for its willingness to kill off major characters, or even protagonists, at shocking junctures. Martin's repudiation of the assumption of the ever-victorious protagonist was a rejection of the traditionally assumed linear heroic arc, imposed instead a bleaker and ultimately just as linear vision where only those capable of committing villainy were capable of long-term success. While some observers were certainly taken aback by this audacious plot direction, overall it awarded Martin the status of a bold storyteller and the fantasy series as one worth watching.

When it came to the game, however, it was a different story. Like its other episodic graphic adventure games, Telltale sold *Game of Thrones* as a narrative-based game where the decisions made by the player at various junctures would impact the evolution of the story. Vividly set in the already familiar fantasy world, with consultants from Martin assisting on the project (Telltale), Telltale's effort not only captured the tone of the popular adaptations in other media, but also the figurative Machiavellian game of social alliance making and breaking to

which the title “Game of Thrones” itself alludes. Indeed, the game was generally well-received and was in itself sufficiently successful to warrant the production of a second season which—at the time of writing—is currently underway (Telltale). While many praised the narrative strengths of the series—and Telltale in general for placing a narrative emphasis on its games that few companies could or would care to replicate—many game critics and fans alike expressed strong dissatisfaction with the ending (Metacritic). While Martin’s undermining of overly positive protagonist biases in traditional narratives won the series critical acclaim in the more passive media of literature and television, in the realm of the digital game, this over-arching ideal—the sense that the good guys were not going to win—flew in the face of the main selling point Telltale had been using to promote its games—that the individual player, and the choices they made within the game, had the ability to dramatically affect or even change the final outcome. In other words, Telltale was selling a greater player agency over the story’s narrative, presenting it as emergent when it was mostly linear, that was mechanically mostly an illusion.

Over the course of the game’s six episodes, the player has the opportunity to and indeed must interact with the game from the point of view of five different characters, all of whom are ultimately connected to the noble family of House Forrester—a similar analogue to the Stark family featured heavily in the books and television show. When their paternal lord is betrayed and murdered in the bloody aftermath of the notorious red wedding event, the Forresters find their social position precarious in the new political environment that emerges over their fictional land of Westeros. As the game and the story progresses, each finds himself or herself facing increasingly overwhelming odds in their main objective of preserving House Forrester from destruction at the hands of its enemies. One of the playable characters, Ethan, is abruptly

and brutally murdered with a stab to the throat by the villainous character of Ramsay Snow at the end of the first episode (Telltale *Game of Thrones*). No decision the player makes, or action taken, before this event has any effect on the outcome. All decision paths, regardless of whether they are more accommodating to Snow or more confrontational, ultimately lead to the same result, the murder of Ethan. It simply cannot be prevented; a seemingly inevitable requirement of the plot, even though—while certainly shocking—the logic of its occurrence is somewhat questionable, particularly if the player has been guiding Ethan to be cooperative towards Ramsay. This inevitable inability on the part of the player to achieve their main objective is echoed in the finale of the first season where House Forrester—regardless of what efforts or strategies the player has employed to save it—is inevitably destroyed, burnt to the ground at the hands of its enemies. The player has the capacity to influence which few Forresters survive this catastrophe and which of their enemies—with the exception of Snow who is untouchable owing to his continued survival in the main television and book series—goes down with them. The main goal that the player has been coached to be seeking from the start, the survival of House Forrester, is at no point ever actually within the possible realm of achievement. Regardless of whether the player makes decisions that are noble sacrifices or selfish stratagems, the end result is still the same. House Forrester burns and with it the notion that the player had any agency over the outcome which appears artificially emergent, but is in actuality an authorial decision made by the developers.

This need to push the story—and the players—towards a linear conclusion is a commonly cited weakness in many of Telltale's releases, driven not only by the limits of their software design and development resources—only so many possible endings could be developed with the available talent and included in the game—but also by their franchise's

narrative limitations. In order to stay true to the famously grim tone of *Game of Thrones*, Telltale's scope for player success was fundamentally limited from the start. No matter how well a player played, they could never be allowed to fully succeed, as that success would defy the "realistic" aura around the series (Jacoby 2). Likewise, the need to consistently setup upcoming episodes, meant characters would always need to be nudged—sometimes less than subtly—in the direction of the over-arching plot. This issue has come up in many of Telltale's other games as well, including their critically acclaimed *Tales from the Borderlands*, where in the penultimate episode, the playable character Rhys must decide whether or not to accept Handsome Jack's offer of ownership of the space-based mega-corporation of Hyperion (Telltale *Tales of the Borderlands*). In both cases, the pre-established linear narrative arc seems to take precedence over player agency and ultimately emergent narrative itself.

From a game design point of view, this inability for players to dramatically affect the outcome of the game inevitably runs contrary to a fundamental idea of many games—never mind Telltale's promotional campaign—that implicitly or explicitly understands that the outcome of a game is first and foremost in the hand of the player (Elias, Garfield, and Gutschera 58). This is not to say that players cannot derive emergent satisfaction from narrowly defined storylines in games, as both Swartjes (57) and Jørgensen (327) have pointed out that even the illusion of emergent narrative can be satisfactory compelling if the player is made to feel that he or she is fully immersed in the story and can embrace not only his or her own character role in a performative aspect but also an experiential authenticity to the non-playing characters with whom he or she interacts. In other words, a linear narrative can achieve a sufficiently compelling façade of agency by wearing an emergent narrative's clothing.

Many players are not content with this façade, arguing for a more agential approach to the narrative that would ultimately allow for a greater diversity of outcomes and emergent narratives. The issue is not unique to digital games. In tabletop board games, the Euro game movement—whose games emphasize skillful management of resources over chance-based determinants—is particularly hostile to outcomes not determined by player skill, while the authenticity of scripted sports, such as professional wrestling matches or fixed games, is often discredited (Shepotylo). In all these cases, the lack or perceived lack of player agency undermines the legitimacy of the game in question—sometimes even challenging its status as a game—and undermining its effectiveness as a source of emergent narrative.

By these standards, some could argue that Telltale's graphic adventures, which Richard Wirth calls "episodic" games (1), are not in fact games but a form of interactive cinema, which Kevin Veale in his "'Interactive Cinema' is an Oxymoron, but May Not Always Be" *Game Studies* paper, declared an oxymoron as he considered the terms "interactive" and "cinema" to be fundamentally "mutually exclusive." Veale's understanding of cinema, however, presupposes that cinema is defined by passive absorption in a linear fashion, and is built on the understanding that many projects put forward as "interactive cinema," in particular the CD-ROM releases of the early 1990s, failed to live up to the genre's lofty expectations. Telltale's ongoing success with this style of games, however, calls into question the assumption that the marriage of game mechanics with cinematic elements is ultimately doomed to failure. For many gamers, though, a successful outcome should only be determined by the skill of the players, not the whim of the designer, so the still very linear underpinnings of Telltale's games, even if they effectively wear the mask of emergent narrative, remain a cause for concern.

CONCLUSION

This chapter argued that while player agency is limited in many respects by the intrinsic boundaries of a game's design, the player's ability to resist, circumvent, adapt, or simply move beyond those limitations is ultimately rooted in the way in which the interaction between player and mechanic produce an emergent narrative. This process evolves the game itself away from its original design. In other words, if players do indeed have true agency in games, then that agency is ultimately one of narrative emergence. If they do not have agency, then they also lack interactivity, and the status of the game as a game is called into question.

While player agency remains a troubled concept, as long as interaction is present within a game—even one with an supposedly linear narrative—some degree of agency must also be present and therefore driving the emergence of narrative. This chapter explained how player agency was defined not only by the player's ability to affect the outcome of a game, but also to engage in the community surrounding the game, and ultimately influence its design through a cyclical feedback process. Questions were asked about how agency could be defined, how it operated in games versus other forms of media, how it challenged traditional assumptions of authorship, how it operated in traditional linear narratives versus emergent ones, and what barriers it had to overcome.

Overall, however, the player's agency ultimately rests on his or her ability to engage with the game mechanic, as well as the surrounding play community, and participate in the production of emergent narrative. In this sense, the player's interactivity is not counter-productive to narrative, but rather productive. This revelation changes preconceived assumptions in the field of game studies, and also challenges traditional literary assumptions about narrative theory. If narrative can be thought of as a reciprocal process through

emergence—as I have argued here through the exploration of agency in games—rather than a passive process, then this chapter raises many questions, not only about the role of emergent narrative in games but in other media forms as well. The question of the role of emergent narrative and increasing attempts to afford audiences greater agency in other media forms, needs further research. With the critical role of agency in the formation of emergent narrative now firmly established, the next chapter will build upon that relationship, demonstrating how narrative emerges from the agential interaction between players, game mechanics, and the play community.

CHAPTER TWO: HOW GAME MECHANICS GENERATE STORYTELLING

Affording agency to a player, designer, or participatory fan community is one thing, but for agency to really have a powerful effect, it has to be able to produce something of significance. That something—as I argue throughout this dissertation—is the emergence of narrative, but the process through which this interactive agency creates emergent narrative requires further discussion. This chapter is driven by the underlying question**: how do game mechanics, which are seemingly divorced from narrative, in fact generate it?** In order to explain this phenomenon, this chapter is divided into four inter-related sections, each dealing with a particular question that acts as a subset of the over-riding question for the chapter. This chapter first asks: **what is the connection between game mechanics and emergent narratives?** I demonstrate that this connection is fundamentally the act of interaction, which itself bridges the in-game environment—or magic circle (Huizinga 10)—with the world outside of it. The second question asks**: how has the narrative relationship with game mechanics been theorized in the past—in particular by prominent self-styled ludologists such as Jesper Juul, Gonzalo Frasca, and Espen Aarseth?** In response, I will argue that these past discussions, while illuminating, are ultimately undone by an antiquated understanding of narrative function and emergence. Following on this discussion, the common ludological assertion that narrative impedes or otherwise interferes with game mechanics, or is otherwise unnecessary, will be examined with the third question: **do games need narrative?** In this section, I will argue that while overly linear narratives, which may be more prominent in other media, are by no means inherently necessary in any and all games. The process of emergence from game mechanics does in itself produce a form of narrative, intentionally or otherwise. Finally, the fourth question will build on this discussion, asking: **What are the**

limits of generating emergent narrative from game mechanics? To answer this question, it will be argued that this emergence is limited primarily by the restrictions of the player interaction with the mechanics, as well as the ability of that interaction to spread and influence meaning making outside of the initial activity. Throughout this chapter, it will be argued that not only does player interaction with a game mechanic generate emergent narrative, but it is an inevitable result of that interaction.

GAME MECHANICS AND THE GENERATION OF EMERGENT NARRATIVE

What is the connection between game mechanics and emergent narratives? This connection is ultimately one of interaction, but requires further exploration. Game mechanics are the methods by which the player can affect the gameplay of a particular game, usually sanctioned by written rules of conduct or, in the case of digital games, player move limitations embedded within the programming code. In "Defining Game Mechanics," Miguel Sicart defines: "…game mechanics are methods invoked by agents, designed for interaction with the *game state* (my emphasis)" Notice the emphasis on interaction with the game state. This represents, not only the purpose of the design of games, but also the definition of their execution.

It should also be noted, as Sicart does, that game mechanics, while usually underpinned by the rules of the game, are nevertheless a distinct entity. "Game mechanics are concerned with the actual interaction with the game state," he argues "while rules provide the possibility space where that interaction is possible, regulating as well the transition between states. In this sense, rules are modeled after agency, while mechanics are modeled for agency." This understanding of the relationship between game mechanics and rules builds off the previous

chapter's discussion of player agency, in particular the idea that player agency is not only driven from interaction with the game through the game mechanics, but through the emergence of narrative from that interaction. According to Sicart, game mechanics are more focused around what the player is actually doing in relation to the game, whereas game rules outline what actions are theoretically possible within the framework of the game in question, and by extension what conditions are necessary to determine a victory or at the very least a game end.

For example, in *Super Mario Bros.*, the main mechanic is jumping, which the player can use to defeat enemies, overcome obstacles, and collect coins and power-ups. The rules for defeating the first enemy which Mario encounters on the first level, a lowly goomba, state that he merely needs to jump on it, but the player may use the jump mechanic to sail over it just as easily. In this sense, while the mechanic of the game must be in operation each time the player activates them—therefore becoming the trigger point of the emergence of narrative through interaction with the game—the rules themselves only act as boundaries to play that come into effect when their condition is met. In other words, game mechanics are the instruments through which the player interacts with the game, and rules are the limits on that player's interactions. In a *Super Mario Bros.* game, the player's interaction with the game mechanics are necessary to drive the game forward—the player must make Mario jump to avoid or squish the initial goomba in order to advance in the level—and this interaction with the mechanics ultimately drives the emergence of narrative. While the player successfully or unsuccessfully steers Mario through a series of obstacles and enemies, the player's interaction with the game mechanics are ultimately built on the emergent decisions he or she makes in the face of the game's various challenges. The serial and ultimately divergent nature of these interactions resist linear structuring, causing the effect, according to Sandy Louchart et al. in "Authoring Emergent

Narrative-based games," that "once interactivity is involved, story must become plural. (26)" This means that not only is an emergent narrative a non-linear one, but the culmination of a player's series of interactive decisions defines the play experience and ultimately the emergent narrative that arises from it.

These interactions and the emergent narratives they produce are ultimately guided by rules. In *Rules of Play: Game Design Fundamentals*, Katie Salen and Eric Zimmerman outline three basic types of rules: constituative rules, operational rules, and implicit rules (139). Constituative rules represent the core mathematics of games, often abstracted out of the purview of all but the most serious of players. An example of these rules would be the programming code underlying *Super Mario Bros.* or the permutations of possible moves in a game of go. Operational rules are typically those described in the instruction manual, the ones that govern the general operation of the game. The notion that jumping on a goomba defeats it in *Super Mario Bros.*, or the understanding that black plays first in go, are operational rules. Finally, implicit rules refer to the unwritten rules of a certain game, the ones generated through emergent narrative, particularly around successful strategies, and behavioral understandings. For example, in *Super Mario Bros*. the player may decide it is easier to avoid enemies when possible rather than defeating them, or to keep all his or her stones connected in go rather than spread out into different areas. In effect, Salen and Zimmerman's notion of implicit rules is akin to the concept of *heuristics*, simplified general ideas or strategies—usually unwritten—that can be applied broadly, with varying but usually reasonable degrees of effectiveness, to a variety of scenarios (Elias, Garfield, and Gutschera 29). While heuristics are generally unwritten rules and not usually sanctioned by official rulebook—although some rulebooks will make recommendations—these heuristics can and should still be thought of as rules, and

therefore the previously established relationship between rules and game mechanics still applies. That is to say that heuristics, like the official rules, are not in themselves game mechanics, but are in fact parameters—in this case, more loosely defined ones—that guide and frame the player's application of the game mechanics in his or her interaction.

Nevertheless, it should be noted that heuristics, owing to their integral fluidity, do have a distinct relationship with game mechanics as compared to the relationship between game mechanics and the official rules. As heuristics are more loosely defined, they are also much more open to negotiation, and often serve as the points of interest—or at the very least—the discussion of the game in question, and therefore are symptomatic of the emergence of narrative from that game mechanic. In *Characteristics of Games*, George Skaff Elias, Richard Garfield, and K. Robert Gutschera further explain this relationship between game heuristics and emergence:

> Many games, in order to satisfy players, need to allow players to gain mastery in the game over time. Players typically gain skill by developing heuristics: rules of thumb that help them play the game. Some of these rules might be quite concrete ("never draw to an inside straight" in poker) and some might be fairly vague ("develop your pieces" in chess)… Discussions among players after a game are often about heuristics—what moves were most effective, what decisions could have been made differently, what the correct winning strategies are. "Monday morning quarterbacking" and other postgame analysis from spectators also tend to be about heuristics. And if someone asks "how do you play that game?" and they already know something about the rules, chances are they are looking, not for even more detailed rules, but for some basic heuristics. So although they may not use the term *heuristics*, players of games are very much concerned about heuristics, and discuss them all the time.
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As Elias, Garfield, and Gutschera note, heuristics thus represent the bedrock of player analysis of a game, the foundation of discussion long after the general rules have already been largely decided upon. Heuristics are the vehicle through which player mastery of a particular game is not only developed, but ultimately celebrated either internally, as would be the case with a

player seeking to improve his or her own aptitude in isolation on a specific game, or externally in collaboration or competition with other players. The discussion of heuristics, as noted above, can also be extended to the realm of the spectator, who—despite not physically being involved in the playing of the game—can nevertheless assume an active role, or at least the pretension of an active role, through his or her discussion and debate about the appropriate heuristics to be used at a particular moment in a game. For example, fans of professional ice hockey might have a heated debate over when their team, in possession of the puck, should clear their puck down the ice or drive to the opponent's net. Both actions are legal moves, but one may be more likely to be successful than the other depending on the context of the situation. Likewise, in a competitive *StarCraft* game, a player in the early game may be encouraged to follow the heuristic of constructing their defenses, researching better technologies or units, or building an army of cheap units to lead an early assault on the enemy's base before it is fully developed in the style of the well-known "zerg rush."[4] Both strategies have their inherent advantages and disadvantages and are perfectly legal approaches to play, but only a proper understanding of the game's heuristics can inform a player and its supporters of when one might be more appropriate.

Even in games that seemingly do not require heuristics, or at least do not require complex ones, heuristics still serve a function as points of discursive interaction as well as physical interaction with the game itself. In the 100-metre sprint, for example—setting aside the debate as to whether such an activity could be considered a game, as for the purposes of

[4] In the real-time strategy computer game *StarCraft*, there are three main species whose armies a player may command. These include the futuristic human Terran, and the competing alien species of the Zerg and the Protoss. The Zerg in particular are known for having cheap units, that may not be as powerful or resilient as the Terran or Protoss units, but can be manufactured in mass quantities much more quickly. The tactic of building a sizeable but primitive force and swarming an enemy before they have a chance to finish their more expensive developments is what is known as a "zerg rush," due to its popular use by Zerg players in *StarCraft* online competition.

this chapter all races will be considered a form of game—Elias, Garfield, and Gutschera essentially argue that "'run as fast as you can' is pretty much the only heuristic" (29). This statement, however, ignores a variety of potentially mitigating factors that might impact a runner's ability to complete, even a distance as short as this, in the fastest time possible; factors that are traditionally mitigated by heuristics. A top-level sprinter—such as Jamaica's Usain Bolt—would almost certainly apply heuristic methods in preparing for a major competition, such as The Olympics, by using particular techniques in designing and enacting a strict training regimen, analyzing and addressing any physical health concerns, acquiring one particular pair of shoes over another, positioning himself in the minds of spectators and competing athletes, adjusting to the change in altitude on location, and other such heuristics. Many of these heuristics bleed outside the parameters of the game itself—and can be said to be beyond Huizinga's magic circle (10)—but heuristics are distinguished from rules by their ability to move more fluidity between in-game and out-of-game contexts, allowing them to serve as the conduits of the emergence of narrative from game mechanics.

In this sense, heuristics can potentially even survive some of the most potent threats to the legitimacy of a game world: that is to say cheaters and spoil-sports. A cheating player can be understood as a player who attempts to win the game—or at least create more favourable conditions for him or herself—through means declared illicit by the official or stated and generally observed rules. Conversely, a spoil-sport is an agent, player or otherwise, who acts to disrupt the play of the game, rendering the game—if his or her actions are not addressed—as inoperable. In *Homo Ludens*, Johan Huizinga clarifies the distinction between the two as follows:

> The player who trespasses against the rules or ignores them is a "spoil-sport". The spoil-sport is not the same as the false player, the cheat; for the latter pretends to be

> playing the game and, on the face of it, still acknowledges the magic circle. It is curious to note how much more lenient society is to the cheat than to the spoil-sport. This is because the spoil-sport shatters the play-world itself. By withdrawing from the game, he reveals the relativity and fragility of the play-world in which he had temporarily shut himself with others. He robs play of its *illusion* – a pregnant word which literally means "in-play" (from *inlusio*, *illudere*, or *inludere*). Therefore he must be cast out, for he threatens the existence of the play-community.
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Huizinga, in addition to ignoring the possibility of the spoil-sport not being a player at all, embodies the spoil-sport with the power to destroy not only the game itself, but the play-community around it, as if this terrifying creature was a force of unstoppable nature. While Huizinga is right to indicate the disruptive potential the spoil-sport represents, he fails to adequately address the capability of the players to respond, either through rules or heuristics, to this threat. Likewise, he undervalues the game destroying potential of the cheater who—while indeed observing the parameters of the game on the surface—is nevertheless circumventing these rules for selfish gain, and therefore corrupting the emergent narrative through his or her actions and undermining the value of the game for the player-community as a whole.

Huizinga's conceptualization of cheaters and spoil-sports is ultimately rooted in his focus on sports as games. Examples of cheating being detrimental to the popularity and survival of a player-community has often been noted in sports, infamously in the case of competitive cyclist Lance Armstrong who was stripped of his seven Tour de France titles after confessing to using banned performance-enhancing substances (Albergotti and O'Connell 1). Armstrong's confession abruptly and irreversibly altered his public reputation as an inspirational athlete who had overcome testicular cancer to achieve record-breaking athletic glory to a widely-decried doping athlete who had attempted for years to suppress evidence of his misdeed, conspired with others to keep himself in the race, and ultimately intimidated

colleagues who attempted to blow the whistle on his actions (Albergotti and O'Connell 2). As catastrophic as this public condemnation was for Armstrong as an individual, it was ultimately a significant blow to not only the credibility of the Tour de France, but top-level competitive cycling as a whole. Through the meteoric fall of one of its greatest champions, there came the emergent narrative of cycling as a broken sport, all thanks to Armstrong's heuristic decision to not only risk taking banned substances but also covering up his actions for years (Albergotti and O'Connell 2).

Non-sport games, however, are also not immune to the spectre of cheaters and spoil-sports. Competitive *Tom Clancy's Rainbow Six Siege* player Philip Lough, known in-game as "Clever," was accused of using an "ESP" or "Wall-hacking" software hack in the first-person shooter to identify and fire on enemy locations which should have been impossible for him to otherwise know (Johnson). Lough defended himself against the allegations by claiming that at his and his teammates' high level of play he was simply able to use heuristics and the emerging—arguably narrative—patterns of the play and constant communication with his teammates to make highly accurate educated guesses about the locations of opponents.

In either Armstrong's case or Lough's, while they may have acted in violation of the rules of their chosen game, they were not necessarily in violation of its heuristics. As they are distinct from the official letter of the rules of the sport with which they are associated, heuristics can indeed have significant overlap with actions that may otherwise be considered cheating or sport-spoiling. While official rules themselves are never entirely rigid—they must be agreed, codified, and written down by the recognized play-community who will often propose revisions to said rules at regular or semi-regular intervals—the much greater fluidity of heuristics can, in some respects, circumvent the established rule-set and bring about a further

evolution of the rules in question. In some ways, the line between cheating and heuristics can be substantially blurry, as Elias, Garfield, and Gutschera note:

> Usually violations of the rules are met with social disapproval on the part of most of the player community. Sometimes, however, they are not, and occasionally the violations are so widely accepted that they are not considered "cheating" at all. For example, being offsides in football is against the rules, but not many people would call it cheating. Factors that push a violation into the "not cheating" category include: the violation is relatively easy to catch, there are referees available to penalize it, an appropriately severe penalty is applied, the violation is not a deliberate attempt to injure someone, and the violation is possible to commit by accident. All of these factors mean that people's sense of fairness is less likely to be upset, and the rule violation may be seen more as a reasonable strategic choice or an unfortunate accident, rather than cheating.
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In this sense, it is ultimately the player community who serves as arbiter of what is widely considered cheating and what is not. That discussion is ultimately underpinned by the emergence of narrative around the heuristics used on the field of play. Through employing a fluid relationship with heuristics, allowing the public circumvention of rules in cases where they simply might not be working, such emergent play can actually serve to strengthen the game, to help it evolve into a more refined form. Furthermore, it underscores the link between heuristics and strategy, and the degree to which these two areas overlap. In the end, however, it demonstrates that heuristics can be used to address, control, and otherwise mitigate many of the issues that arise from cheating, while keeping the integrity of the game itself largely intact.

The same can also be said for spoil-sports, with heuristics serving as a tool to respond to them when rules alone will not suffice. At the 2012 Summer Olympics in London, a Chinese women's badminton team, then the serving World Champions, attempted to throw a match against a South Korean pair in order to avoid facing their number 2 ranked fellow Chinese rivals in the play-offs. In attempt to thwart the Chinese plan, the South Korean pair in question, another South Korean pair, and an Indonesian pair, also attempted to throw their matches.

While initially unsure of how to respond to the situation, the World Badminton Federation's hand was ultimately forced, first by the barrage of boos and outrage from the crowd—who had purchased expensive tickets and been delivered subpar performances—and the large public outcry that the behaviour was unsportsmanlike (Chappelet 1262). In this sense, the intentionally poor play of the eight athletes, driven by a heuristic strategy to jockey for position in the playoffs, was the game mechanic that triggered an adverse emergent narrative in the play-community.

Before the transition to the next question, it is important to once again illustrate how heuristics can be used to facilitate the interaction between game mechanic and player that fundamentally drives the emergent of narrative. According to Elias, Garfield, and Gutschera, the value of a game's heuristics can be understood through the degree to which they are: clear to understand and easy to use, richly available or sparsely distributed, enriching or satisfying for the player to use without an excessive amount of extra labour, and effective in the service of the achievement of the player's ultimate goal which is to win the game (32). While heuristics are more fluid than traditional rules, they are nevertheless ultimately tied to the execution of game mechanics, guiding the player's decision-making process in how to use said mechanics. As such, they are inevitably linked with the narratives that emerge from the use of these game mechanics, acting as tools as well in the service of emergence. Moving on to the next section, the question of what past research and discussion has concluded about the relationship between games and narrative, and its impact on the understanding of the emergence of narrative from game mechanics, will be given center stage.

PAST THEORIES ABOUT THE RELATIONSHIP BETWEEN GAMES AND NARRATIVE

This section will deal with the past debates around the relationship between games and narrative and offer some viewpoints on how they might underscore understandings of emergent narratives from game mechanics in the present day. In 1999, the still burgeoning field of game studies was forced to reconsider its previously held notions about the relationship between narrative and games when Jesper Juul called the entire relationship into question in "A Clash Between Game and Narrative:"

> The computer game for all practicality *cannot* tell stories - the computer game is simply not a narrative medium. In actuality we are facing a conflict between game and narrative: They are two separate phenomena that in many cases rule each other out… The main claim of this thesis is that the computer game and the narrative share some traits - both are temporal, for example - but apart from that are radically different: It may be reasonable to claim that the weight of the narrative comes from a sequence of *past* events, that *have to* follow, and that the end of every story gets is power from, if not destiny, then at least some causal logic and inevitability. Interactivity and games, on the other hand, are defined by that the reader/player can *influence* the events *now*. Additionally, the lack of a narrator in the computer game makes it impossible to use the novel's interesting devices in the tension between narrator and the narrated. Computer games are interesting for different reasons.

For Juul, the very nature of the computer game, its inherent interactivity, runs counter to the audience passivity demanded by a linear narrative. While he acknowledges some commonality between narrative and games, such as need for both to be consumed over a period of time, he argues that narrative is irrecoverably locked in the past tense while games, or at least computer games, must operate in the present. Writing in 1999, Juul's analysis is built around the prominent computer games of the day, in particular the otherworldly puzzle-solving adventure *Myst*. However, his argument about the predilection of narrative to be trapped in what has already happened, while games engage with what is happening now, could equally be applied

to more current video games, such as the heavily narrative-driven first-person shooter *BioShock Infinite*, or more broadly to games in general.

A few caveats, however, should be noted. For one, Juul's notion of narrative as inherently linear rather than emergent—in particular his reliance on a set and authoritative conclusion that must inevitably be reached through straight forward progression through the story—seems derived from a bias towards the dominant narrative media of the industrial age: that is to say literature, cinema, and broadcast media such as radio and television. Since the advent of the printing press, the production and copying of texts, as mentioned in the first chapter, has pushed towards a greater standardization of texts, and by extension a standardization of storytelling. While the pages of a book could theoretically be read in any order the reader so chose, the format of the medium makes it far easier, and generally more engaging, for the reader, if he or she begins on the first page of the book and follows through in sequential order until the last page.

The interactive fiction *Choose Your Own Adventure* series being an obvious example, as Juul mentions, could be seen as a limited means for reacting against the inherent linearity bias of print, attempting emergent narrative while remaining in the print form. Cinema, in addition to broadcast television and radio to some extent, likewise traditionally share this inherently linear bias within their structure, normally expecting audiences to watch or listen to a program from start until finish. Radio, now normally heard in brief bursts through a car

speaker, has shifted to a less linear format, replacing the radio dramas of days of old with full-time music or news channels that can be tuned in and out of frequently (Verma 4).[5]

The example of the changing nature of radio demonstrates the main problem with the assumption of narrative as being linear and static, this assumption is rooted in industrial pre-depositions that ultimately were not so defined in the pre-industrial era. In times and cultures before the printing press, the copying of a manuscript had to be completed by hand, making an expensive and laborious process often prone to mistakes in translation and inconsistent formatting, meaning the stories being told could be inherently different depending on the specific manuscript in question. In the case of oral storytelling cultures, the position of storyteller was even more dynamic, often shifting places with the audience and changing up the telling of the tale, and ultimately its conclusion depending on the circumstances. Likewise, in today's digital age, the ability for audience members to not only communicate their desires to content creators, but become content creators themselves, has reached unprecedented levels, making the linearity of the industrial era increasingly a thing of the past. This is a new age for emergence.

Returning to Juul's discussion of narrative versus games, however, it can be seen that this association of linearity over emergence with narrative is ultimately a false one; even though many narratives continue to follow a linear pattern. In Juul's defense, he does ameliorate his position in later works, although in *Half-Real* he still maintains that "rules and fiction compete for the player's attention. They are complimentary, but not symmetrical"

[5] It should be noted that radio plays have not disappeared entirely, although they have declined in prominence. The BBC, for example, puts out new radio plays with some regularity, many of which are designed to be interactive. The profusion of podcasting over digital airwaves has also breathed new life into the electronic audio storytelling format.

(121). From Juul's point of view, there are four basic kinds of emergence in games: variation, patterns, irreducibility, and novelty or surprise (*Half-Real* 80). While he does not list narrative as one of these categories, and in fact maintains his stance that narrative should be considered separately from games, he does acknowledge that most video games do at least project fictional worlds (121).

Juul, however, is far from the only ludologist to weigh in on this debate. Gonzalo Frasca coined, and Espen Aarseth, popularized the term *ludology* to refer specifically to the study of games as a medium worthy of analysis in its own right, and not inherently subject to the lens of a more traditional academic discipline such as cinema or literature (Bogost "Video Games are a Mess"). In his article entitled "The Gaming Situation," Markku Eskelinen notably quipped: "Outside academic theory people are usually excellent at making distinctions between narrative, drama and games. If I throw a ball at you I don't expect you to drop it and wait until it starts telling stories." While this statement is somewhat glib, it nevertheless reflected many sentiments amongst game scholars around the turn of the 21st century. Greg Costikyan, in his article on "Where Stories End and Games Begin," lamented that:

> The idea that games have something to do with stories has such a hold on designers' and gamers' imagination that it probably can't be expunged, but it deserves at least to be challenged. Game designers need to understand that gaming is not inherently a storytelling medium any more than is music—and that this is not a flaw, that our field is not intrinsically inferior to, say, film, merely because movies are better at story-telling.

Costikyan, like his fellow ludologists, was reacting to the pressure to establish game studies as separate from the sphere of influence of other media disciplines, thus giving it the strength to stand on its own merits. Using music and film as examples to compare and contrast games with, Costikyan maintains the presence of game studies firmly within the realm of arts, but also

implicitly designates games as a creative medium. His criticism is not one of linearity—after all, music is traditionally heard in a linear fashion—yet at the same time he denies the association with the traditional linear narrative, he inadvertently opens the door for an emergent one, based not on the flimsy application of a shell narrative, but through emergence derived from the game mechanics themselves.

By comparison, the ludologists conventionally defined themselves in opposition to the narratologists, a side which lacks a clear champion to represent its point of view. In "Game Design as Narrative Architecture," Henry Jenkins refers to Janet Murray as the most often cited example, although Marie-Laure Ryan has often been cited as well. For her part, Murray has expressed hesitancy in taking up this mantle, arguing in *Hamlet on the Holodeck* that storytelling that is formulaic is by definition distinct from the game mechanic (187). By extension, however, she argues that the narrative will ultimate rise triumphant in the end derived as it is through transmedia emergence: "…when the medium itself melts away into transparency, we will be lost in the make-believe and care only about the story" (272). In this sense, it is not that Murray sees games as inherently inferior to other media, but rather she sees all media as inherently subject to transmedia, destined to bleed into each, at first overlapping and eventually becoming inevitably intertwined through the process of emergence.

Marie-Laure Ryan, as with Murray, while generally arguing the case for narrative, maintains a nuanced stance. In "On Defining Narrative Media," for example, Ryan argues that the narrative capacity of any given medium is ultimately a question of semiotics. She separates narrative understandings into two broad categories, suggesting narrative can be interpreted as either "a channel or system of communication, information, or entertainment" or a "material or

technical means of artistic expression." She cites Walter Ong's *Orality and Literacy: The Technologizing of the Word*, as representative of the former understanding of the function of media, while she takes a position closer to the latter understanding as her own point of view, arguing that:

> If indeed communicative media were the hollow pipes that Ong caricaturizes there would be little purpose in analyzing their narrative potential; any kind of narrative could be fitted into the pipe and restored to its prior shape at the end of the transfer. On the other hand, if we totally reject the conduit metaphor and the notion that meaning—in this case, narrative—is encoded, sent over, decoded and stored in memory at the other end of the transmission line, if, that is, we regard meaning as inextricable from its medial support, medium-free definitions of narrative become untenable. What then would entitle us to compare messages embodied in different media and to view them as manifestations of a common narrative structure? To maintain the possibility of studying "narrative across media" we must find a compromise between the "hollow pipe" interpretation and the unconditional rejection of the conduit metaphor...

Ryan considers Ong's "hollow pipes" to be too simplistic an understanding of how narrative and media operate, arguing elsewhere in the paper that "the semiotic definition should thus prevail over the transmissive one". She likewise cannot fully commit to a transmedia approach to storytelling, arguing that—in some respects at least—the act of creating a narrative must invariably be impacted, to a significant extent, by whatever medium is being used to create the narrative. Thus, Ryan actually agrees with the ludologists in the sense that the nature of the medium of games, in particular the operation of game mechanics, is a unique attribute of the medium that separates it inexorably from other media. Where she differs from the ludologists, however, is in that she does not see this uniqueness as fundamentally at odds with the creation of—or the emergence of—narrative. For Ryan, game mechanics simply represent another means to tell a story, and while they can be associated with narrative franchises that arose in a different medium before making the leap to games, the game-based narratives are nevertheless

fundamentally a function of the game mechanics themselves and a unique aspect of the game medium.

In more recent years, the fire of the ludology versus narratology debate has quieted considerably, as both ludologists and narratologists recognized they were possibly not as at odds as they once were, and in fact shared considerable common ground. In many respects, their disagreements were largely born out of issues of semantics, with ludology born as a title with the not-so-hidden agenda of legitimizing game studies as a discipline in its own right and narratology assumed to be a much more cohesive, unified, and tangible side than ever truly existed. By the middle of the 2000s, many scholars studying games began to express dissatisfaction with the ludology versus narratology debate overall, arguing it had been incorrectly framed to begin with. In "Game Design as Narrative Architecture," Jenkins published his conflicted response to the situation:

> I find myself responding to this perspective with mixed feelings. On the one hand, I understand what these writers are arguing against – various attempts to map traditional narrative structures ("hypertext," "Interactive Cinema," "nonlinear narrative") onto games at the expense of an attention to their specificity as an emerging mode of entertainment. You say "narrative" to the average gamer and what they are apt to imagine is something on the order of a choose-your-own adventure book, a form noted for its lifelessness and mechanical exposition rather than enthralling entertainment, thematic sophistication, or character complexity. And game industry executives are perhaps justly skeptical that they have much to learn from the resolutely unpopular (and often overtly antipopular) aesthetics promoted by hypertext theorists. The application of film theory to games can seem heavy-handed and literal-minded, often failing to recognize the profound differences between the two media. Yet, at the same time, there is a tremendous amount that game designers and critics could learn through making meaningful comparisons with other storytelling media. One gets rid of narrative as a framework for thinking about games only at one's own risk… I hope to offer a middle-ground position between the ludologists and the narratologists, one that respects the particularity of this emerging medium – examining games less as stories than as spaces ripe with narrative possibility.

Like the ludologists before him, Jenkins rejects the notion that the theoretical narrative critical basis of another medium, in this case film theory, can and should be applied in its entirety to game studies. Nevertheless, he also recognizes that games, as a medium, do not exist in isolation from all other media. He argues that if a game scholar cuts his or her analysis off entirely from the perspectives of critical analysis offered by alternative media studies, the game scholar invariably impoverishes his or her self of a multitude of frameworks that could prove inherently useful and above all relevant to his or her research. In the end, Jenkins' acknowledges that there exists a middle ground between the two approaches, arguing in agreement with this chapter that games represent "spaces ripe with narrative possibility," and implying that the means by which these spaces can achieve their narrative potential is through the emergence from interaction between player and game mechanics.

Jenkins intrinsically recognized the problems with associating games with narratives too forcefully, understanding that the lack of mainstream success, or at least the weak popularity, of stated examples of projects that intended to merge game and narrative openly left much to be desired. The lack of widespread fandom, at the time of Jenkins' writing at least, towards hybridized experiments such as hypertext, interactive cinema, and so-called non-linear narratives, may have been more a factor of the unavailability of quality content being delivered through these media forms. Although the mechanics themselves may have worked against the creation of substantive material, there were some popular successes, such as the *Choose Your Own Adventure* series of books. While arguably overly mechanical as Jenkins put it, this series nevertheless attained a reasonable degree of popularity and could be considered at least a limited form of emergence.

Since Jenkins' article was released, considerably more versions of interactive cinema or games that could arguably be considered interactive cinema, some of which—most notably the Telltale series mentioned in the previous chapter—have indeed achieved both critical acclaim and popular success. Even some interactive hypertext games, most notably produced through Twine—a free-to-download software engine that allows users to quickly and easily make complex text-based adventures—have managed to achieve international support and influence. Zoë Quinn's *Depression Quest*, a Twine-built educational game advertised itself as "an Interactive (non)Fiction about Living with Depression." It received general acclaim, and a few awards, before finding itself at the centre of the emergent GamerGate scandal.[6] This controversy impacted players, theorists, and creators of many different types of games around the world, raising questions both about the treatment of women in video games and about ethics in game journalism and online discussion forums. In the next section on the need for narrative, this subject will be explored in greater depth.

GAMES AND THE NEED FOR NARRATIVE

Games and the need for narrative in association drives the discussion in this section. The continued passion towards, and influence of, narrative in the gamer community, as exemplified albeit unfortunately by GamerGate controversy, demonstrates that the ludologist attempt to divorce games from narrative was fundamentally premature, leading to the third major question for this chapter; whether or not games do in fact require a relationship with

[6] The GamerGate controversy of 2014 was sparked by false online accusations that, among other things, the female game developer Zoë Quinn—who had recently been recognized for *Depression Quest*—had engaged in romantic liaisons with Nathan Grayson, a journalist for the Gawker Media video game website *Kotaku*, in order to receive better reviews for her games. While the movement was claimed to be concerned mostly with ethics in game journalism, it quickly spiralled via social media into massive online harassment campaigns and virulent death threats, usually targeted towards prominent women in the game industry.

narrative—emergent or otherwise—in the first place. This chapter has already provided ample evidence that, while games do not require an explicit framing narrative—though many choose to impose one through the mechanism of a video game cut-scene or a board game's promotional graphic artwork—they do nevertheless serve as vehicles through the creation of narrative, the operation of their game mechanics, and ultimately their connection to the player, spectator, designer, and analyst communities. While elements from other forms of media—such as the aforementioned cut-scenes and illustrations—can be utilized to develop a game's intended story, sometimes at the expense of gameplay (Juul "Games Telling Stories?"), these uses are ultimately a product of the transmedia relationship of the game, rather than nature of the game itself. It is only through the operation of the game's mechanics that the true nature of the game's narrative may emerge.

Official traditionally-linear narratives, of course, are by no means required for a game to work. Louchart, in "Authoring Emergent Narrative-based Games," echoed this notion championed by many ludologists, arguing that all too often this form of narrative actually worked against the emergent narrative potential of the game:

> …[G]ame-play is too often irrelevant to the unfolding of stories in the game's graphical world, with narrative aspects relegated to decorative back story or only developed through non-interactive cut scenes. Games have very little to offer to those not interested in puzzle solving, strategic planning and motor-based challenges such as dexterity or hand-eye coordination. A potential audience that is oriented to movies will find nothing in supposedly narrative-based games as they currently are that movies cannot do better.
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This notion that linear storytelling and interactions with game mechanics are fundamentally at odds is underscored by the critique of cut-scenes in games, linear narrative clips that interrupt game-play to reinforce the official story while typically limiting or outright removing player control in the process. Louchart recognizes—as does Chris Crawford who, in his book *On*

Interactive Storytelling, dubs this type of game narrative unflatteringly as "constipated stories" (152)—that games only truly succeed as a narrative medium when that narrative is built through interactive emergence rather than overly authorial impositions. In doing so, they recognize emergent narrative as potential solution to Ruth Aylett's narrative paradox discussed in the previous chapter ("Narrative in Virtual Environments: Towards Emergent Narrative" 84).

With emergent narrative understood as a possible solution to Aylett's narrative paradox, it can also serve as a means to resolve many of the conflicts between ludologists and narratologists. In Juul's "Games Telling Stories" and Jenkins' "Game Design as Narrative Architecture," both theorists frame their discussion of the narrative relationship with games around one of the earliest examples of a video game adaptation of a popular cinematic property, in this case *Star Wars* or rather the adaptation of *Star Wars: Episode IV, A New Hope*[7] for the Atari arcade game released in 1983. In Juul's essay, he argues that the association between *Star Wars* the movie and *Star Wars* the arcade game is flimsy at best and ultimately driven by the branding on the cabinet and title screen rather than the in-game mechanics:

> The primary thing that encourages the player to connect game and movie is the title "Star Wars" on the machine and on the screen. If we imagine the title removed from the game, the connection would not be at all obvious. It would be a game where one should hit an "exhaust port" (or simply a square), and the player could note a similarity with a scene in Star Wars, but you would not be able to reconstruct the events in the movie from the game. The prehistory is missing, the rest of the movie, all personal relations. Possibly we are even missing the understanding that we are fighting a death star (whatever that is). Finally, the most obvious: If you do not complete the mission, this is unlike the movie; if you complete the mission, another death star appears - which is also unlike the

[7] Despite being dubbed the fourth episode, *A New Hope* was actually the first *Star Wars* film that ultimately spawned the highly successful franchise. It was released in 1977.

> movie… Thus, Star Wars the game can not be said to contain a narrative that can be recognised from Star Wars the movie: Most characters from the movie are missing, and the few events that are included in the game have become simulations where the player can either win or fail.

In essence, Juul's main issue with treating *Star Wars*, the Atari arcade game, as an extension of *Star Wars*, the cinematic blockbuster, lies with the arcade version's inability to emergently evoke the major characters, plot points, and settings, so clearly established in the film version, to a player who—somehow living in early 1980s had embraced youth arcade culture but not the most major science fiction franchise of this era—was otherwise unfamiliar with the *Star Wars* story. Many of Juul's observations about the greatly limited number of elements from the more widely recognized cinematic version of the story featured in the game, can be attributed to the limited technical capability of the Atari arcade machine of the time. Many subsequent Star Wars-branded releases included many of the features he criticizes as missing such as key characters, detailed space-ships, and cinematically familiar environments. Some more recent *Star Wars* video game releases, in particular *Star Wars: Knights of the Old Republic*, not only incorporated the visual aesthetic and character design of the films to a much more detailed and objectively superior extent, but also further developed the brand mythology through a transmedia exploration of a deep pre-history of the original movie; adding to and reinventing the series canon through emergent narrative and the medium of games.

Responding to Juul's interpretation of the function of transmedia narrative and the Atari *Star Wars* arcade game—in particular, Juul's argument that the "story" of Star Wars could not be sufficiently evoked or emerged simply by the process of playing the game, Jenkins offered his counter perspective on the issue. He fundamentally rejects Juul's insistence on considering the arcade version of *Star Wars* in isolation from the film that inspired it, allowing an external transmedia force to influence the emergence of narrative from the game. Jenkins dismisses

Juul's expectation that a singular text must be a complete narrative solely in its own form, without relying on the narrative emergence derived from other media. In direct response to Juul, Jenkins argues that:

> This is a pretty old-fashioned model of the process of adaptation. Increasingly, we inhabit a world of transmedia storytelling, one that depends less on each individual work being self-sufficient than on each work contributing to a larger narrative economy. The Star Wars game may not simply retell the story of Star Wars, but it doesn't have to in order to enrich or expand our experience of the Star Wars saga…We already know the story before we even buy the game and would be frustrated if all it offered us was a regurgitation of the original film experience. Rather, the Star Wars game exists in dialogue with the films, conveying new narrative experiences through its creative manipulation of environmental details. One can imagine games taking their place within a larger narrative system with story information communicated through books, film, television, comics, and other media, each doing what it does best, each a relatively autonomous experience, but the richest understanding of the story world coming to those who follow the narrative across the various channels. In such a system, what games do best will almost certainly center around their ability to give concrete shape to our memories and imaginings of the storyworld, creating an immersive environment we can wander through and interact with.

For Jenkins, considering the Atari game separately from the other *Star Wars* releases is an antiquated approach and ultimately a fool's errand. The game was designed with the assumption that the audience was already familiar with the film—a fairly strong bet amongst its target audience of technology and science fiction-inclined young men in the early 1980s. As well, while its scenes, as Juul noted, did deviate from those exhibited in the film, Jenkins considers this not a detriment but an asset to the game, adding to the further narrative construction of the *Star Wars* universe, albeit to a much more minor extent when compared to later video game installments of the franchise. In Jenkins' celebration of the transmedia approach to storytelling, he exalts the unique capabilities of games to allow players to experience a "storyworld," with which they were already familiar through their fandom of the franchise in other more passive media. The interactivity of games through game mechanics and

evocative spaces, enables greater player exploration and immersion, and ultimately produces emergent narratives.

Ultimately, the differences between Juul and Jenkins, like the differences between the ludologists and the narratologists in general, boil down to a difference in framing the parameters of the relationship between narrative and games, with each ultimately adopting a degree of nuance to their stance. Juul, despite his ludological leanings, nevertheless acknowledges that there are strong arguments for associating games with narrative, primarily the notion that humans seem to use narratives for pretty much everything, that most games feature narrative introductions or back stories, and there are some traits that games and narrative share between them. On the contrary, however, he remains adamant that games are fundamentally separate from the narrative media ecology associated with cinema, literature, and theatre. He further argues that time in games functions distinctly, and in some ways against, the way time functions in narratives, and that the relationship between the audience and the story is not equivalent to the relationship between the player and the game. Noting the existence of abstract games—he cites the aforementioned *Tetris* as his example—Juul also argues that narratives require a human, or at least anthropomorphic, character to drive their progression, and the lack of such characters in an abstract game serves as evidence that such characters, and by extension narratives, are intrinsically unnecessary. The main point, however, is that interactivity, the defining characteristic of games, is fundamentally at odds with the progression of the experience of narrative, which Juul sees as ultimately linear, as exemplified by the factor of replayability. For Juul, not only do games not necessarily contain narratives, but they are, by the mechanics of their interactions with players, irrecoverably anti-narrative in

their essence to the point that imposing narrative elements—even emergent ones—and analysis may create more problems than it solves.

Jenkins, it should be noted, does agree with Juul that interactivity can be understood as almost the opposite of narrative—at least to some extent—but once again turns to his transmedia framing to argue that narrative interpretations of games cannot be so easily dismissed. From Jenkins' point of view, he accepts that not all games tell stories, but points out that a significant number do indeed strive to accomplish that goal. He rejects the notion that game analysis must be prescriptive and denies the equation of gameplay to story experience. Nevertheless, he does recognize games as a unique media for telling stories, and criticizes the ludologists for defining narrative too narrowly, as well as being too focused on direct narration rather than interpretation, and the understanding of games as a whole rather than a local analysis of particular games. For Jenkins, games have tremendous potential as evocative spaces, spaces that call up pre-existing stories in the minds of players and audience members through emergence. From Jenkins' perspective, "it makes sense to think of game designers less as storytellers than as narrative architects." In this sense, the narrative that is derived from games comes primarily, not from the loosely applied coating of background story and character motivation supplied in the manual or the cut-scene, but from the interactive game-play with the player in a process which Jenkins agrees is "emergent."

Ultimately, the ludology versus narratology divide was arguably resolved—or at least tabled for the foreseeable future—at the 2009 Digital Games and Research Association (DiGRA) conference, then held at Brunel University in the United Kingdom. Ian Bogost delivered the keynote address, frankly titled "Video Games are a Mess," in which he rhetorically eviscerated what remained of the ludology versus narratology debate. As with

Jenkins, Bogost criticized the ludologists for mistakenly identifying narratology as a cohesive ideological position, and conflated it with related concepts such as narrativism. For Bogost, the ludology versus narratology was a smokescreen, suggesting divisions between two different types of formalism, but ultimately implying a formalist approach was the only truly appropriate way to study games:

> By pitting one kind of formalism against another, the result became a foregone conclusion: formalism wins. Really, it doesn't even matter which one, since the underlying assumptions are so similar. The ludology/narratology question may have appeared to look like this:
>
> *Is a game a system of rules, or is a game a kind of narrative?*
> But really, it amounted to something more like this:
>
> *Is a game a system of rules, like a story is a system of narration?*
> The disjunction is gone, and the answer is implied (*yes*). David can put down his sling and toss the stones back into the brook

Bogost's statements underpinned a general sense amongst the game scholarship community that the ludology versus narratology debate had effectively run its course, as the need of game studies to legitimize itself as an academic discipline was no longer as pronounced as it once was. The question of the overlap between games and narrative was not truly resolved, if ever it fully could be, but the general consensus appeared to be that there was indeed overlap between games and narrative, but that the strength in game narratives came from those that emerged in play. For many game scholars, such as Juul, the time had come to move away from the narratology versus ludology discussion, and move into a debate over analyzing games from a player-centric viewpoint or a game-centric viewpoint (*A Casual Revolution: Reinventing Video Games and Their Players*).

This approach, however, was plagued by many of the same framing issues that had so hampered the ludology versus narratology debate that had preceded it. For example, if a game

does not have any players, can it adequately be considered a game? Bogost struggles with this division in his keynote, taking issue once again with Juul's framing:

> I think Juul means to argue that games are better thought of as confluences of players and games, but it's hard not to see an implicit move in this line of thinking: games are really just limp skins that may exist, but only in lesser form, until they are filled out and activated by players

Bogost takes issue with Juul's leaning towards a player-centric approach, arguing that it denigrates the position of games and renders them moot without the integration of the player. For Bogost, games do not require the interactive presence of the player, and by extension narrative emergence, to be a viable entity. While games can certainly be studied as physical or digital objects without actually being played, this line of thinking raises the question of the theoretical possibility of player-less games or conversely game-less players.

In *Characteristics of Games*, Elias, Garfield, and Gutschera do cite a few examples of zero player games such as John Conway's *Game of Life* or *Progress Quest*, a computer-based RPG parody in which the player does nothing but observe his or her character automatically fighting monsters, gathering treasure, and leveling up (22). Some games originally intended for human players, have been given automated players such as "Automatic Mario." For an analogue comparison, they also give the example of the nearly zero-player "raindrop races" whereby a bored observer, on a rainy-day, picks two rain drops on a window, anthropomorphizes them into two racers, considers his or herself a spectator, and makes a bet on which raindrop, driven solely by gravity, will reach the bottom of the window first (22). Nevertheless, in the case of each of the above examples, even if no human player is involved, there is always a role of player being implied and filled by something non-human, be it an artificial intelligence, a string of programming code, or even an object as inanimate as a raindrop. If the role of player is simulated but still present, these games cannot truly be

considered to be pure zero player games. As such the role of player must be irreversibly attached to the game, meaning that room for narrative emergence has once again been created. Therefore, as a game can never truly be separated from its interaction with the player, and in some cases the spectator, this interactive foundation means the potential for narrative emergence from that interaction is always present.

Following logically on the idea that a game cannot truly be separated from those that play it, the converse idea—the notion of separating the player from the game—must also be considered. Certainly, frequent players of a game, particularly those that actively participate in player communities, can exist outside of the contexts of the magic circle (Huizinga 10) and still be considered players. Likewise, those who intend to play a game, but have not yet been able to, can also claim "player" as a status. In both these cases, however, the status of player is still invariably linked, not only to the game, but to the act of playing it. If one is unable, or simply refuses, to play a game, the status of player is inherently revoked. As such, the status of being a player is equally locked to the interaction with the game, as the status of game is locked to the interaction with the player. Both are a combined unit driven by interaction and expressed through the emergence of game narrative.

THE LIMITS OF EMERGENCE NARRATIVE FROM GAME MECHANICS

This discussion leads into the fourth question regarding the limits of generating emergent narrative from game mechanics. The most obvious limitation is the capacity for the player to actually interact with the game which is fundamentally an aspect of player agency, as discussed in the previous chapter, but it is a false equation to simply assume that this player interaction alone is sufficient to produce emergent narrative without the evidence to support it.

As such, this chapter will now demonstrate that the limits of this emergence are linked to how terms like narrative and emergence are understood and what connects them to the interaction of a player with a game mechanic.

As mentioned during the discussion of the shortcomings of the ludology versus narratology debate, the assumption that narrative is inherently linear has been problematic from the outset. While the interaction of an audience member with a film or a book is generally one of passive receipt of information in a linear fashion, so too do most games get played in a linear progression through time. The player capability to interact with and substantively alter the outcome of the game in question is where the inherently—and supposedly—non-linear nature of games is found. Ultimately, however, the non-linear nature of play, and by extension any emergence that may occur through play, is ultimately driven not only by the player's capacity for interaction with the game, but the degree of variability of that interaction both within the game and outside of it (Veale, Hand 3). In other words, the player must have a range of choices, a selection of executable actions, that can be used to achieve his or her goals, and in so doing support the emergence of narrative.

The understanding of narrative as a discursive temporal unfolding of events from which human beings can derive order and meaning through interpretative experience, as put forward by Metz (28) and Abbot (3-4), bears striking similarity to Bogost's understanding of procedural rhetoric (*Persuasive Games* 46), particularly if it is infused with his understanding of "unit operations," which is to say the idea that all media forms represent configured systems featuring "discrete, interlocking units of expressive meaning" (*Unit Operations* ix). In both games and more traditional media, the audience receives the media through a one-directional expenditure of time, so the question of linearity within the medium itself is largely beside the

point. While most media can allow for a degree of non-linearity—or even interactivity in their more experimental forms—games are unique in the intensity of their embrace of this interactivity, but that does not mean that the narrative that emerges is somehow profoundly distinct. As the construction and arrangement of individual sentences within a novel—read or skipped over ultimately as the reader sees fit—form the emergence of a narrative in the mind of the reader, so too do individual game actions—by definition, interactions with the game mechanics—drive the progression of the game in the mind of the player or the spectator.

In effect, emergent narrative exists as an immersive application of Csíkszentmihályi's flow (3), fuelling the player's satisfaction at meeting a challenge and rising above it, in much the same way that the hero or heroine of a novel meets a conflict and overcomes it. In the case of games, the highly interactive mechanics drive the production of flow, with the achievement of a flow state being the indicator of a well-functioning—and well-designed—game experience, in much the same way that a well-written novel can capture a reader's imagination. In his chapter on "The Conditions of Flow," Csíkszentmihályi explains the eponymous conditions as such:

> We have seen how people describe the common characteristics of optimal experience: a sense that one's skills are adequate to cope with the challenges at hand, in a goal-directed, rule-bound action system that provides clear clues as to how well one is performing. Concentration is so intense that there is no attention left over to think about anything irrelevant, or to worry about problems. Self-consciousness disappears, and the sense of time becomes distorted. An activity that produces such experiences is so gratifying that people are willing to do it for its own sake, with little concern for what they will get out of it, even when it is difficult, or dangerous.
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As such, the onset of flow is ultimately driven by the psychology, the mindset specifically, of the human participant in a particular media form. In sports, an athlete being "in the zone" can be said to have accomplished a state of flow, but so too could an audience member so engaged

in the film that they are viewing that he or she finds his or herself oblivious not only to his or her own day-to-day troubles, but his or her immediate environment as well. Csíkszentmihályi's notion that flow can be "dangerous," in that it can so absorb a person as to blind him or her to obvious threats to his or her well-being, suggests a potentially darker undertone to this concept. Nevertheless, the achievement of flow—or at least the pursuit of that achievement—remains a primary motivator, indirectly or directly, amongst both audience members and players in engaging with a form of media for the purposes of entertainment. This entertainment, however, is ultimately driven by the emergence of narrative, so flow becomes the means through which this emergence succeeds.

Critics of this notion that narrative emerges from game mechanics, however, would see the operation of Csíkszentmihályi's flow in the medium of games differently. In "The Problem with Emergent Narrative in Video Games," Nick Dinicola argues that by relying too heavily on narrative to emerge from game mechanics, one disregards the flow-generative role authored narrative elements borrowed from other media—cut-scenes, as an example—can serve in bettering a game's story. For Dinicola, emergent narratives will always play second fiddle to more traditionally authored narratives, because the nature of their authorship is fundamentally shallow, so too must be their emergence:

> Emergent narratives are stories that are not authored by a single person or by any person really. They are stories that emerge from the interaction between players and the systems that govern gameplay. They are random, transient, ephemeral things that only ever exist for one person at one moment in time…I like emergent stories as much as the next person. There's something empowering about being witness to a singularly unique series of events, watching systems interact with systems in a certain way at a certain location that might never happen again for any other player. Even if such an experience is not really that unique, it still feels that way. Yet when I look back at my emergent experiences or when I try to tell the stories to others, I realize just how shallow an experience they really are... Emergent stories feel more engrossing than authored stories because they're personal for the player, and that personal interactivity gives it the illusion of

> importance… All of these stories seem much more exciting in the moment than they do in the retelling, and that's because they're missing the key component of any good story. They're not about anything… Emergent stories are not complete stories, they're just outlines of a story. They're living outlines that can be rearranged on the fly, but they're still just outlines—nothing more than a sequence of vaguely related events… A story is more than a sequence of events. It's also a commentary on those events. Through that commentary, the story expresses its meaning, its themes, its morals. It becomes something greater than us. This is the key part of any good story because this is what makes it interesting to more than one person. A good story is about some universal human experience. That's what keeps me interested even if the specific sequence of events depicted don't relate to me personally. This is where emergent stories fail. An emergent story is just a sequence of events devoid of context and commentary that is only relevant to one person. Interactivity gives it the illusion of importance, and that illusion allows games to tell cheap stories without us noticing until they're long over.

Dinicola understands emergent narratives as inherently shallow, incapable of the heights of higher meaning attained by stories written by an author with a specific intent in mind. This notion that a text must be, or indeed can be, authored is already problematic, as demonstrated by the notions of Barthes' death of the author as discussed in the first chapter. Furthermore, Dinicola appears to be disparaging the narrative status of emergent narrative based on its storytelling aptitude, not its physical capacity to encourage the creation of story. While emergent narratives might be inherently shallow, as Dinicola suggests, the shallowness of the narrative does not in itself prove its non-existence. Likewise, the fact that—from Dinicola's point of view—quality emergent narrative has yet to emerge, does not in itself prove it to be impossible. Thomas Edison's *Record of Sneeze* was certainly fairly shallow in the degree of artistic expression it was trying to achieve, and it would be many years before the art of using cinema to tell engaging stories would be truly mastered. Likewise, the art of creating—or designing the conditions to facilitate the creation of—quality emergent narrative might be difficult to achieve, and may require the application of creative ingenuity on par or in excess of those that occurred in film, but this does not necessitate that the achievement is by any means

impossible. Fundamentally, Dinicola's notion that true narrative must generate meaning is in accordance with Metz and Porter's interpretation of narrative as ultimately related to the derivation of meaning. The key issue, however, is that the quality of that meaning, does not in itself dispute the actuality of the narrative potential of the meaning, it is merely a criticism of the particular content in a given text. A novel, for example, may be written terribly, and yet is still a novel, and does not call into question the ability of the novel as a media form to tell a story.

Dinicola does have a point that emergent narratives are often most poignant to those engaged with their moment of emergence. However, by taking each instance of emergence in isolation he makes the same mistake as the ludologists before him, critiquing a singular instance of a phenomenon, while ignoring the larger cultural developments with which it is connected. The emergence of narrative in games is driven, not by a single interaction, but a series of interactions that compel player interest and keep the game moving forward. Spectator interest in the game grows when the spectator, rightfully or wrongfully, can claim—at least to themselves—some aspect of that game as familiar, and related to his or her own experiences, bridging the emergence of narrative from a single act of interaction into a wider community. For an observer outside that play community—particularly one who shows little to no interest in it—the retelling of the engagement certainly lacks the potent impact of the original emergence. However, for someone who has already engaged with the play community—or has the potential desire to become engaged—these emergent narratives can prove of interest, although arguably still paler than the adrenaline-rush of the original moment of engagement.

In addition to Dinicola, other critics such as Tom Cross and Annika Waern have also spoken out against the reliance on emergent narratives to drive story-telling in games. In

"Analysis: Story and the Trouble with 'Emergent' Narratives," Cross argues that game worlds are so dependent on player action to move any semblance of narrative forward, that they are unable to exist without that action. In Cross' own words, he explains:

> The problem is that there is never a question of the world's self-sufficiency or linear temporality... This is where proponents of emergent narrative have a point—the narrative elements of these games are indeed too static. But to say that those games are static because they use narrative elements, and to imagine that there are non-narrative, "emergent" aspects to these systems waiting to be mined (and that can be divorced from the harmful aspects of "narrative"), is to mistake one problem for another, insufficient dynamism for something inherently wrong with narrative.

For Cross, the turn towards emergent narrative represents a last-ditch effort by the supposed narratologists to salvage a relationship between narrative and games, by viewing narrative in more game-like terms, but not addressing the underlying concerns of narrative in games. His main issue, however, is once again driven by the perceived linearity of narrative, the assumption that the events of a story must flow in a strictly chronological fashion and consequently that this sequential order must be experienced identically by each audience member. His criticism of the "static" nature of story-telling in games is a common complaint amongst game critics negative towards the use of narrative, regardless of however many successful games—or indeed major game franchises—are inexorably built upon such narrative structures. As noted elsewhere, narrative does not need to be inherently linear, although rendering an authored story along non-linear paths can require substantially more development, and thus be substantially more difficult to effectively accomplish. Furthermore, by moving beyond this bias towards linear storytelling, designers can frame games less as singular arcs to be blindly pursued, and more as narrative experiences that can affect a multitude of emergent outcomes that are equally enriching.

Cross' claim that story cannot advance without the player's active interaction does reinforce the notion that said player interaction is the driving force behind narrative emergence in games. While it is certainly true that a player may, at any given moment, abandon the pursuit of the prescribed in-game goals in preference of an alternative agenda—or quite simply the desire to do anything in the game at all—doing so does not necessarily prevent the emergence of narrative from the game. On the one hand, actions such as these—which Huizinga may have classified as those of the spoil-sport (30)—can be argued to not destroy the narrative so much as reframe it, with the player taking a more subversive role vis-à-vis the game he or she is playing. In a game such as *Grand Theft Auto V*, for example, choosing to ignore the various missions assigned to one's character in order to pursue exploration and other goals of one's own making is a completely valid form of play. Even in a more traditionally linear—and less open-world—game, such as *BioShock Infinite*, the player may choose, at almost any given time, not to proceed, either by having his or her avatar get killed or simply refusing to interact with the game. On the other hand, such actions suggest a refusal to interact with the game's mechanics, and as such imply the subtraction of the very mechanism through which narrative emerges. However, even the decision to not interact with the game mechanics—or in particular to refuse interaction or to withdraw it after it had been previously given freely—can be understood as a manifestation of the player's relationship with the game and thus cannot be completely separated from the game's narrative emergence. In effect, opting not to play is a similar action to walking out of a movie—or putting it on pause—or deciding to stop reading a novel. By opting not to play, or not to play by the pre-ordained path, the player can in effect reframe an overly structured narrative through emergence, as suited by

his or her own needs. In this way, even a static game can be rendered dynamic through emergence.

In the aptly entitled "Why I Don't Believe in Emergent Narratives," Annika Waern provides another voice of criticism to the idea of narrative emerging from game mechanics, arguing instead that such emergence is not narrative but merely a function of engagement with a game world. Like the other critics mentioned before, Waern is critical of what she perceives as the linear quality of narrative, which she then extends as diametrically opposed to games. Likewise, while she accepts the player's capacity to move within a game world, she argues that the inherent nature of the game, being authored after all, is inherently static:

> The concept of 'emergent narrative' is most commonly seen as part of a more general design ideal of a '360 illusion', a complete and consistent fictional universe that is there for the player to explore. The idea is that such worlds also could function as story spaces, in which numerous stories could emerge depending on what the player chooses to do and what to explore… The problem is that a rich and complex world is just a world. Worlds are not in themselves stories or challenges, but they can function as a canvas or as a backdrop for both… But when the player enters a 360 illusion world through an avatar, it is to play the role of the protagonist. If the game prescripts what the avatar can say or do, or how it should react, it will limit the expressivity and freedom for the player. But if it does not, it will be up to the player to create all those reactions and emotions – and there is no guarantee that he or she will.

For Waern, the player's engagement with the game is driven fundamentally by his or her interaction with the game world through mechanics, but the emergence ceases here and only produces narrative as a secondary by-product of that interaction. Waern sees the game world as authored and finite in form—designed by the game's designers, and apparently set in form for the duration of the game's existence. While it is certainly true that the worlds, or playing fields, of many games do not change—or change very little—over the course of their lifetime of play, assuming that the game world must inevitably be static negates the vast richness of diverse and constantly updated game worlds experienced in many sectors of gaming. Most major

MMORPGs, *World of Warcraft* for example, experience regular updates to their game worlds, with new worlds and other expansions and modifications added on a reasonably frequent basis. Even tabletop board games, notably *Settlers of Catan* or *Sentinels of the Multiverse*, can see their game worlds expanded upon tremendously through the release of expansions and other updates and changes. The game world is by no means inherently static. Naturally one could argue the same thing happens with novel franchises receiving a new chapter or television programs receiving a new episode, but the distinction here is that new expansions of games—for the most part—mechanically alter the means through which the player engages with the game. The addition of knights to *Settlers of Catan*, for example, greatly alters how army cards can be used and might significantly alter player strategy when it comes to purchasing resource development. New sequels to novels or films—or new television episodes for that matter—generally do not so substantially alter the mechanisms by which their audiences engage with the material.

Like many of her fellow critics, however, Waern is driven by the concern that the player might not interact with the game the way they are expected to, and that this lack of officially sanctioned interaction will somehow invalidate the emergence of narrative from the experience. This fear, however, is ultimately driven by the assumption that there is a singular correct means to play the game—that is to say only one right way to interact with it. Certainly, most games are inherently guided by rules that govern what player actions can and cannot be tolerated within the game's execution. Assuming that there is only one correct path for interaction with the game imposes a linear expectation that runs contrary to the strengths of the medium, particularly the ability to facilitate player choice. By allowing the player to interact with the game world as he or she sees fit, one does not restrict the emergence of narrative.

Rather, one simply allows the narrative to emerge through a variety of different paths, informed—and arguably guided—by the world authored by the designer, but potentially transcendent of the designer's original intent. However, emergent narrative remains, if not linear, then at least progressive in its manifestation through continued player interaction with game mechanics as exemplified in the following case study featuring the traditionally assumed to be non-narrative game of Tetris.

CASE STUDY: TETRIS

In the mid-1980s—as the Union of Soviet Socialist Republics began to enter its twilight years—Alexey Leonidovich Pajitnov worked as a computer scientist, specializing in artificial intelligence, in the Dorodnitsyn Computing Centre of the Soviet Academy of Sciences in Moscow. In addition to his scientific research and development projects—and despite limited access to contemporary video games and computational technology released in the West—Pajitnov, with the assistance of Dmitry Pavlovsky and Vadim Gerasimov, spent some of his spare time with the computers developing a new puzzle game which would come to define, and some would argue found, the entire genre. While he did not anticipate the global success of the game—in which the player must assemble a continuous series of seven different shapes of blocks, all constructed from four equal-sized tiles—he did recognize its emergent if not narrative potential even in its earlier prototypes. In an interview with Christian Nutt of *Gamasutra*, Pajitnov noted that in "…the very first version, the very first prototype, I did realize that it might be a very good game because it was very addictive even in the early stage, but I never could have imagined anything like the history it actually had." In this quote, Pajitnov notes that it was when he felt the gameplay becoming addictive, he realized it had the potential to become a very strong game. *Tetris*, which diverged from its analogue-based

tetrinomo predecessors by using its digital interface to erase completed lines and increase speed and tension, became by extension a far more engaging activity, one capable of attracting enthusiastic players on a massive scale. This point, however, must be understood as fundamentally emergent, derived from the play of the game mechanics and the interaction with the player. In effect, what started as something of a workplace distraction for Pajitnov and his colleagues eventually became one of the first games to burst free of its Soviet homeland and inspire a litany of cross-platform versions, knock-offs, and derivatives. In naming his creation, Pajitnov combined the suffix of his favourite sport, tennis, with the Greek numerical prefix tetra, meaning four as each shape was derived from four squares, which itself referenced the pre-digital tetrinomo puzzles which had been popular in analogue form since 1907. In terms of Pajitnov's digital creation, the world would know it as *Tetris*.

In Tetris, players are given control over a series of tetrinomo shapes which descend from the top of the screen one at a time. The challenge for the player is to rotate and drop the blocks as they fall onto each other to complete full horizontal lines across the play area, causing all the blocks along the line to disappear. If they fail to do so, the blocks will gradually pile up until they reach the top of the screen, forcing a game over condition. As the player proceeds through the game, the speed at which blocks fall tends to escalate. While the game has often included thematic elements—particularly music, cut-scenes, or background imagery related to its Russian roots—most of these features are not exactly critical to the play of the game itself.

For many ludologists, Pajitnov's classic puzzle game became a classic standard-bearer for why narrative did not exist in games. "In abstract games like *Tetris* there are settings, objects and events but definitely no characters," argues Eskelinen in "The Gaming Situation"

continuing with "…there are events in games that change situations but do not convey or carry or communicate stories." Juul echoes this interpretation in "Games Telling Stories?" which features the following screenshot from the 1986 Atari version of the game.

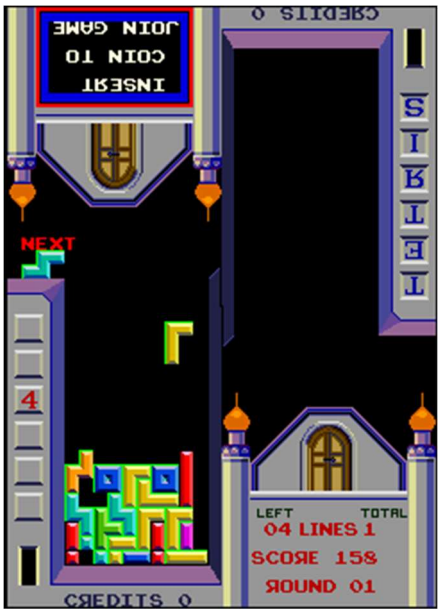

Image 2.1-*Tetris* Screenshot

Tetris does not have a visible actor either, and it does not seem possible to construct any actor controlling the falling bricks. "Tetris - the movie" does not seem like a viable concept.[8] But Tetris is incredibly popular, and nobody is disputing its status as a computer game. But how can computer games be abstract and without points of identification, and yet be interesting? - No matter how variable or even absent the protagonist in computer games, the player is always constant. The reader/viewer need an emotional motivation for investing energy in the movie or book; we need a human actant to identify with.[9] This is probably also true for the computer game, only this actant is always present - it is the player. The player is motivated to invest energy in the game because the game evaluates the player's performance. And this is why a game can be much more abstract than a movie or a novel, because games involve the player in a direct way.

[8] While Juul may yet be proven correct on this point, Tetris is presently being adapted into a cinematic science fiction trilogy (Tartaglione).

[9] It could be argued that certain movies or books do not require a human actant. Nature documentaries, animal stories, or speculative tales about alien or artificial beings, for example, could be seen as eschewing the human aspect of Juul's claim, although many such tales quite often feature anthropomorphic elements. Abstract film and literature could also be seen as devoid of an actant, although this role is often filled by the creator or the interpreter.

Notice how both Juul and Eskelinen hinge their assertion that *Tetris* is an abstract—and therefore non-narrative game—on the point that it is devoid of a major character such as Mario in the *Super Mario* series. Juul, perhaps less extreme in his positioning than Eskelinen, goes on to note that games, as well as movies and books, require a "human actant" for the consumer to identify with, although in the case of games this actant becomes the player him or herself. Just as a book requires a reader and a movie requires an audience member for its narrative potential to be realized, so too does a game require a player. Juul recognizes this necessity, but argues that the fact that games can include greater potential conflation of audience with player, allows the medium of games to be far more successful at abstraction. With greater abstraction, so the logic goes, comes lesser dependence on narrative.

There is a flaw in this reasoning, however, and Juul hints at it when he identifies the player as serving as the role of protagonist in an abstract game like *Tetris*. By accepting that the player is serving this role, he inadvertently demonstrates that the game does have an actor in the form of the player, who becomes visible in the game itself through his or her operation of the game mechanics. If a player were to not interact with the game at all once it had been started, the blocks would simply fall at the level-appropriate rate of descent until they piled directly up to the top of the frame. The moment the player interacts with the game mechanics to prevent—or perhaps accelerate—this chain of events, his or her actions appear on the screen and he or she becomes a visible actor.

By changing events, the player derails the path that the game would have taken in his or her absence, and thereby inevitably creates an emergent narrative. As the levels increase and the speed and difficult accelerates, the player becomes more engaged with the game and the rate of emergence continues to grow. With the creation of emergent narrative thus linked to

player interaction with a game mechanic, it becomes impossible to imagine a situation in which such action would not lead to some form of emergent narrative even in an abstract game like *Tetris*. In other words, in order to remove emergent narrative from a game, one would have to remove the player, and the game—for all intents and purposes—would cease to exist as such. If all games rely on interaction with a player in some form, all games can be seen as sources of emergent narrative. Emergent narrative is a natural—and universal—consequence of this interaction.

This emergence from interaction, however, does not stop with simply the player and the game, but also extends to the participatory fan community that surrounds them. *Tetris* is traditionally a one-player game, and one that is often played in isolation. Yet, in order to play *Tetris*, one must first have a basic understanding, not only of the controls and objectives of the game, but the means to understand the value of one's performance in a play session (Juul "Games Telling Stories?"). This understanding is ultimately socially induced not only through the introduction of the player to the game through the mechanism of someone else, but through the parameters of how the player evaluates the game in comparison to previous encounters with other games. In this sense, even solo play experiences become linked to the wider cultural exchange around a certain game. Calleja refers to this phenomenon in *In-Game*, arguing that "Games reflect aspects of the society and culture that made them while contributing to that society in the process; as a result, understanding them is a recursive process of exploration into collective knowledge and social practices. (8)" By engaging directly in the construction of culture—on an international scale in the case of *Tetris*—even a supposedly abstract game can reach surprisingly levels of influence.

For what emerges from a game of *Tetris* to be considered narrative, however, there must be some element of meaning-making in the process (Metz 28, Abbott 3-4). Certainly, previous scholars—notably Janet Murray—have attempted to assign interpretative meaning to play session of *Tetris.* In *Hamlet on the Holodeck*, Murray argues that:

> Tetris is a perfect enactment of the overtasked lives of Americans in the 1990s—of the constant bombardment of tasks that demand our attention and that we must somehow fit into our overcrowded schedules and clear off our desks in order to make room for the next onslaught.
>
> 144

Through attempting to interpret the emergent narrative of Tetris, and by extension the massive popularity of the game, as a symbolic, even microcosmic, evocation of everyday life, Murray falls into a position of imposing her own possibly Americentric viewpoint and ultimately leaves herself open to ridicule. While she was writing in the 1990s, Tetris came out in the 1980s and was first developed in the Soviet Union—hardly the most likely place to find sympathetic views of the American daily grind (Eskelinen). In "The Gaming Situation" in particular, Eskelinen took Murray to task for her narrative reductionist interpretation of *Tetris*, accusing her of trying to artificially impose a story upon the game in order to justify its analysis.

> It would be equally far beside the point if someone interpreted chess as a perfect American game because there's a constant struggle between hierarchically organized white and black communities, genders are not equal, and there's no health care for the stricken pieces. Of course, there's one crucial difference: after this kind of analysis you'd have no intellectual future in the chess-playing community… Instead of studying the actual game Murray tries to interpret its supposed content, or better yet, project her favourite content on it; consequently, we don't learn anything of the features that make *Tetris* a game. The explanation for this interpretative violence seems to be equally horrid: the determination to find or forge a story at any cost, as games can't be games because if they were, they apparently couldn't be studied at all.

From Eskelinen's standpoint, Murray is overly concerned with content and ignorant of the authentic experiential nature of the game. He rejects her interpretation as ludicrous and misinformed, and ultimately guided by her desire to impose her own bias upon the non-narrative game rather than to divulge some wider understanding of why the game emerged to be so successful.

In many respects, Eskelinen is right. Few players of *Tetris* would likely absorb from the game the type of meaning that Murray has drawn, if indeed they would consider playing the game to be a narrative experience at all. However, if Murray's interpretation of the game is considered to be borne not of a universality of experience, but one of her own personal experience—driven by her own biased interests as hinted at by Eskelinen—it stands to reason that her narrative interpretation, as emerging from her particular interaction with the game, could be understood as a form of emergent narrative. The trick, however, is that like all emergent narratives, they do not need to be equally experienced by all players, or even a majority of them. Nor do the narratives that emerge need to be especially complex or resonant; they simply need to establish that the player found the experience in some way engaging and by extension meaningful. Murray most likely knew that *Tetris* had been developed in the Soviet Union in the 1980s, and not the United States in the 1990s, but that was beside the point. Her experience of the game occurred in the United States in the 1990s, and her interpretation was fundamentally driven by that context. For Murray, this non-narrative game was a narrative experience.

In her preface to the keynote address at the 2005 Digital Games Research Association conference in Vancouver, Murray defends her interpretation of *Tetris* as part of her talk entitled "The Last Word on Ludology v Narratology in Game Studies:"

> According to the formalist view *Tetris* can only be understood as a abstract pattern of counters, rules, and player action, and the pattern means nothing beyond itself, and every game can be understood as if it were equally abstract. A critic who focuses on players' reports of the game as a metaphorical enactment of a life experience is accused of a lack of professionalism, because the only legitimate approach to games is a focus on their abstract formalism. Because the game essentialists want to privilege formalistic approaches above all others, they are willing to dismiss many salient aspects of the game experience, such as the feeling of immersion, the enactment of violent or sexual events, the performative dimension of game play, and even the personal experience of winning and losing.

Murray responds to Eskelinen's challenge by asserting that rather than being in direct opposition, they were simply approaching their chosen medium of study from divergent perspectives. While Murray acknowledges the value of Eskelinen's formalist approach, she argues that over emphasizing the abstract nature of a game runs the risk of being overly essentialist. Eskelinen's formalism is fundamentally driven by a desire to see game studies recognized as a field of media studies in its own right. This need implies that it is secondary to other areas of media analysis, such as literature and film, leaving game studies with a degree of "cinema envy" (Gibbons). Worried about the identification of game studies as an immature academic discipline, Eskelinen felt borrowing methodology from a theoretically competing discipline would undermine the independence of game studies at a time when the discipline was seeking to establish itself. Ultimately, however, by arguing strictly for a formalist approach, Eskelinen cuts off a myriad of other potential analytical approaches and in so doing impoverishes the research surrounding games as much as it protects game studies. Murray's narrative interpretation of the non-narrative Tetris, while not without its flaws, nevertheless is a valid reflection of her emergent experience with the game. As with any media form, the audience experience with the text is defined by the emergent relationship of their experience with it, and as such produces emergent narrative even where no narrative first appears. These types of games will be discussed in greater detail in the third chapter on narrative in non-

narrative games, but for the purposes of this chapter, it is important to note—as *Tetris'* creator Pajitnov himself did—that the point at which a game becomes its most compelling is the point at which it entices the player down the path of emergence and ultimately emergent narrative.

CONCLUSION

After all this time, games are still narrative engines, at least in the sense of emergence. While ludological critics such as Eskelinen and Juul were correct to assert that the traditional approaches to narratological study that worked well on literature and cinema were ill-suited for studying games, they were unable to see the emergent mechanisms through which narrative is generated through interactivity between the player, the game, and the participatory fan community. For narrative theory in general, this finding emphasizes the importance of audience, particularly in the digital area when many more traditional media forms are starting to resemble games in their embrace of audience interactivity. A great deal of further research needs to be done into the question of how film, television, and literature are experimenting with interactive elements, but that is a topic that will have to be left for future analysis.

While I am certainly not the first scholar to bring up the subject of emergent narrative as a product of play experience, I am unique in viewing it as an universal element of the play experience driven fundamentally by the interaction between player, game mechanic, and participatory fan community. Throughout this chapter, the over-arching question has been: how do game mechanics, which are seemingly divorced from narrative, in fact generate it? By first establishing the connection between game mechanics and emergent narrative, this chapter demonstrated that this connection was intrinsically one of player interaction with the game mechanics, and that emergent narrative was a natural consequence of that interaction. By

looking at the strengths and weakness of the past discussion of narratology versus ludology, it was demonstrated that these ideas where not inherently at odds. Indeed, much of the conversation was being driven by outdated notions about narrative and the relationships between media forms. While games, such as *Tetris*, do not require a narrative shell in order to achieve emergence, they do inevitably create a form of a narrative in their pursuit of engaging the player. Like interaction itself, narrative emergence from games does have its limitations, but these limits are not so strictly delineated as many critics seemingly believe, and cannot only escape the confines of linearity but the game world itself.

Many questions however still remain. If emergent narrative is a direct result of player interaction with game mechanics, why do so many game designers still feel the need to accoutre their games with linear narrative elements—such as the Russophile cut-scenes in *Tetris*—that do not ultimately impact the gameplay itself? If other forms of media do not evoke emergent narrative in the same way as games, at what point does the gamification of a medium lead to game-like emergent narrative? Likewise, if other media forms do produce emergent narrative, how is it distinct from that which is produced by games?

Overall, however, this chapter has shown that all player interaction with game mechanics produces emergent narrative. As the player progresses through the game, and each new interaction builds upon those which have come before often through game mechanic processes such as leveling up or increasing score, a narrative emergence develops even in a supposedly non-narrative game like *Tetris*. This connection between player interaction and emergence over time through progression will be explored further in the next chapter that explores narrative in non-narrative games.

CHAPTER THREE: NARRATIVE IN NON-NARRATIVE GAMES

In the last chapter, the existence of narrative was explored in a case study of the classic video game *Tetris*, demonstrating how emergent narrative might be derived from even highly abstract games. It should be noted that many of these games often do in fact contain at least the trappings of narrative elements—such as the Russian themes in *Tetris*, the science fiction backstory to *Arkanoid* or the jailbreak imagery on its predecessor *Breakout*[10], or the medieval pastoralism of *Settlers of Catan*—yet what cements their status as non-narrative is that these narrative elements are not crucial to enjoyment of the game. In *Breakout*, for example, a player may not even be aware of the prison break imagery that once accompanied arcade cabinets featuring the game itself. As an abstract *Pong* derivative, the game is fun to play, but offers little actual simulation value for a player actually trying to breakdown a real brick wall or escape a literal prison. Nevertheless, while some would argue these games do not need narrative—with ludologists like Eskelinen ("The Gaming Situation.") and Juul ("Games Telling Stories?") arguing that these narrative elements might actually work against the enjoyment of play—most digital game and board game publisher still attach some narrative elements to a supposedly non-narrative game.

Adding narrative elements to a game that does not explicitly require them can be advantageous from a marketing standpoint, particularly if it ties with a popular existing franchise. Despite being a puzzle game, Capcom's *Super Puzzle Fighter II Turbo*[11], for

[10] *Breakout* was released in 1976 by Atari and had players move a paddle back and forth across the bottom of the screen to direct a ball into breaking blocks that hovered higher up. Inspired by *Pong,* the goal was to eliminate all the blocks without the ball reaching the bottom of the screen. Taito's *Arkanoid* brought the concept back ten years later and further developed it by adding a variety of block types and level designs, power-ups, improved graphics and visual depth, and other elements.

[11] *Super Puzzle Fighter II Turbo*, released in 1996, was named in parody of the nomenclature being used in the *Street Fighter* series. There was no *Super Puzzle Fighter I*, nor was there a previous release that was neither *Super* nor *Turbo*. The game was a *Tetris*-inspired puzzle game in which players competed by dropping multi-coloured

example, was clearly meant to capitalize on the success of the *Street Fighter* series. Likewise, the gameplay of *Dr. Mario*[12] came in the abstract puzzle game variety. While it featured the familiar mustachioed plumber from Nintendo's core platformer, here he was doing nothing of the sort. The medical theme, however, was a narrative motif added to the game to support its narrative elements. Positioning the objects to be eliminated as viruses to be cured in *Dr. Mario*, or the competing players as martial artists trying to unleash combos on each other in *Super Puzzle Fighter II Turbo*, helped embed these narrative elements into the play of the games which would otherwise be completely abstract puzzlers. The question remains, however, as to why—aside from marketing—game designers feel compelled to add such narrative elements to their abstract games and whether or not it would be possible to create a true non-narrative game.

In this chapter, the relationship between emergent narrative and so-called "non-narrative" games will be explored in greater depth. The central question for this chapter is: **does emergent narrative exist in non-narrative games?** To answer this broader question, five more specific questions will be addressed. The first of these will be: **how are non-narrative games generally defined?** In response to this question, this chapter will examine games traditionally understood as non-narrative—particularly those with a high level of abstraction such as go, chess, puzzle-based video games like *Tetris*, most sports, and other

"gems" from the top of the screen and trying to arrange them into same colour blocks. Like *Tetris*, the goal was to remove these blocks before they reached the top of the screen. Unlike *Tetris*, players had to choose characters—each with special abilities—and blocks could only be removed by dropping a crash gem on them which matched their colour. When this occurred, the destroyed blocks would result in a requisite number of blocks being dropped on the opponent's screen, which their on-screen character would represent as a special move.

[12] In *Dr. Mario*, players would be presented with a vertical medical bottle containing viruses in three different colours. Much like *Tetris*, blocks of pills, each with up to two colours would drop from the top of the bottle and the game would end if the top of the bottle was reached by the pills. In this game, the goal was to eliminate all the viruses by lining up four squares of their colour in a row vertically or horizontally. Despite featuring Nintendo's familiar mascot, the game had little to nothing to do with his traditional platforming series.

similar games. The second question will be: **how are non-narrative games different than narrative games?** This section will examine key narrative features, such as character and plot, and examine how they might be used in both emergent and overt narratives. The third question will ask: **is there a difference between the emergence of narrative in non-narrative games depending on whether or not the game exists in a digital, tabletop, or physical format?** With this question in mind, the role of media platform will be considered as possible factor in the emergence of narrative in non-narrative games. Finally, the last question will pose: **can narrative truly ever be eliminated from a game?** As part of this final discussion, I will return to the question of why even abstract games are so often fitted with presumably superfluous narrative elements by their designers, and what happens when such elements are not added. Various attempts to remove narrative from games or understand games separate from narrative will be examined, but ultimately it will be illustrated that, owing to their relationship to the interaction between the player and the game mechanic, outright removal of narrative emergence from a game can be understood as an impossible feat. Overall then the main argument for this chapter is not only does emergent narrative exist in non-narrative games, but that it is an inevitable consequence of the interaction of the player or players with the game mechanics. In the end, these ideas will be explored in a case study of the famous go tournament between Lee Sedol and AlphaGo.

DEFINING NON-NARRATIVE GAMES

It should be noted that the general argument of this dissertation is that there is no such thing as a completely non-narrative game, and that narrative exists emergently in games as a degree of spectrum rather than an either/or condition. After all, if narrative emerges inevitably from the interaction between player, game mechanic, and participatory fan community, then it

stands to reason that it should not be possible for a game to exist without it. However, ludological critics such as Eskelinen ("The Gaming Situation") and Juul ("Games Telling Stories?")—and even supposed defenders of narrative in games such as Jenkins ("Game Design as Narrative Architecture") and Aylett ("Emergent Narrative, Social Immersion and 'Storification'.")—have long argued for the existence of games without narrative, implicit in their understanding that some games lack it. While I disagree with this claim, I think it is critically important to revisit and address this point of critique as it represents a major point of departure for myself from the critics that have come before me. For this reason, this chapter will examine the potentiality of non-narrative games—that is to say games existing without narrative in any form—by looking at examples from across the spectrum including games high in designed narrative architectures and games leaning more towards abstraction. In the end, while a truly non-narrative game will be shown to be an impossibility, the chapter must nevertheless first develop a theoretical understanding of the concept in order to refute it.

To begin, it is necessary to revisit the first question: what is generally understood as a non-narrative game and how can it be differentiated from other games that apparently do share an overt relationship with narrative? Naturally there are many games, particularly in the digital realm, that display an overt relationship with narrative through their embrace of elements like plot, theme, and setting. These elements are not required for a game to exist, as Juul notes in "Games Telling Stories," allowing for the existence of non-narrative games. In effect, non-narrative games eschew narrative trappings—at least overtly narrative ones if not quite emergent ones—in favour of enticing players through abstract interactions with their mechanics.

Tetris, for example, is first and foremost an abstract puzzle-solving game. While it has occasionally been packaged with narrative-esque thematic framings—such as the hyper-Russian visuals and sound that were often associated with the game's Spectrum Holobyte, Nintendo, and Tengen releases in the 1980s—the game itself is almost entirely distinct from these wrappings and can be played and enjoyed without them. It is not generally considered a narrative game, although at the time of writing Threshold Global Studios and The Tetris Company have begun production of a trilogy of *Tetris* movies (Tartaglione). Likewise, chess—and to a lesser extent, go—are thought to have been inspired by the tactic of ancient to medieval warfare, with Western chess sets certainly preserving their medieval characteristics in terms of the shapes and identify of the pieces. The attack movement of pawns, for example, that requires that they only attack diagonally forward one square to the left or the right, is thought to be based on the battlefield realities of the medieval pikeman whose giant shields made striking directly forward impossible. One might argue that chess in fact has an abstract narrative, with the pieces maintaining their medieval unit iconography and related movement mechanics, and the story unfolding as a battle of tactical wit between two opposing kings. The game has changed considerably over its evolution from the Indian game chaturanga. In this sense, some elements of the original theme still persist—are arguably part of the mechanical emergence—although their historical significance can easily be lost on the average player. Chess, it should be noted despite its historical trend towards abstraction, still maintains a great

deal of narrative significance and has often been used metaphorically in films such as *Life of a King*[13] and *The Seventh Seal*[14] and even the Broadway musical *Chess*.[15]

Checkers is another game that has evolved since ancient times, although it is arguably further along the path of abstraction since the pieces have been reduced to uniform tokens of two opposing colours. In this sense, the more abstract a game becomes, the further away it gets from its original narrative themes, and therefore the less narrative it can be considered in a traditional sense. Therefore, non-narrative games can perhaps best be understood by their capacity to succeed without narrative elements—such as character, plot, and setting—even if the games themselves do still sometimes relate to a narrative past.

Why then is it assumed—or at the very least argued—that these games lack all form of narrative, including narrative of the emergent variety derived from player interaction with the game mechanics? Certainly, many a game critic—in particular those of the self-styled ludologist persuasion—have deeply criticized the association of narrative, including emergent narrative, with the domain of games. While Juul, now accepting some degree of emergence ("The Open and the Closed: Games of Emergence and Games of Progression." 323), has since softened his stance from his original uncompromisingly hard line against studying games from the perspective of narrative in "A Clash Between Game and Narrative," this early work remains influential and often cited in understanding the often-fraught relationship between

[13] Based on the true story of Eugene Brown, this film follows the formation of a chess club for inner-city youth in Washington, DC.
[14] A classic in Swedish cinema, this film features a game of chess between a medieval knight and the personification of death.
[15] This 1980s-musical production featured musical contributions from members of Swedish band ABBA including the hit single "One Night in Bangkok."

these two concepts. Costikyan and Eskelinen, likewise, offer similarly scathing rebukes of the notion that games must be studied from the perspective of a narrative.

In "Where Stories End and Games Begin," Costikyan argues that "There is a direct, immediate conflict between the demands of a story and the demands of a game. Divergence from a story's path is likely to make for a less satisfying story; restricting a player's freedom of action is likely to make for a less satisfying game." For Costikyan, the effectiveness of a narrative is inversely proportional to the effectiveness of a game, by extension games with the least amount of narrative, emergent or otherwise, should be the most enjoyable. Yet, in the years since his article's publications, some of the most highly rated digital games—including AAA titles—and even some successful table-top games have made great use of narrative elements, such as the *Mass Effect* and *BioShock* series. In constructing narrative and games as inherently in conflict, Costikyan misses the emergent potential of narrative from mechanics even in non-narrative games.

An overt narrative, however, is by no means a guarantee of a successful game, and many games do indeed achieve popularity not only despite a lack of an overt narrative, but in some ways because of it. *Tetris*, perhaps the poster child for non-narrative games, has had decades of success across multiple platforms, with or without its weakly attached Russophile background themes. Nevertheless, many presumably non-narrative games still seem compelled to attach themselves to narrative affectations, if only for the purposes of marketing—narrative, of course, making it easier to connect with potential audiences. These forms of narratives act as dressing, functionally distinct from the emergent narrative that arises from the game mechanics themselves.

It should be noted that many games that lack a scripted backstory or other visual elements can present narrative auditorily through the use of sound. Most versions of *Tetris* for example emit a distinctive sound effect each time a player rotates a piece or wipes out a line of blocks. While the music generally plays passively in the background—and usually in support of a Russophile theme—in most versions it speeds up considerably if the player's pile of blocks nears the top game over condition. This acceleration in tempo mirrors the increase in tension in the game and is meant to further connect the player to the action onscreen. In *Playing with Sound*, Karen Collins makes a point of distinguishing the act of listening to sound from that of interacting with it, arguing that the means through the player uses sound in a game can augment their interactive experience (5). In this sense, digital games might have a certain advantage over their analogue counterparts in tabletop and physical games in that the sound can be more easily directly embedded in a mechanic. Physical games, though, can often use sounds in the process of play, including background experience such as the roar of a crowd or the playing of music in-between active play periods, and active in-game sounds such as a referee's whistle, a timeout buzzer, or the distinctive vibration caused by the use of the game's equipment such as a slapshot in ice hockey. The calls from one's teammates, coaching staff, or supporters—or the taunts and challenges from one's opponents—might also be considered game sounds although last two emphasize the use of voice in the field of play, connecting the use of sound to greater subjectivity. While not usually known for their sound, many tabletop games do employ devices such as an audible timer—the party game *Scattergories*[16] is a good example of this use—and rely heavily on tabletop banter.

[16] In this game, players are given a list of 12 categories and a letter, then challenged to come up with unique answers for each of those categories before the timer stops ticking.

An example of a game that relies heavily on tabletop banter, Klaus Teuber's *Settlers of Catan*—arguably one of the most internationally successful board games of the last couple of decades—is generally considered fairly abstract, and indeed a major catalyst for the expansion of the ongoing Euro game movement, amongst the tabletop community, that favours games that focus on balanced mechanics and skill-driven management over luck and thematic impulses. In other words, a Euro game is something of a tabletop version of non-narrative game, although many still display narrative settings. *Catan*, for example, still employs the premise—through both its nomenclature and its artistic style—of simulating late medieval European colonialism and community development, even though the actions the player takes in the game—and its abstract victory point system—have little or nothing to do with its intended theme. One could just as easily apply a sci-fi setting, having the player imagine he or she are playing the game on a futuristic planet—*Starfarers of Catan* proves this point—without changing the game in a measurable way. In some ways, the *Catan* games, in particular the spin-offs and expansions, do attempt to use their thematic pretenses to drive the operation of their game mechanics and therefore lean more towards emergent narrative. In *Settlers of America,* for example, the board is laid out over a map of the contiguous United States with the players racing to settle the western lands as resources become depleted in the east. While this bears some historical accuracy, or at least an acknowledgement of the 19th century American infatuation with manifest destiny, it also—like most other versions of *Catan*—portrays the unsettled land as conveniently devoid of any native inhabitants. In this sense, not only has a supposedly non-narrative game given its self a narrative context, it has given itself a problematic one.

While narrative attachments can be used to sell a non-narrative game, such accoutrements can often be dismissed as mere window dressing (Arsenault 155). At its fundamental core, the game should still be able to function without such thematic attributions, at least if it is to be considered a non-narrative game. Like Costikyan, Eskelinen sees the association between games and narrative to be flawed from the outset, with each being driven by opposing needs, arguing that the insistence on viewing games through lens of narrative stems from a narratological bias ("The Gaming Situation"). For Eskelinen, the effectiveness of a game is driven by its ability to branch out in a non-linear fashion, abstract in its essence, and that places it in opposition to the usual narrative tendencies. Like Costikyan, however, he ignores emergent possibilities and other complexities.

While his understanding of narrative is largely non-emergent in nature—tied instead to a supposedly imposed narratology—his viewpoint is ultimately undermined by its very reliance on the "seriously and hilariously obsolete presuppositions of" the narrative analysis he means to critique. Eskelinen is correct in thinking that approaching narrative in games from the perspective of another media tradition, such as literature or cinema, is inherently problematic as it imposes the analytical biases of the pre-existing media on games to a degree which may not be appropriate, ignoring and obscuring the ability of games to be analyzed on their own merits as a media form. By lumping narrative wholesale with the critical traditions of other media forms, however, Eskelinen dispatches the association of narrative with games without truly considering the merits of game-produced narratives even in non-narrative games. In other words, he misses the potential of emergent narratives from game mechanics.

Ultimately, a non-narrative game does have narrative in a sense—the narrative that emerges from the player's interaction with the game mechanics—but lacks an explicit narrative

in its design. Most popular sports, for example, do not assign a particular thematic attachment to each of their games, although the individual games—especially through the phenomenon of spectators and fan culture—can evoke various narrative-like themes, conflicts, characters, and indeed plots. Even in a recreational game, however, the emergence of narrative can be found in the process by which the players interact with the game, the environment, and consequently each other, and the consequences that emerge from that interaction. The narrative that emerges may not be strong, but it is not required to be so to be considered narrative.

It should be noted that this understanding of emergent narrative is distinct from the all-encompassing vision of narrative Juul critiques in "Games Telling Stores?" which would see the emergence of narrative as universal phenomenon:

> The… argument is a compelling one, as it promises a kind of holistic view of the world: Since we use narratives to make sense of our lives, to process information, and since we can tell stories about a game we have played, no genre or form can be *outside* the narrative. The problem is that this really is an *a priori* argument. Narratives may be fundamental to human thought, but this does not mean that everything *should* be described in narrative terms. And that something can be presented in narrative form does not mean that it *is* narrative.

For Juul, the notion that narrative inherently emerges from the interaction of player and game mechanics could be seen as an aspect of this holistic viewpoint, an attempt to pigeonhole narrative onto games as an over-arching principle of universalizing human understanding. While he accepts that narrative is fundamental to human thought, he argues against its imposition on a scale of exaggerated totality. For Juul, a phenomenon emerging from game mechanics with the appearance of narrative does not thereby qualify itself as a narrative phenomenon and therefore truly non-narrative games remain possible.

The main problem with Juul's line of criticism here is the cumbersome attempt at disentangling the phenomenon of narrative from the phenomenon of interpretation which itself is intertwined with the process of emergence. If narrative is understood as a fundamentally interpretive act—an attempt to derive meaning as argued by Christian Metz (28) and H. Porter Abbot (3-4)—then it becomes hard to see how one could differentiate from a game being authentically narrative in some sort of essentialist sense and a game masquerading as a narrative, as even a storytelling façade is sufficient grounds for a narrative interpretation. Certainly, phenomena that do not function in a narrative sense cannot and should not always be understood as such. Even so, it is hard to argue that phenomena that appear and act like narratives cannot and should not be considered narratives. Furthermore, the notion that narrative is derived from a discursive temporal unfolding of events (Mets 28, Abbot 3-4) is not substantially distinct from Ian Bogost's understanding of unit operations, that is to say "discrete, interlocking units of expressive meaning" (*Unit Operations* ix), with the main distinction being that non-narrative games rely wholly, or almost wholly, on narrative being emergent rather than explicit. In this sense, a question arises as to whether there is a meaningful difference between narrative and non-narrative games which will be a subject of the next section.

NON-NARRATIVE GAMES VERSUS NARRATIVE GAMES

The second question asks: how are non-narrative games different than narrative games? Even in a supposedly non-narrative game, narrative elements can certainly be used to augment its play experience, particularly if exploration of the narrative is deeply woven into the player's enjoyment of the game. In this sense, as the previous section demonstrated, it can be difficult to

truly separate narrative games from non-narrative ones, as both produce narrative through the form of emergence. Stylistically at least there is a clear divide between the two, with non-narrative games favouring abstraction over traditional scripted narratives or other designed narrative elements to highlight the compelling interaction of their mechanics. Narrative games attempt to use their mechanics to support an over-arching and authored storyline. In some ways, a narrative game may in fact incorporate a non-narrative mechanics at its base, which may or may not be related to its overt storyline. Both narrative and non-narrative games, however, become narrative through the process of emergence.

BioWare's *Mass Effect* series, for example, is primarily a first-person shooter (FPS), a genre that—while usually encasing its gameplay in some form of overt narrative wrapping—is mostly focused around the mechanic of a player shooting his or her enemies before his or her enemies can return the favour. In most FPS games—particularly the early ones like *Wolfenstein 3D*[17], *Doom*[18], and *Quake*[19]—the focus on the gameplay is on this kill or be killed mechanic. While not as abstract as rotating blocks in *Tetris*, Eskelinen and Juul might argue that this basic mechanic of all FPS games is abstract in the sense that the player is simply trying to complete a task faster than an opponent. Even so, the act of killing—particularly shooting another being—is intrinsically narrative in that it implies there was a need to kill the target, or if there was no need, then the perpetrator is driven by bloodlust. Either way, it

[17] While the first-person perspective had been used in games before, this game was the first major commercial FPS success, launching one of the most successful genres in video game history. *Wolfenstein 3D* was a fairly straightforward FPS in which the player plays as a prisoner of war trying to escape a Nazi castle, during World War 2, by unlocking doors and shooting enemy soldiers.

[18] An early successor to *Wolfenstein 3D*, but with more advanced 3D graphics, *Doom* put the player in the position of a space marine on Mars battling through a labyrinth of demonic monsters. *Doom* started the support of online multiplaying in FPS.

[19] A medieval successor to *Doom* and *Wolfenstein 3D*, *Quake* popularized FPS games as a multiplayer platform and initiated their use in eSports.

implies a story embedded within the shooting mechanic which can never be fully expunged, regardless of the depth of the official storyline of the FPS.

Mass Effect, however, takes its narrative further by focusing less on how the player fares in FPS battles and more on the decisions he or she makes as he or she proceeds through the game. This focus on exploration and direct storytelling proudly celebrates the rich and deeply constructed universe in which its characters inhabit, allowing the scripted story of that universe to emerge as the player's character explores an open-world degree or completes his or her assigned missions. Playing as Commander Shepard—which the player can choose to make male or female when he or she first begins the game—the player gradually gathers information about an impending galactic threat, known as the Reapers, traveling between different planets, spaceships, space stations; meeting different friends and enemies of various familiar and alien races; and using futuristic vehicles, weapons, and tools to highlight the science fiction-inspired universe in which the franchise inhabits. *Mass Effect*'s narrative emergence is deeply tied by design to the actions and decisions of the player, ensuring that the way the player chooses to interact with the game affects not only how the story unfolds in that game—to some extent at least—but also how the story unfolds in later installments of the game that import the player's history from past episodes. In this sense, *Mass Effect* is a game, in addition to its third person shooter role-playing elements, that is highly and intentionally narrative by design.

Likewise, Irrational Games' *BioShock Infinite* may eschew futuristic space opera settings for a steam punk-infused alternate history vision of American culture in the very early 1900s, but it is nevertheless making a concerted effort to infuse its FPS gameplay, emergently or not, within a deep narrative context meant to be a critique of American exceptionalism and fundamentalism, as well as 2011's Occupy protest movement. Looking to the 1893 Chicago

World's Fair for inspiration, the game's creators envisioned a dystopian floating city of Columbia, with the nativist Founders ruling over a restive underclass whose resistance is led by the anarchist Vox Populi. The player takes the role of Pinkerton agent Booker DeWitt, sent to Columbia to find and rescue a woman named Elizabeth, who—it is soon learned—has the ability to manipulate tears in reality. For the majority of the game, Elizabeth follows the player as an AI-driven ally, often supplying the player with ammunition, and using her ability to interact with tears in reality to help the player navigate around difficult obstacles or get into a better position against enemies. Unlike most games, there is not one clear adversary, as both the Founders and the Vox Populi are generally hostile to the protagonist. Even the main adversary for most of the game—the city's founder, a born again self-proclaimed prophet named Zachary Hale Comstock—is ultimately revealed to be a parallel dimension version of DeWitt himself. In this sense, the game's narrative becomes a compelling force, driving the player onwards through non-narrative interactions in order to unfold the story's next chapter, although much of the level design is also intended to be emergent. In terms of the actual game play, most of the weapons and power-ups are built into the fantastical steam punk theme, such as DeWitt's wrist-mounted Sky-hook—which looks like spinning tentacles from a steel octopus and can be used to ride the rails or kill enemies that get too close. There are also RPG-esque elements that improve the player's statistics or grant them special powers, such as the ability to possess machines or other humans, through the use of vigors, gears, and infusions. Compared to *Mass Effect*, *BioShock Infinite*'s narrative trajectory is considerably more linear. Once again, though, a great deal of emphasis is placed on the use of the player's interaction with the game to directly and intentionally drive the emergence of narrative. In a few scenes, particularly near the beginning or the end, the FPS violence is eschewed in favour of a gentle

exploration of Columbia or the divergence dimensional paths the various characters have taken.

The key feature, however, that separates narrative games like *Mass Effect* and *BioShock Infinite* from non-narrative games, is the fact that there is a narrative that is explicitly intended. Non-narrative games, on the other hand, such as *Tetris*, go, and most sports, do not generally require or promote such storytelling as part of their gameplay experience. What distinguishes them from their more narrative-focused counterparts, however, is not only their seeming lack of presumably key narrative elements such as character, plot, and setting, but the degree to which such elements are, at best simply superfluous, and at worst detrimental to the enjoyment of the gameplay itself. In this sense, however, the imposed narrative elements negatively interrupt the operation of game mechanics only if they are not emergent.

Character, at least in a non-emergent sense, is usually absent from most non-narrative games, at least in an explicit sense. In "Games Telling Stories," Jesper Juul associates narrative with character as well as an event or a sequence of events usually told in the form of the past tense. Building on the research put forward by Christian Metz (28) and H. Porter Abbot (3-4), Juul's narrative sequence of events can better be understood a discursive temporal unfolding from which human beings can derive order and meaning through interpretative experience. In other words, a story is not just a sequence of events, but a sequence of events that compel some sort of meaningful experience through the interaction of character and plot. While overtly narrative games often put the player in the role of character—particularly the aptly named genre of role-playing games—non-narrative games do not make this explicit, although it can often be heavily implied such as through the dancing cut-scenes in some versions of *Tetris*.

Still, in both narrative and non-narrative games, the player is a subject interacting with the game mechanics, and as such serves as a character in the emergent narrative that results.

As explained in the introduction, plot can also be a far-reaching term, but one that ultimately, to put it in Peter Verstraten's terms, can be derived from the particular ordering of plot elements, which is to say the very events that cause it to unfold (12). To determine if a game has narrative elements, then, one must look for these defining features, not only character, but also a sequence of events that could reasonably assumed to produce a meaningful experience. The litmus test that a particular game must pass to achieve an acceptable level of "meaning," however, is not clearly defined, and a game that lacks an in-depth plot could potentially be considered equally viable—from a narrative consideration—as a weakly written novel or film script. The quality of the plot, therefore, cannot be understood to define its very existence. Instead, its existence can be demonstrated only by the presence of a plot's elements, in one form or another, in the first place. This means that while narrative games might have a significantly more developed overt plot than non-narrative games, this result does not preclude non-narrative games from having plots themselves. If the player's interaction with the game mechanics embodies the player as a form of character, then the player's progression through the game can likewise be seen as the plot of the emergent narrative of his or her play experience. In *Tetris*, the player climbs through an escalating series of increasingly difficult levels. In go, two players take on character roles in a battle of strategic and cerebral competence as their progress forms a plot arc towards resolution. Even in soccer, two sides struggle against each other to achieve the primary purpose of scoring more goals than the other. The plot of the game involves the rise and fall of scoring opportunities, as the means by which individual players, acting as characters, strive to achieve their objectives. Taking the

assumption that the team mechanically functions one side equivalent to one player in a two-player game—as George Skaff Elias, Richard Garfield, and K. Robert Gutschera suggest in *Characteristics of Games* (37)—then the team collectively embodies the role of a character as well, and by extension the fandom engaging in the metagame surrounding it (Elias, Garfield, and Gutschera 203). As long as there is a clear potentiality for a sequencing of events, an emergent plot is possible even in non-narrative games.

In addition to this notion of a sequence of events—which many narrative scholars seem to agree as being a critical element of what defines a story (Bal 1)—there are other elements that can be approached to determine the narrative viability of a particular game. In *Basic Elements of Narrative*, David Herman identifies "sequencing" as one of the four critical elements that define a narrative, alongside "situatedness," the construction or disruption of the story-world, and how that world is ultimately experienced through the lens of a character (i-ii). Herman's situatedness, can be understood as how the story places itself—or perhaps how it is interpretatively placed by its audience—within its wider cultural contexts. These contexts could include broad cultural groupings, such as Canadian society or Western Civilization, or narrower sub-cultural contexts such as gamer cultures, LGBT communities, various religious communities, and more. In the end, however Herman's understanding of narrative elements would suggest that any text, including games which Herman hints at with his reference to "interactive fiction" (i), can be said to possess a narrative element if they can be understood in a cultural context, contain a sequence of events that can be used to interpret meaning, construct or disrupt a story-world, and depict that world experientially through a character's perspective. In other words, the emergent combination of both character and plot produces narrative even in a non-narrative game.

That emphasis on character perspective recalls Juul's notion that games do not require characters in the way that more traditional story-telling media, in particular literature and cinema, do ("Games Telling Stories?"). Nevertheless, games by their very nature of requiring a player, in so doing inevitably evoke a character-esque role in their design, even if the notion that the player is playing a "character" is never expressly identified as such. The player playing the game remains a human subject, whose cultural context, personal ideas and agendas, and psychological and biological inclinations, ultimately influence how he or she interacts with the game. Even in an intentionally-story driven game, such as *Mass Effect* or *BioShock Infinite*, the player may assume the role of an avatar in the game, descriptively and behaviourally distinct from his or her public persona outside of the game. Nevertheless, his or her self—and any biases inherently within—are nonetheless present in the interaction between the player, other players, and the game. In this sense, the player can never truly be removed as a character in the game, and as such no game can truly be said to be devoid of character. Zero-player games, such as raindrop races or *ProgressQuest*, can theoretically come closer to a state of being totally devoid of character, but even these phenomena cannot truly escape characterization, as the artificial player elements that stand in for human participants are, by the very mechanism that makes them appear to act like human players, thereby anthropomorphized sufficiently to qualify as a weak form of character (Elias, Garfield, and Gutschera 22). So-called non-narrative games must be considered to be games that do not identify explicit characters, while at the same time allowing for the existence of emergent characters through the game mechanics' interactions with the player.

Likewise, this inevitability of the player approaching the game from the position of a subject—or in the case of an artificially intelligent player playing the role of a subject—leaves

an opening for Herman's other elements to likewise mesh with the realm of game and narrative. In some respects, Herman's sequencing and world-building or disruption can actually be more deeply experienced through the platform of a game rather than a traditional story-telling medium like a film or a novel. While a leveling feature may be common in many video games, it is by no means a universal feature of games, although most do feature a degree of escalation. The more engaging games, in particular, tend to be built around a designed manifestation of Csíkszentmihályi's concept of flow (3), with the challenge presented by the game, and the player's ability to overcome it, scaffolded in such a way that the player never feels the challenges are impossible or too easy, and can easily be drawn on from one objective to the next. This escalatory sequencing is fundamentally built on the intent of driving the player's emotional and psychological investment in the game, building within him or her, an emergent sense of optimum performance and satisfaction even in a non-narrative game.

In non-narrative games, then, this escalation still does exist. Most versions of *Tetris*, for example, intentionally increase the speed at which the blocks fall as the player's pile reaches upward towards the top of the screen, heightening both the psychological notion of the impending danger of losing as well as the emotional stress of having to succeed at a higher difficulty level. Csíkszentmihályi's flow is still at work here—even thought the difficulty has increased at the same time as the player has been struggling to overcome the previous obstacles. It captures the player's attention through a heightened intensity, compelling him or her to focus even harder on the task at hand. In other words, the player's intensified interaction with the game mechanics has afforded him or her, a heightened relationship with the game and consequently a heightened state of character through emergent narrative.

In terms of world-building, certainly this is a major explicit aspect of highly narrative-driven games, such as *Mass Effect* or *BioShock Infinite*, but can even be a major component of more sandbox-style games—commonly considered more non-narrative—such as *Minecraft*, or open-world games like those of the *Grand Theft Auto* series. In non-narrative games, however, such world-building can be less evident. In some respects, the simulated establishment of a territory in a tabletop game such as go could be interpreted as a form of world-building—after all, the players are, with each placement of a stone, literally re-defining the fictional boundaries of an abstract universe in an emergent way. Nevertheless, this type of miniature universe is not likely to survive long after the game has run its course, nor it is liable to have a great deal of impact on the development of go universes that come after it, except possibly through the educational influence playing a specific game might have on the development of the skill levels of the players. At any rate, while the world that has been built in the game might be an extraordinarily weak one, it is nevertheless still arguably a world. Just as a plot cannot be defined by the quality of its content, a world cannot truly be defined, at least in an existential sense, by the quality of its construction.

Indeed, any manifestation of Huizinga's magic circle must, in a sense, be considered a constructed world, and by definition a fictional realm, emerging through the player's interaction with the game mechanics, yet on some level separate from reality (10). Huizinga's spoil-sports then, through disrupting the magic circle, also disrupt the constructed reality that it represents. This act of subversion, while outside the jurisdiction of the game's rules and regulations—except in their capacity to condemn it and afford punishment on the perpetrator—nevertheless represents an instance of emergent narrative through story-world disruption. In

both narrative and non-narrative games, the inability of the game world to hold together cohesively undermines the success of the experience which is fundamentally emergent.

Certainly, some narrative-driven games at least attempt to incorporate the possible self-destruction of their story-world through the actions of the player as part of the design—the destruction of the floating city of Columbia and the catastrophic mixing of various dimensions towards the end of *BioShock Infinite* are hinted at being a direct result of the player's actions during his or her adventure, although the linear nature of the explicit narrative makes avoiding this fate, and therefore the player's agency, doubtful. Many persuasive games, such as *Sept 12th* and *The McDonald's Video Game*, attempt to subvert the assumptions of the gameplay itself, with both intended to be unwinnable simulations of a phenomenon the designers intended to critique. In *Sept 12*, the player is tasked with launching air-strikes with the click of a mouse against an Iraqi community with the goal of killing the terrorists while leaving the innocent civilians unscathed. This presumably noble intent, however, quickly proves impossible as each successive strike converts more of the innocent civilians, outraged by the destruction, into new versions of the very terrorists the player is trying to eliminate. Molleindustria's critique of the global fast food company, meanwhile, traps its player in a doomed economy, whereby the need to sell more hamburgers continually requires the greater exploitation of workers, livestock, and ultimately agricultural and natural lands themselves to the point that continuing the game is simply unsustainable. In subverting the player's gameplay expectations, both games aim to emergently direct the player's attention to the real world polices they intend to critique. In this sense, these games are explicit about their narrative, in that it is a necessary foundation upon which they can construct their arguments. While the actions the player takes within the games

are mechanical, and arguably non-narrative, they cannot be divorced from the intended narratives which here blur with the emergent ones.

A non-narrative game, on the other hand, cannot openly incorporate such purposefully intended subversion of its constructed story-world, as doing so would be tantamount to admitting that it had a narrative. Non-narrative games—and arguably most games—lean away from such disruption generally anyway. Disruption by its very nature runs the risk of isolating the player from the game and thus undermining the presumed player engagement goal of most games. Most versions of *Tetris*, for example, have no interest in breaking the player's flow state to make a larger point about the assemblage of blocks or a political comment on Russian foreign policy[20]. While it cannot be fully ruled out that story-world disruption might exist in a non-narrative game—after all, non-narrative games are not entirely without narrative—it nevertheless can be surmised that the relationship they have with story-worlds is primarily that of emergent construction, in this case through the invocation of the magic circle. Once again, however, the explicit construction of these story-worlds—or the explicit deconstruction or subversion of them for that matter—in itself is the only major separation of narrative games from non-narrative games. To further explore this idea, the emergence of narrative in non-narrative games will be compared across different forms of media.

THE EMERGENCE OF NARRATIVE ACROSS DIFFERENT GAME MEDIA

Now that narrative emergence has been established as occurring even in non-narrative games the question then becomes: is there a difference between the emergence of narrative in non-narrative games depending on whether or not the game exists in a digital, tabletop, or

[20] A few versions of *Tetris* did include cut-scenes.

physical format? As mentioned in previous chapters, the idea of what defines a game is often fraught. Yet, while consensus about what exactly defines a game remains elusive, an understanding of what can be considered a game—and what games might share in common across various platforms—can be found. First, however, it would be helpful to identify a few key broad categories such as the distinctions between digital, tabletop, and physical games.

It should be noted that the boundaries of these categories inherently have a degree of fluidity, with composite games incorporating aspects of both or even all three elements to enact an overt narrative or simply an emergent narrative as is the case in non-narrative games. In the tabletop branch alone, examples of composite games could include the *Atmosfear* or *Nightmare* series of horror board games that typically included a video as part of their essential gameplay mechanics, or the more athletic tabletop variants of popular sports such as table hockey, foosball, and table tennis. Tabletop games may also echo or embrace an aspect of a sport in a more abstract sense. *NHL Big League Manager*, which simulates the general manager position of a major National Hockey League (NHL) franchise, extends fan interest in the sport. A tabletop game like *Blood Bowl*, on the other hand, operates as an unofficial fantasy genre parody of American football. Digital games also have many adaptations of sports, such as the National Football League's (NFL) *Madden* series, the National Basketball Association's (NBA) *Street* series, and various soccer games sponsored by the Fédération Internationale de Football Association (FIFA). Physical games, however, do not seem to be as adept at—or at least not as commonly prone to—adapting elements of the other game categories in their own game construction although there are elements such as the yellow card in soccer or even the niche sport of chess boxing which, as its name would suggest, literally combines the play of

two sports—one physically-focused and one a mentally-focused tabletop classic—making it the definition of a composite game.

For their part, digital games have incorporated a myriad of aspects from both physical games and tabletop games, making it less a question of which digital games are composite and more of a question as to which games are not. Due to rapid release schedules and disruptive advances in digital game technology, as well as a great range of potential player interactions and narrative architectural design, digital games have incorporated a myriad of influences from both physical games and tabletop games. Whether it be the pinball-esque need for sophisticated and practiced hand-eye coordination to succeed at an arcade-style game, such as *Breakout* or *Arkanoid*, or the adopted role-playing mechanics of a digital RPG like those of the *Final Fantasy* or *Dragon Warrior* series that owe a tremendous debt to their pen and paper precursors such as *Dungeons & Dragons*, many digital games exhibit traceable elements indicative of their less electronic origins, even as digital games use their technology to generate gaming experiences impossible in an analogue form. With recent advances in virtual reality, motion capture platforms such as the Nintendo Wii Remote and the Microsoft Xbox Kinect devices, and other immersive technologies, many digital games are increasingly incorporating a greater physicality into their play mechanics. This notion is hardly a new one, emerging in the industry as early as the 1980s video arcades—and in home consoles such as the Nintendo Entertainment System which famously had its Zapper as well as its PowerPad among other possible attachments—which had been experimenting with physical add-ons that controlled the game without or in addition to the controller.

By keeping the boundaries between the three groups more fluid, greater influence on the design of all three could be exchanged and ultimately a more transmedia experience could

be encouraged. In some respects, this process is related to Katherine Hayles' notion of *reflexivity* in *How We Became Posthuman*, which she describes as "the movement whereby that which has been used to generate a system is made, through a changed perspective, to become part of the system it generates (8)." In this sense, each time the player interacts with the game or the participatory fan community, each becomes slightly changed by the emergent narrative, and that change—in turn—becomes compounded through further interactions. While Hayles sees the process as something of a passive inevitability, I see it more as an opportunity for agency, a chance to assert one's own influence—however slightly—into the evolving relationship even as one increases the influence of others. This process ultimately leads to Jenkins' *convergence culture* (*Fans, Bloggers, and Gamers* 1) which places fans as the centre of how a transmedia franchise operates and will be discussed at greater length in the fourth chapter. For now, transmedia content, being linked to the idea of franchise, lends itself easily to overt narratives as form of linkage even in otherwise non-narrative games.

It should be noted that the emergence of a new form of narrative—even in a non-narrative game—does not completely erase the narratives that came before it. Indeed, a player's experience with a game, and ultimately the narrative that emerges from interacting with it, is ultimately influenced by the cultural experience that preceded it. In other worlds, the past is "always already" present in any new emergence, just as it is any new media object as argued by Lisa Gitelman in *Always Already New* (5). The absorbed influence and reconstruction of old media forms by new ones is fundamentally an aspect of remediation, which is as present in non-narrative games as it is in explicitly narrative ones. According to Jay David Bolter and Richard Grusin, who used their seminal book *Remediation: Understanding New Media* to define the term and popularize it amongst critics of emerging media,

remediation can be understood as the representation of one medium in another (95). Bolter and Grusin go on to argue that all mediation is a form of remediation due to the metaphysical inability to distinguish between what is a supposedly authentic original and what is a mediated copy. In other words, any media form is ultimately a composite of what has come before. Remediation can also be understood as a mediation of mediation (55). In *Windows and Mirrors: Interaction Design, Digital Art, and the Myth of Transparency,* Bolter, now co-authoring with Diane Gromala, argues that remediation is ultimately a nostalgic appeal, continuing that "the purpose of a good design metaphor is to emphasize differences from as well as similarities to the original (91)." In other words, on the one hand, all media are constantly remediating not only the types of media that have come before but also the concurrent diverse media forms to which their creators, designers, and audiences are exposed. On the other hand, the dynamic nature of media means that this remediation is nevertheless an ever-changing context which ultimately leads to continuous evolution and development away from the remediated predecessors. In this sense, the emergent narrative is influenced not only by the platform a game uses, but the other platforms that have come before it.

Using Bolter, Grusin, and Gromala's line of thinking and applying it to the broad categories of digital, tabletop, and physical games, it would have to be argued that all forms of games are inherently composite media forms. Yet this composite nature acts not as a hindrance but as foundational base from which the games can develop and exploit their own unique properties. In this respect, this understanding allows for a much more diverse understanding of what is possible in a game, including a non-narrative one. While the continuously ongoing and evolving relationship between digital, tabletop, and physical games can be seen as having shared influences and elements—in particular the allowance for the emergence of narrative

from game mechanics—it ultimately does not erase the unique characteristics each category offers, and in fact allows each individual category of game to emphasize those advantages through transmedia exposure.

To begin with, physical games not only receive a boost in awareness and popularity—at least from a spectator's point of view—from their adaptation to other forms of games, but this adaptation can also extend the emergence of their narrative from game mechanics, moving the play into a potentially more expressive context and away from a non-narrative one. Physical games, which are not merely limited to sports, may also include any game that focuses primarily on the movement of the human body such as theatrical improvisational games and even word guessing games like charades. Compared to the other two broad branches of games, their expressive potential is often far more minimalist, as usually the basic equipment allowed for the players to use is kept intentional simplistic and uniform, leaving little room for interpretive remediation of other forms of game within the sphere of game-play itself. This limited means for expressive play does not mean that a succession of individual plays in a given sport or physical game could not be understood through the context of Bogost's unit operations (ix), as indeed the combination of the moves and actions taken by the various players over the course of the game can and do evoke the emergent narrative of the game, even if the descriptive power relies more heavily on the interpretations of onlookers. It should be noted that some physical games—improvisational theatre games, in particular—focus heavily on their expression, and indeed the spinning of a meaningful experience for the audience is considered a far more valuable goal in this co-operative form of game, as opposed to attempting to defeat one's fellow improviser which would bring the whole project to a halt. Competitive improvisational theatre—such as the aptly named *TheatreSports*—does exist, but

often in parody of the sporting motifs of its own fellow physical games, in particular the notion that referees must dress in zebra-like black and white stripes. Even charades, which can often involve the depiction of characters, has a surprising amount of explicitly narrative elements for a physical game.

Most physical games—in particular most sports—while generally avoiding an explicit narrative, nevertheless possess an explicit one through the emergence of narrative. As such, most can be considered non-narrative games, even though they have emergent narrative. While most physical games focus mechanically on physicality, outside that of simply pushing buttons on a controller or moving pieces on a gameboard, they can often be high in abstraction as the conflict becomes about scoring more goals than an opponent or being the first to cross a finish line. The players themselves are clearly individuals, and many such as Sidney Crosby or Usain Bolt became known for distinctive personalities that inform their approach to sport. As with abstract video games, the ludological assumptions that game mechanics do not inherently produce emergent narrative are undermined by the narrative conflict present in the framing of any competitive sport. The moment any athlete exercises the use of a game mechanic to move him or herself closer to victory, he or she enacts the emergence of narrative.

Well-established tabletop games, such as bridge, chess, and go, have often been treated as sports on the competitive level—sharing many of the non-narrative meta elements such as high stakes tournaments, professional coaching staff, rigorous training and qualification programs, and even testing for performance enhancing drugs (World Chess Federation, World Bridge Federation). Both the card game bridge and chess, while not presently contested at the Olympics, have been recognized as sports by the IOC, and could theoretically be included in the official programme at future events. Even many relatively new, but extremely popular

board games have seen an emergence of something of a competitive circuit, including board games like *Settlers of Catan,* or collectible card games like *Yu-Gi-Oh!*[21] and *Magic: The Gathering*[22]. This emergence within the fan community is naturally often sponsored by the companies that publish these games, and own the rights to them as intellectual property, lending a sense of private ownership of the competition that would have been unheard of in traditional sports and has become controversial as more and more major tournaments come to rely increasingly on advertising and sponsorship revenue.

This question of private ownership of a sport also plagues the emerging arena of eSports, the digital games equivalent of top-level competition. Most major physical sports organizations, such as the aforementioned IOC, NHL, NBA, FIFA, and NFL, are at least considered non-profit organizations although the degree to which private companies have influence over them is debatable. In the case of an eSport, however, the game in question is undeniably the intellectual property of the developer, regardless of whether the game is narrative or non-narrative. So, for example, while one could find a ball and start a game of soccer without involving FIFA in the slightest, one would have to—legally at least—somehow acquire access to a purchased copy of Blizzard Entertainment's *StarCraft* series in order to participate in the online community surrounding that game. While this association of the fundamental game as intellectual property of the developer may or may not prove problematic in terms of understanding eSports as sports, fundamentally, for the purposes of this chapter, it should be noted that this distinction with digital games being associated with intellectual, and therefore private, property is difficult to escape even through emergent narratives. One might

[21] A collectible card battle game based on the popular anime series of the same name.
[22] The original collectible card game, fantasy-themed *Magic* puts the players as two opposing sorcerers in a battle of spell-casting.

argue that many modern sports—such as soccer, hockey, and even chess—were developed or had direct precedents before the advent of capitalism, so they must be considered public domain for that reason alone. However, the codification of these games into their modern versions came well after the rise of capitalism and industrialization in the 19th century—in fact, their standardization was a direct result of that process (Wheeler 191)—meaning that most modern sports are very much a capitalist creation, with many international sports like basketball, water polo, and bobsleigh debuting in the 19th century. While modern capitalism certainly changed the way in sports were consumed—created more immediacy over ownership and therefore authorship of a game—most physical sports still relied on equipment that was not intellectual property. The 21st century "muggle" version of quidditch[23] for example—which will be discussed in greater detail in chapter 5—is based on the intellectual property of J. K. Rowling, but is not connected to her, and the International Quidditch Association is a non-profit organization. In other words, one could legally acquire the necessary equipment and rules to play the game without violating Rowling's intellectual property or receiving her authorization, but the same is not true of Blizzard and *StarCraft* or many other eSports. In this sense, distinguishing between different types of narrative—in particular emergent versus scripted narrative—becomes important as while scripted narrative can be considered intellectual property, emergent narrative is far less defined and more difficult to assert ownership over.

[23] Quidditch is the name of a complicated game played on flying broomsticks in J. K. Rowling's *Harry Potter* series. The "muggle" version of the game—muggle being the series term for a person who lives outside the world of magic—features a modified version of the sport in which players run around on a field with a broom between their legs.

In the end, however, the ownership of a game as intellectual property is ultimately an aspect of the wider cultural context in which the game finds itself located. While this context might underpin its initial design, a non-narrative game should, theoretically at least, be able to free itself from such explicit intentions, such as the need for the game to make money. In reality, however, as noted in the first chapter, no game designer can truly divorce his or herself from biases that might impact the production of the game (Cook, Arndt, and Lieberman 389). As such the ownership of a game as intellectual property might be just as fraught as the authorial intent to design a game, and ultimately both are only legitimized by the participatory fan community through the emergence of narrative from interplay with the game mechanics. While this issue of intellectual property is shared by most tabletop games, excluding those sufficiently ancient to be considered public domain, and almost all digital games—none of which are old enough to be considered public domain but a select few of which have been offered up freely for public usage—there are other characteristics that both unite and divide these two broad types of games.

Fundamentally, however, the main distinction is that while digital games rely primarily on interaction with a computer-based interface, typically a screen of some form, traditional tabletop games—with a few notable exceptions such as *Atmosfear* mentioned previously, as well as a few games that rely on electronic money counters, timers, or other minor digital equipment—eschew such electronic communication in favour of hands-on analogue pieces such as cards, dice, tokens, playing pieces, spinners, tiles, boards, and more. The focus on the screen in digital games is critical, as it implies that players are primarily receiving communications from the game—at least in most cases—through that screen, while inputting commands through the use of a controller, a joystick, a keyboard, a mouse, a touch screen, or

some other interface. Even the earliest video games—which often relied on analog screens over digital ones—still established the convention of a screen the player could control. Josef Kates' *Bertie the Brain*[24]—considered to be the first publicly demonstrated game operated by a computer (Wolf *Encyclopedia of Video Games* 7)—used a series of light bulbs for its screen, while William Higinbotham's *Tennis for Two*[25] was played using an oscilloscope (John Anderson 8). While players can look away to see their competitors in the flesh—assuming their fellow players are indeed in the same room—ultimately their attention is invariably drawn back to the screen. Tabletop games, on the other hand, generally do not have a screen that strongly demands the attention of players, although the game pieces themselves can often serve that function. Nevertheless, tabletop games, as their name would suggest, often find players sitting across from each other on a singular table, often maintaining body language communication as an implicit sub-game such as the reading of tells in poker (Elias, Garfield, and Gutschera 103). Therefore, the digital imposition of the screen, can—in some ways—reduce the directly visible almost subconscious body language communication aspect of a game by diverting player attention elsewhere. This difference, however, does not prevent either from producing emergent narratives—although it might affect the means and intensity by which they do—in either narrative or non-narrative forms.

This distinction of course does not render table top and digital games necessarily incompatible, but it does allow perhaps, in the case of tabletop games, an often unnoticed and certainly unrecorded communication between players that can help facilitate the emergence of

[24] Designed as an electronic simulation of tic-tac-toe, this game is thought to have become the first publicly demonstrated computer-based game when it was showcased at the Canadian National Exhibition in Toronto in 1950.

[25] The first sports game and arguably the first full-fledged video game, Higinbotham's rudimentary tennis game was a popular public outreach project in 1958 for the Brookhaven National Library in Upton, New York. It presaged the early Atari hit *Pong.*

narrative, even in games that are non-narrative, at least in the explicit sense. Some digital game designers, such as those of the digital tabletop interface STARS, which was intended to digitize the physicality of the pen and paper role-playing game experience, have tried to merge elements and advantages of both digital and tabletop games in order to improve the player experience (Benford, Magerkurth, and Ljungstrand 57). This style of composite game is for the moment still an experimental novelty, but if digital technology becomes sufficiently affordable and ubiquitous, it may become a mainstay of tabletop gaming, permanently blurring the distinction between the two and the degree to which they interact with narrative both explicitly and implicitly. This blurring is likely to continue in both narrative and non-narrative games, remediating the differences between platforms and allowing for new forms of emergence.

This ever-increasing remediation (Bolter and Grusin 95) is also an outcropping of media convergence. In *Convergence Culture: Where Old and New Media Collide*, Henry Jenkins defines his titular phenomenon as such:

> By convergence, I mean the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behavior of media audiences who will go almost anywhere in search of the kinds of entertainment experiences they want. Convergence is a word that manages to describe technological, industrial, cultural, and social changes depending on who's speaking and what they think they are talking about.
>
> 2-3

For Jenkins, convergence represents not only the emergence of narrative, but the flood of that narrative across a myriad of different forms of media from which games, explicitly narrative or non-narrative, cannot be kept entirely separate. This convergence is ultimately fuelled by a progression towards transmedia, the tendency to represent a particular franchise in as many media forms as are lucratively possible (Jenkins "The Cultural Logic of Media Convergence." 33). In a world where all forms of multimedia are experiencing convergent, transmedia, and

ultimately remediated pressures, the idea of whether or not a game can truly be separated from the narrative that emerges from it, becomes truly apt.

THE (IM)POSSIBILITY OF REMOVING NARRATIVE ENTIRELY

This discussion raises the final question of this chapter: is it or has it ever been possible to truly and fully remove narrative from a game? As this chapter has demonstrated, removing the emergence of narrative from a game—even a supposedly non-narrative one—is inherently impossible, owing to the fact that some form of narrative must inevitably emerge from the interaction between the player and the game mechanics as a direct result of the player's experiencing of the game. While an abstract game like *Tetris* may be devoid of explicit narrative accoutrements such as character—excluding the role of the player him or herself—it still cannot disengage itself from the player's experience and the wider fan community as doing so would invalidate its playability as a game. In other words, if a game is to be considered a game, it must at least offer the facsimile of playability, and in allowing for the game to be played, it allows for the player to experience it in such a way that emergent narrative, however weak it may be, is still inevitably produced.

The nature of emergent narrative is such that interpretations can be varied and need not be compatible, and attempts to describe the narrative aspects of a non-narrative game can come off as ham-fisted. In *Hamlet on the Holodeck: The Future of Narrative in Hyperspace*, Janet Murray attempts a narrative analysis of popular video games, advocating for an understanding of the medium as a storytelling medium. While she acknowledges the existence of characters like Mario from the *Super Mario* series, Murray accepts their characterization as shallow (51). As explained in the previous chapter, however, she attempts to describe *Tetris* as a "perfect

enactment of the overtasked lives of Americans in 1990s," leading to a skewering response by Eskelinen who accuses Murray of imposing her worldview on the abstract game and obscuring its ludological value. Murray's interpretation of the game, while hardly universal, is nevertheless valid in the sense that it is her subjective interpretation, equal to that made by any other player through the process of emergence. In other words, the play experience itself, is fundamentally subjective on the part of the player.

If the play experience itself is subjective, then it stands to reason that non-narrative games cannot truly exist as the moment a player engages with the game, he or she has a subject experience which becomes the foundation of the emergent narrative. A game of soccer, for example, begins as an abstract concept whereby there exists a field of play, opposing goals, a set of rules, and an instrument upon which to exercise those rules in the form of the soccer ball. As long as no players actually engage with the game, there remains no emergence of narrative, but its status as a game would also be called into question. The moment that players do engage with the game, however, they imbue it with their subjectivity which informs each and every operation of the game's mechanics. Another example would be tic-tac-toe which moves from an abstract concept of nine spaces to an emergent narrative reality, the moment players use it as a mechanism between two subjective selves. In *Tetris* one could even argue that the simulation of a play session without the player—whereby the blocks would simply pile up until the game over condition was reached—is already emergent because it presupposes the intervention of a player who will attempt to prevent this ending from occurring.

While one's subjective experience is by definition individual, this does not rule out commonalities between the separate subjective experiences of multiple players. In fact, when playing the same game, similar emergent narrative experiences are to be expected, although

each can never be considered a true copy of the other, because the temporal and spatial conditions in which they occurred can never be truly duplicated. Walter Benjamin explains this idea in *Illuminations* arguing that "even the most perfect reproduction of a work of art is lacking in one element; its presence in time and space, its unique existence and the place where it happens to be, the presence of the original is the perquisite to the concept of authenticity (220)." While Benjamin was referring to mechanical reproductions, the same can be said about subjective experiences—such as play experiences—which are equally tied to time and space. In this sense, the emergent narrative experience one player has in a game may share commonality with that of another—and this commonality can be used to develop the participatory fan community—but the emergent experience can never be the same. In other words, not only does every play experience produce some form of emergent narrative—and non-narrative games are therefore an impossibility—but that emergent narrative is unique, not just to the player, but to the time and space in which it occurred.

With understandings such as this, it becomes increasingly difficult to see any potential avenue for a non-narrative game to actually exist. Games require engagement with a player to justify their very existence, and any player engagement cannot help but be subjective, and that subjectivity produces emergent narratives as the player interacts with the game mechanic. In this sense, not only do supposedly non-narrative games produce emergent narrative, these narratives can become meaningfully compelling, as will be demonstrated in the following case study of perhaps the most widely watched go match of all time.

CASE STUDY: GO

On the 19th of March, 2016, one man in Seoul, South Korea sat down to play a presumably non-narrative board game while millions around the world watched and gasped. The event was televised live by the lion's share of the major South Korean broadcast networks and reached an audience of 60 million in China. In the English-speaking world, a live English-language feed on YouTube received over 100 000 viewers (Moyer). Despite the global attention, the room the man was playing in was visually minimalist, consisting mostly of two black leather chairs and a table, as well as the surrounding media. On the table, in a central position, was the classic board game go which, like its surroundings, may have initially appeared to an untrained observer to be a fairly simple game involving the arrangement of black and white stones. In fact, it is one of the most mathematically complex and long-running games humanity has ever devised. The man in question was South Korean Lee Sedol, the reigning world champion of a game born over 2500 years ago in what is now mainland China, and arguably the definitive two-player board game for top-level competition in East Asia, where it eclipses even chess as the epitome of thought-heavy abstract tabletop games. This would be an emergent battle between man and machine.

Amongst the go community, Sedol had already emerged as a legend in this non-narrative game, an equivalent in competitive go as Michael Jordan to basketball or Wayne Gretzky to ice hockey. Christopher Moyer, writing for *The Atlantic*, describes Sedol as "one of those rare virtuosos who defines his era, who sets the pace for the rest of the world," goes on to describe his impact on the competitive go community:

> Within the [g]o world, however, nobody is scarier than Lee, who plays with an unnerving confidence. He creates situations that should end in disaster and then—

> effortlessly to the observer—turns them on their heads, like a magic trick, steamrolling his opponents.

For Sedol, most of these noteworthy opponents until this point have been fellow competitive go players, and while he has often been described as a "[g]o-playing machine," sometimes with a degree of whimsy, his March 19, 2016 match pitched him against an opponent that quite literally epitomized that idea: AlphaGo, an artificially intelligent software engine designed purposefully to master, and beat the masters, at go (Silver et al. 486).

Go is generally considered to be a definitively abstract and therefore non-narrative game, even more distant from its historical origins as a simulation of war than chess, which still preserves the names and images of key units from the medieval battlefield. Also known as the "encircling game," go is played between two players, one with white stones and one with black stones, who take turns placing one of their respective stones on a vacant point of intersection on a 19 by 19 grid. The stones cannot be moved and can only be removed if they are "captured," which is to say surrounded orthogonally on all sides by an adjacent stone from the opposition. The goal for each side is to control as much territory on the board as possible. Compared to the 20 possible opening moves in chess—in this case referring to western chess—go affords its players a potential of 361 possible opening moves. In terms of overall potential moves, go greatly exceeds chess having recently been determined to have $2.08168199382\times10^{170}$ different possible legal moves (Tromp), a number greater than the number of atoms in the galaxy, making it a very difficult game for a computer to run and compare all scenarios and anticipate emergent scenarios. While it is a game with great appeal for mathematicians, it is generally not the type of activity one would normally associate with narrative.

Nevertheless, a strong narrative began to emerge from this contest between Sedol and AlphaGo, even before the main match had been confirmed. Within the go community, the challenge of artificial intelligence to human dominance of the sport was not, until recently, even considered impending. Many, of course, were previously familiar with the nearly 20-year-old defeat of then-reigning world champion chess grandmaster Garry Kasparov by the chess-dedicated computer Deep Blue (Campbell, Hoane, and Hsu 57), but due to the greater combinatorial complexity of go, and the presumed difficulty of artificial intelligence systems in dealing with that complexity, it was assumed that a software-based defeat of a go professional on the international circuit was still a decade away (Moyer). AlphaGo's critical defeat of European go champion Fan Hui—as announced by its DeepMind researchers in the scientific journal *Nature* (Silver et al. 488)—however, shattered this status quo assumption that the highly-trained human mind remained the undisputed worldwide master of the ancient game, creating a visceral need for humanity's reigning champion, in this case Sedol, to rise up to the challenge of this new pretender to the throne and assure the community that humankind were still the top go players on the planet. A computer program's aptitude at a single non-narrative game had created an emergent crisis.

Like a strong hero in a Greek tragedy, Sedol and his community supporters approached the match with confidence—supported by his experience, his skill level compared to Hui, and his knowledge of AlphaGo's play style as derived from observations of AlphaGo's games against the European champion—that their man would ultimately come out on top. Many of his South Korean contemporaries on the go circuit joked that DeepMind's million-dollar challenge prize would be the easiest circuit money Sedol ever earned, and gladly offered to trade places with him. All the while, the AlphaGo team, reacted to the posturing by quietly expressing their

own confidence in their go-playing program. Sedol himself hypothesized that, of the five games that constituted the match, he would win all five, or at the very least four.

Over the course of the first game, however, this general assumption evaporated quickly. Sedol opened with a bold unusual move that he hoped would throw the computer program off, but the passive, cautious AlphaGo that Sedol had studied in its matches with Hui was nowhere to be found. Instead, this AlphaGo—which had months of non-stop practice and analysis since the European matches—mimicked Sedol's own aggressive style using his very own trademark approach against him. By move 102, the tide had turned irrecoverably in the AI's favour, spawning a range of emotions from the usually calm and collected professional player over a supposedly non-narrative game.

> In this moment, a full range of reactions washes over Lee: shock, surprise, acceptance, and finally grim resolution. His jaw drops, and after several seconds, he sits back in his chair and smiles, perhaps amused but certainly taken aback. Then his expression grows serious, and his hand rubs the back of his neck, a tic he exhibits when he's thinking hard or feeling nervous…The moment he throws in the towel, he begins revising moves, pushing stones around the board to play out alternate variations, experimenting with the roads untraveled. We can see him work through it, trying to pinpoint exactly how he has lost.
>
> Moyer

This change in the "narrative" of the game is not only directly linked to emergence from the interplay of the game mechanics between Sedol and AlphaGo, it has even been isolated to a specific move, a specific turning point, when Sedol realized that he was not going to win. In this moment, the presumed course of not only the game, but the entire match changes outright, and those observing from the sidelines or at home—particularly those who did not expect their chosen champion of humanity to struggle—were stunned. Pre-conceived foregone conclusions were tossed aside, as the winner of the match became no longer certain. The emergence of

narrative had not only greatly heightened the emotional intensity of the game, but it had challenged its very outcome.

Bruised by AlphaGo, but now enlightened as to its quite literally exponentially improved capabilities, Sedol prepared mentally for the second game, trying to find a weakness he could exploit. Humbled by his experience in the first game, however, he announced at a press conference that he had downgraded his expectation of victory emerging in the non-narrative game to only fifty percent. His more cautious public persona was matched by more cautious play in the game, but AlphaGo continued on the offensive, hitting him with a surprise move called a "shoulder hit"—an unheard-of move amongst human players that Hui would later describe as "beautiful" (Moyer)—prompting Sedol to stand up and abruptly leave the room. After a moment, he returned, once again composed himself, and completed the match, but the result was once again the same.

Sedol was now one loss away from losing the match outright, and had yet to pick up a victory of his own. Despite an all-night strategy session with his colleagues in a desperate bid to preserve a victory for the human go player, AlphaGo won its third game in a row against the reigning world champion and many spectators were left aghast. One American commentator, David Ormerod, claimed that AlphaGo's third victory in a supposedly non-narrative game made him feel "physically unwell" (Moyer). If Sedol could be considered as the heroic figure in this story, this emergent moment defined his nadir, the low point at which all appears lost before the final last act of desperate hope.

> At the post-game conference, Lee looks 10 years older. Amidst a barrage of camera flash bulbs he apologizes to the entire world at once. "I apologize for being unable to satisfy a lot of people's expectations," he says. "I kind of felt powerless." Even the DeepMind researchers, who have a deep admiration for Lee, seem more somber

> than jubilant at their own victory. There is a sense that something has changed. Gu Li, one of Lee's long-term friends and rivals, comments on Chinese TV that Lee is fighting "a very lonely battle against an invisible opponent.
>
> Moyer

In this moment, Sedol publicly recognized his failure as humanity's anointed champion, and an implied gravitas about the far-reaching challenge artificial intelligence may ultimately prove to human intelligence was felt even by those who created it. This had become far more than just one man playing a game with a computer.

Knowing the match was lost, Sedol resolved instead to strive to win at least one game against his digital opponent. Relieved of some of the pressures he shouldered for the first three games, Sedol's demeanour appeared more relaxed, and some of the play that made him famous returned. Instead of striving to outwit the computer over a longer stretch of play—during which, its superior ability to compute calculations will surely give it the advantage—Sedol instead forced AlphaGo into an early all-or-nothing gambit in the non-narrative game, which he followed up in move 78 with his "Hand of God" play to which AlphaGo was unable to adapt. Ultimately, AlphaGo eventually seemed to realize it had lost. After a series of nonsense plays, it officially resigned, leading to emergent cheers and vindication for Sedol from the audience. His confidence returned, Sedol offered to take the white stones—considered to be disadvantageous as their player must start second, after the player with the black stones has already played—for the final game. He would ultimately lose the final game, losing the match four to one to AlphaGo.

This example, which might perhaps become known one day as one of the most famous go matches of all time, is a strong illustration of the emergence of narrative from a presumably non-narrative game. While one might argue that the emergence comes not from the game, but

the para-game elements surrounding, these elements are intrinsically connected to the play of the game itself. None of the para-game elements would exist without the game experience around which they have been constructed. Critical moves like the "Hand of God" send shockwaves into the surrounding participatory fan community who applies their own meaning to them. Once again, the interplay of the player, the game mechanic, and the participatory fan community cannot be separated from the emergence of narrative.

As noted above, go is often considered a highly abstract game, and certainly not one to generally be associated with the production of narrative. Amongst players and spectators with a vested interest in the competitive development of the game—which some might prefer to refer to as a sport—the emergence of narrative before, during, and after a critical game defines their experience with the game and what they hope to accomplish through playing. Even individual atoms of play, such as the recognition of AlphaGo's dominance at white move 102 in the first game or Sedol's "Hand of God" at move 78 in game, demonstrate the power of the operation of game mechanics to impact that narrative emergence. In Sedol's confrontation with AlphaGo, he was seen to undergo a deep trajectory and diversity of emotions, acting as protagonist working against a dangerous, and enigmatic, adversary, which he was ultimately unable to overcome. The emergence of narrative speaks not only to the nuts and bolts of who is winning a particular match at any given time, but also what consequences might arise from that victory. AlphaGo's success goes beyond questions about what it takes to excel at go, and raises troubling philosophical dilemmas about the nature and ethics of artificial intelligence and human intelligence and what it really means to be a player.

CONCLUSION

Throughout this chapter, the search has been on for games without narrative, but no true examples of non-narrative games have been found. In contrast to my predecessors who have argued that narrative exists in some games but not others, I have maintained the perspective that the emergence of narrative—spawned as it is through the subjective experience of the player through interaction with the game mechanics and the wider participatory fan community—is not only a definitive element of the play, it is a constant element. No matter how far a game goes down the path of abstraction, the player will bring back narrative through emergence the moment they engage with it.

This revelation, of course, carries with it some significant consequences for further research. For example, is the emergence of narrative, stemming as it does from subjectivity, a form of anthropomorphism? If so, can the act of anthropomorphizing truly be avoided or is it implicit in the subjective reality of any play experience? With the play experience understood as foundationally subjective, one might argue the same principle applies to similar audience experiences in cinema or literature, undermining the notion that narrative can ever be truly separated from subjectivity. There is great room for further research in this area.

Furthermore, to what extent do scripted elements enhance or disrupt the emergent experience in a game? Does the promotion of a set backstory support the play experience or interrupt it in an attempt to assert the influence of the designer over that of the player? Do all scripted elements play an equal role, or do visual elements have a stronger role over auditory ones? The subject of video game sound in particular—while explored at length by Collins in *Game Sound* and *Playing with Sound*—still requires further attention in terms of the use of sound in the production of emergent narrative.

For now, this chapter leaves with the understanding as to how narrative exists in games—even in supposedly non-narrative ones—through the mechanism of emergence. From a formalist standpoint—particularly one that sees the narrative interpretation of games as somehow threatening or at the very least distracting from the essentialist mechanical understanding of the game—narrative, emergent or otherwise, can sometimes erroneously be seen as absent from non-narrative games, if not antithetical to games in general. However, while an explicit and authored narrative can indeed be stripped from many if not most games with their gamefulness left intact, the understanding of narrative as an emergent interpretive processing of a series of experiences means that it can never be truly dislocated from games, even non-narrative ones, in the implicit sense. By allowing a game's emergent influences to be understood as narrative, games can be analyzed from contextual viewpoints without undermining the capacity for them to be understood as media worthy of analysis in their own right. Ultimately, both the player and game are worthy of analysis, but neither can truly be separated from the other, and the wider community that is generated from that interaction.

CHAPTER FOUR: PARTICIPATORY FAN CULTURE

For most of this dissertation, the focus has been on the roles of the player and the game mechanic in the production of emergent narrative, but this chapter will shift focus to the third major factor in the emergence of narrative, the participatory fan culture. This culture ultimately stems from the community surrounding the game, but it can be considered distinct from the wider cultural community in which it is located. These boundaries may be fluid or otherwise ill-defined. Likewise, individuals may simultaneously publicly identify with various cultures and subcultures—some of which may be in conflict with each other—while others might publicly reject such identification and yet subconsciously express it through their actions. In any case, while the interaction between the player and game mechanic serves as the initial catalyst for the emergence of narrative, the participatory fan culture is the means through which disparate emergent narratives can be linked together and influence each other.

While I will be outlining the central question and more specific questions for this chapter momentarily, a few key terms—namely *culture, community,* and *subculture*—will be defined in context of this dissertation. As one of the key progenitors of the field of cultural studies, Raymond Williams cited *culture* as one of the three most difficult terms to define in the English language, owing to a complicated and conflicted etymological history (87). The field of cultural anthropology, for example, ties culture to material production, while cultural studies associates it more with signifying or symbolic systems (91). Influenced by neo-Marxist political economy and nineteenth-century Romanticism, Williams himself often looked at culture through both the consumption of goods and the pursuit of leisure activities including games. For the purposes of this dissertation, however, *culture* will be understood as the collective expressive production of a particular group or society identifiable in space and time.

The term should be distinguished from that of *community* which refers to a group of individual people with a shared commonality, such as a physical location or a mutual interest in a particular game, which can lead to mutual interests, attitudes, and goals (James 26). While there is considerable overlap between community and culture, community can be understood as the physical group of individuals whose interactions produce the related culture and ultimately emergent narrative. In this sense, *gamers*—the individuals who participate in playing games—can be distinguished from the associated gamer culture that some might identify with while others reject. Furthermore, there may be individuals who associate the *gamer* culture, but do not actively interact with the games themselves. Fan culture, then is deeply connected to the game it emerges from, but it must be considered distinct from it.

Within the framework of culture, there can also be *subcultures* which are self-organized around their deviance from the mainstream culture in which they are situated. John Clarke and Stuart Hall—both also foundational theorists in the field of cultural studies—along with Tony Jefferson and Brian Roberts, describe subcultures as defined by this resistance, using their marginalization from the mainstream to develop counter-cultural identifications to oppose it (5). However, while acknowledging this defining deviance from mainstream social norms, Ken Gelder argues in *Subcultures: Cultural Histories and Social Practice* that subcultures can and should be considered distinctly from counter-cultures—although there exists considerable overlap—explaining that "[s]ubcultures are social 'worlds' and their nonconformity or non-normativity must always be understood in social terms. (4)" In other words, a subculture is fundamentally a social experience, which while it might deviate from a larger societal culture in some ways is not necessarily in open opposition to that larger culture. It does mean that the subcultures that form around particular games through the interlinking of emergent narratives

are deviant in the sense that they form a distinct entity from the culture they are situated within and their predecessor subcultures. These subcultures are ultimately driven by the interactive participation of members of their community which spreads emergence of narrative from individual experiences into a collective context.

In more recent decades, the expression of culture and subculture has increasingly been linked to digital technologies—with game cultures in particular having been impacted by this development. While digital media technology offers many unique advantages and challenges to the formation of culture, according to Hilde G. Corneliussen and Jill Walker Rettberg in *Digital Culture, Play, and Identity*, "a digital culture is, like every culture, constructed according to norms, rules, [and] traditions. (2)" In this sense, while digital technology may change the communicative means through which culture is created—and exponentially change the scale upon which it can be created—the same rules of cultural construction still apply.

In this chapter, the interaction between games and their audiences, especially their participatory fan cultures, will be explored as a continuation of the emergence of narrative from player interaction with game mechanics. The central question that will be asked is: **what is the relationship between a game's participatory fan communities and the emergence of narrative through game mechanics?** In answer to this question, it will be argued that fan communities stem directly from the emergence of narrative through game mechanics, and can in fact be seen as an extension of that emergence that feeds back to influence the continuation of the game. As with the previous chapters, this chapter will be framed by five questions, each examining in greater detail one aspect of the larger overriding question and supporting the main argument. In turn, each of these questions will be followed by a corresponding argument in support of the larger argument outlined above.

The first question will ask: **what is participatory fandom in relation to emergent narrative?** This section will define my understanding of participatory fandom and pay particular notion to how players and spectators may move between the game world and the external world. The second question will ask: **why do fan communities evolve around games through emergent narrative?** This section will discuss how games rely on the emergence of a fan community to spread their popularity to a wider audience and ultimately secure their long-term viability. As a follow-up to the previous question, the third question will ask: **how do fan communities emerge from the interaction of players with game mechanics?** In response to this question, the basis for the formation of participatory fan communities will be analyzed, spawning not only through physical playing of the game in question, but also through spectating and other metagame activities such as practice and preparation, discussions around strategy and tactics, and using game elements for cultural or subcultural identification. The fourth question will ask: **is it possible to separate analysis of a game from the analysis of its participatory fan culture, or even to consider a game as separate from the community that supports it?** In short, this section will look at ways such a separation might happen and how it might be fundamentally arbitrary, suggesting that any game that is still being played is ultimately subject to—and critically dependent on—the existence of its external fan community, meaning said community must be taken into account in order to truly understand the cultural context surrounding the game. The fifth and final question will ask**: how can knowledge of the interaction of participatory fan culture, stemming from the emergence of narrative from game mechanics, be used to better understand, design, and use games?** To this end, this section will examine how participatory fan communities, while external to games themselves, are nevertheless intrinsic to not only how games attract players and

maintain interest, but also to how games re-invent themselves and evolve over time, particularly through audience feedback loops. With this in mind, it will be shown that game designers and developers should incorporate audience feedback whenever possible and build adaptability into the game design so that games can evolve according to audience interests in ways often unpredicted by the original creators.

DEFINING PARTICIPATORY FAN CULTURE

To begin with, however, it would be helpful to clarify what this chapter means by participatory fan culture, particularly in relation to emergent narratives. In "Con Culture: A Survey of Fans and Fandom," Candie Syphrit Kington describes fandom as "a collective subculture composed of fans of [a] wide range of media whose shared interests serve as the basis of their communal identity" (211). In other words, fans are a subcultural community whose cultural identity, regardless of the particular forms of media they consume, is defined by their shared enthusiasm for a particular property or franchise, often transmedia by nature. In *Fans, Bloggers, and Gamers*, Henry Jenkins links the idea to his conceptualization of "convergence culture" as the moment when fans are central to how a culture operates (1). Although it should be noted that fandom, being critical to whether or not any medium-based franchise is successful, is always already central. While some projects may reach a large audience without a dedicated fanbase, some degree of active participation on the part of a fan-based community is essential for the project in question to achieve a long-term impact, as the participatory fan community is necessary to facilitate the transmission of emergent narrative into a cultural or subcultural identification. Some research has already been done on the "convergence culture" in non-game areas as diverse as romance novels (Radway *Reading the*

Romance 1) and comic books (Tamagawa 107). Analysis of game fandoms, such as Celia Pearce's avatar studies (215) and similar research on *World of Warcraft* fan communities (Corneliussen and Rettberg 3), however, still only scratch the surface of potential study. Incorporating a multitude of different media forms, the reliance of games on much greater audience interaction augments this convergence to a heightened extent.

Cosplay[26], for example, contains an association with play in its name. While cosplaying is certainly not limited to game characters—although video game franchises are frequently used as source material—the nomenclature implies that the cosplayer is taking a game-like approach to his or her content, imposing their own agency over a character which is not their intellectual property, but which has become their subcultural property via identification through emergent narratives. Traditionally, most cosplayers create their own costumes as well, so they assert a degree of authorship through the act of creation. Drawing on Judith Butler, Nicolle Lamerichs in "Stranger Than Fiction: Fan Identity in Cosplay" argues that "[c]osplay is a form of appropriation that transforms and actualizes an existing story in close connection to the fan community and the fan's own identity. She goes on to argue that "…cosplay emphasizes the personal enactment of a narrative, thereby offering new perspectives on fan identity." For Lamerichs, while the act of cosplaying is driven by the act of consumption of the popular culture in question, it is ultimately an act of self-identification, at attempt to assert one's own self through identification with a fictional character. In this sense, cosplay is a physical manifestation of the emergent narrative, using the mechanic of costume play to bridge a fictional characterization into reality.

[26] A portmanteau derived from "costume" and "play," *cosplay* is a form of performance art where participants dress up as—and usually act the part of—a character from a popular media franchise. It is a common activity at many fan conventions around the world.

While some members of a participatory fan community may spread elements of one emergent narrative into another, others might focus in on more specific elements within a subcultural community. Fans of a particular game's music, for example, might be distinguished from fans of the game as a totality (Collins *Game Sound* 1). Fan communities that arise around certain games, then, are an extension of the emergent narratives ultimately derived from the mechanics of the game itself. Driven by competition, rules discussion, buzz over upcoming releases or modifications, strategic analyses, and other gameful aspects, player communities arise from emergent narrative. Participatory fan communities, by extension, are fan communities that use their communal activity to actively influence the future development and design of the games in question, blurring the boundaries between designer, player, and spectator. In this sense, the relationship is increasingly a reciprocal one, leading not only to stronger ties between developer and audience, but also a greater transmedia spread of popular franchises and the convergence of popular fandoms as well as different media forms.

If participatory fan cultures are to be understood as fundamental aspects of the emergence of narrative from interaction with game mechanics, it must be shown that such interaction is capable of crossing the boundaries between the field of play and the external world. Games exist by their nature both as composite media and as interactive artificial environments, a combination of Johannes Huizinga's "magic circle" (10) and Edward Castronova's notion of "synthetic worlds," which function in parallel to the non-synthetic world, share many of its economic attributes, and can ultimately influence the non-synthetic world by effect (4). For Ivo Martinus Theodorus in *Whose Story is it Anyway?*, the participatory nature of fan interaction with a virtual environment drives the emergent narrative, overturning pre-existing boundaries of storytelling and audience:

> In a [virtual environment], the user becomes part of the fabula by taking action, and influences the narrative *itself*. Being present in a [virtual environment] rather than watching a film or a play also has implications for the narrative perspective, which becomes the first-person perspective of the user. These reasons invalidate *mimesis*, i.e., the idea that a story is being shown to an audience, as in drama.
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In this sense, the audience loses its passivity and as such becomes agential in the experience. This greater agency on the part of the audience, in turn, feeds a greater feeling of shared ownership of the content with fellow fans who wish to express their celebration of a particular art form. As this celebration increasingly spreads outside of the original framework, however, the opportunity for conflict between fans and those external to the fan community increases.

The pursuit of greater participatory fandom cultural expression outside of the original games is linked with the desire to recreate the immersion felt within the game in an external context. In this sense, the surrounding cultural motivations for playing the game or engaging as a fan threaten the sanctity of the magic circle that is said to divide the game world from the physical one. In *Homo Ludens*, Huizinga, in addition to defining the magic circle of a game as an abstract environment separate from the external reality (10), also defines play as quintessentially not serious, a voluntary release from ordinary life (8). Still though, in his defining of the play and work realms as fundamentally separate spheres, Huizinga sets himself up for a contradiction when he later expounds on the all too serious societal and cultural pressures that might lead one to engage in play:

> From the life of childhood right up to the highest achievements of civilization, one of the strongest incentives to perfection, both individual and social, is the desire to be praised and honoured for one's excellence. In praising another, each praises himself. We want to be honoured for our virtues. We want the satisfaction of having done something well. Doing something well means doing it better than others. In order to excel, one must prove one's excellence; in order to meet recognition, merit must be made manifest. Competition serves to give proof of superiority.

For Huizinga, the motivation to engage in game is nothing short of social vindication both on the field and the culture which has elevated the game to a level of social importance. In other words, the participatory fan culture has given the game experience meaning, and narrative emerges almost conversationally from the interaction between the game and its adherents. In this sense, not only are the boundaries between the player and the game broken down, but the participatory fan culture suggests they were always mere illusion. For the purposes of this section, however, it emphasizes the notion that the game world and the physical world are not entirely separate phenomena, and that participatory fan culture acts as a bridge between them.

Huizinga's magic circle, after all, is hinged on the existence of clear and definitive demarcations between that which is the field of play and that which is beyond the field of play, with the assumption being that players forego the world without in order to seek the pleasure of play in the world within (10). For Huizinga, games are first and foremost a form of organized play—emblematic, perhaps, of challenges and skill requirements of the world outside game, but still fundamentally distinct from it. While the outside world is driven by everyday necessity and the influence of reason, theoretically, Huizinga sees games as a welcome reprieve from this imposition of rationale, arguing that "We play and know that we play, so we must be more than rational beings, for play is irrational (22)." In turn, players seek the game—and by extension, spectators watch it—in the pursuit of playful satisfaction. By including spectators, and by extension the wider fan community, the division between what is the game and what is not the game is complicated by the emergence of participatory fan communities. Huizinga consistently maintains play as a leisure pursuit, a primarily frivolous activity that, while potentially beneficial as a side effect, is ultimately a distraction from reality rather than a

reinforcement of it. Nevertheless, this "distraction" becomes a primary attraction towards engaging with the game and its surrounding community in the first place and is itself indicative of an external influence.

For Huizinga, much of the appeal of games comes in the form of the capacity to assume an identity distinct from that established outside of the game. This assumption of a new player identity—one recognizable not only to the players on the field, but the surrounding community—is an integral motivation to taking up the play of the game in the first place:

> The 'differentness' and secrecy of play are most vividly expressed in 'dressing up'. Here the 'extra-ordinary' nature of play reaches perfection. The disguised or masked individual 'plays' another part, another being. He *is* another being. The terrors of childhood, open-hearted gaiety, mystic fantasy, and sacred awe are all inextricably entangled in this strange business of masks and disguises.
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Huizinga purposefully evokes theatrical imagery and language in his description of play as "dressing up" for the purposes of asserting a new identity distinct from one's original, which then becomes equally authentic as its predecessor. The parallels with media such as theatre, cinema, and literature, also reflect the immersive tendencies of these other forms of media, raising the question of why a distinction should be drawn from the choice to spend one's leisure time immersed in a game or spending it engrossed in a novel, mesmerized by a play, or enthralled by a film. All, theoretically at least, could be equally capable of producing participatory fan communities as a result of their emergent narratives.

According to Jean Baudrillard's understanding of the relationship between simulation and simulacra, all forms of communications abstract away from the referential and ultimately become a new referential (166). John Fiske's "semiotic brothels of the machine age" may have arrived a few decades earlier ("Reading the Popular" 57). If all forms of media are by

definition intrinsically semiotic, they can also be considered immersive to a certain extent in the sense that the mere facilitation of communication allows for the constant transference of authenticity onto ever diverging forms. This ultimately leads to the construction of audience communities of one form or another. The procession of the simulacra is not quite equivalent to the process of immersion that embeds the player or spectator into the game through an "optimal experience" of Csíkszentmihályi's flow (72-73). Once again, the key characteristic that separates games from all other forms of media is their placement of the audience—in the form of player—first and foremost in the procession of the interaction. This interaction facilitates the emergence of narrative and ultimately the promulgation of participatory fan communities, accelerated by the greater capacity of games to immerse the players and centralize them in the act of communication and meaningful creation through emergent narratives. In this sense, Huizinga's magic circle is not only a permeable boundary, but exists as a construction of the participatory fan community that observes it. Far from mysterious in origin, it is a rational outcropping of the process of emergent narrative.

In *Man, Play, and Games*, Roger Caillois challenges many of Huizinga's assumptions, particularly Huizinga's notion that play is somehow mysterious and therefore beyond the province of rationalization (Caillois 4). Nevertheless, Caillois reinforces Huizinga's distinction between the world of play and the world outside play, arguing that play itself is defined by its capacity for frivolity:

> A characteristic of play, in fact, is that it creates no wealth or goods, thus differing from work or art. At the end of the game, all can and must start over again at the same point. Nothing has been harvested or manufactured, no masterpiece has been created, no capital has accrued. Play is an occasion of pure waste: waste of time, energy, ingenuity, skill, and often of money for the purchase of gambling equipment or eventually to pay for the establishment… There is also no doubt that

> play must be defined as a free and voluntary activity, a source of joy and amusement.
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> 5-6

Like Huizinga before him, Caillois sees play as primarily a pursuit of pleasure at the expense of practicality, yet in his attempts to understand the nature of play in purely industrial terms—such as the production of goods or value—he errs on the side of reduction, ignoring the external impact the play of a game might have on its surrounding community. All the players are not at the same point at the end of the game as they had been at the start. The act of playing the game, and their interaction with it, has ultimately constructed an emergent change. This change could be as basic as the establishment of a victory of one side over another or perhaps the feeling of satisfaction from completing a bout of physical exercise. It could also, however, have dramatic effect, such as the influence of a team winning a major championship on a wide fandom, and in turn affecting enterprises who feed off of that fandom. In this sense, the emergent narratives from game-play might have a lasting impact on the external community through interaction with the participatory fan culture. One could argue that an unforgettable play in a major game constitutes a masterpiece of experiential art, one that may historically have been lost save to those who observed it, but now can be preserved in time through the recording of a game. The question of free and voluntary is contested through Caillois' discussion of professional sports (6), but even in the pursuit of game play for mere "joy and amusement" the impact through emergence can be far more broadly spread.

Nevertheless, some game scholars have challenged this notion that immersion in a game reaches such a state that a player becomes fully embedded in the game and cut off from the exterior world, arguing that full immersion is a fantasy. In *Rules of Play*, Katie Salen and Eric Zimmerman take a critical stance against this popular interpretation of the relationship

between game immersion and Csíkszentmihályi's flow (76), arguing that the assumption that immersion in game is so complete that a player can completely disregard the outside world to be insufficiently supported by evidence:

> The immersive fallacy is the idea that the pleasure of a media experience lies in its ability to sensually transport the participant into an illusory, simulated reality. According to the immersive fallacy, this reality is so complete that ideally the frame falls away so that the player truly believes that he or she is part of an imaginary world.
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Salen and Zimmerman's "immersive fallacy" is intended as a rebuke of the assumption that players play games primarily to "transport"—to borrow a term from Gordon Calleja's *Immersion* (32)—themselves into a new reality. Instead, Salen and Zimmerman—primarily speaking to an audience of game designers—argue that players engage with games, not due to some ill-defined primordial desire to discard their everyday reality for a synthetic one, but rather to feel the satisfaction of engaging with compelling and appropriately challenging game mechanics. In this sense, both players and fans alike engage with the game as a product of participatory fan culture and the satisfaction that its emergent narratives provide. For his part, Calleja—who argues that games represent a uniquely immersive medium through their capacity to effectively implement telepresence (18)—recognizes Salen and Zimmerman's point of view, but counters that the distinction between immersion as transportation and immersion as absorption is still ill-defined and that both forms of immersion could arguably be at work (32). In either case, the separation of the player and the game from the wider world remains incomplete, leaving a place for participatory fan culture to have influence.

In part, Salen and Zimmerman's rejection of games as vehicles of total immersion—implicit in their use of the term "fallacy"—could in part be motivated by a desire to separate games from detractors who could use the notion that gamers reject reality in favour of

virtuality as evidence of the addictive tendencies of the games. This in turn could be used to charge game designers as knowingly culpable in the permutation of addiction and other unhealthy behaviours on the part of the gamer, enabled by the participatory fan culture and shared emergent narratives. Questions surrounding the potentially addictive nature of games have been around for many years, and in 2007, S.M. Grüsser, R. Thalemann, and M. D. Griffiths published a study on "Excessive Computer Game Playing: Evidence for Addiction and Aggression?" in the journal of *Cyberpsychology & Behavior*. Using a sample size of 7069 gamers, Grüsser, Thalemann, and Griffiths found that nearly 12% of participants met the criteria for addictive behaviour; a strong minority, sizeable enough to not easily dismiss (290-292). However, while they found games to be potentially addictive in certain cases—and by extension a sociological and psychological cause for concern—they also found little evidence of the supposed connection between excessive game-play and violent or aggressive behaviour (292), suggesting that total immersion in a game—to the point of total disconnect from the player's external reality—is still something of a fallacy.

This understanding of the game-worlds and the external worlds as blurred through participatory fan culture undermines the traditional notion of games as vehicles of escapism, an emergent desire to avoid the problems of the external reality by immersing oneself in a virtual environment (Kaczmarek and Drążkowski 298). This notion that players and fans immerse themselves in a game—or the subculture surrounding a game—in order to escape their everyday realities implies a reconstruction of the boundaries between the play world and the real world through the participatory fan culture itself. Certainly, there is some evidence of a correlation between "problematic use" of a virtual environment and poor psychological well-being. In their study on "The Impact of Massively Multiplayer Online Role Playing Games

(MMORPGs) on Psychological Wellbeing and the Role of Play Motivations and Problematic Use" published in the *International Journal of Mental Health and Addiction*, Amy Kirby, Chris Jones, and Alex Copello collected data on the health, play motivations, social status, and psychological well-being of 565 participants in MMORPGs (36). They found a correlation between those players categorized with problematic usage—defined as those participants who engaged in the game an extremely high number of hours and who reported significant interferences between the game and their non-game life—with higher rates of depression, anxiety, insomnia, and other indicators of poorer psychological well-being (45). This discovery represented correlation not causation, however, and may be more indicative of other factors in the lives of the players in question leading them towards problematic play. Furthermore, it should be noted that this study focused specifically on players, rather than fans specifically, and therefore may have missed key distinctions between them.

This notion echoed a similar conclusion by Daniel Kardefelt-Winther in his study on "The Moderating Role of Psychosocial Well-being on the Relationship Between Escapism and Excessive Online Gaming." in *Computers in Human Behavior*, where he argued that individuals with pre-existing psychological conditions were engaging excessively in games as a "compensatory" measure (73). Kirby, Jones, and Copello also noted that "engaged" players, that is to say players who had a more balanced relationship between participation in the virtual environment and responsibilities in the real world, did not seem to exhibit these negative psychological effects and sometimes exhibited positive ones, particularly through their social interaction with the participatory fan community. In a third similar study—"MMORPG Escapism Predicts Decreased Well-being: Examination of Gaming Time, Game Realism Beliefs, and Online Social Support for Offline Problems," in *Cyberpsychology, Behavior, and*

Social Networking—Lukasz D. Kaczmarek and Dariusz Drążkowski had similar results to Kardefelt-Winther and Kirby, Jones, and Copello, concluding that it was detachment from both online and offline mechanisms of social support that was driving the decrease in psychological well-being of players with excessive play-times (300). In the end, these studies demonstrate that while constructing the player and the game in isolation from their surrounding society can have unhealthy psychological results, enabling a social support system can have an ameliorating effect. In other words, games that, through emergent narrative, create the conditions for a healthy and reciprocal participatory fan culture may be more enhancing experiences than escapist ones.

While historically perceived with negative connotations, some game critics—notably Jane McGonigal—have challenged the assumption that player desire to "escape" into virtual worlds exposes something inherently broken with games, arguing instead that the problem lies in the external reality itself. In *Reality is Broken*, McGonigal argues that a disconnection exists between gamers and the outside world, but it is an outcropping of the failure of present-day social structuring to provide satisfaction in their day-to-day lives.

> Gamers have had enough of reality… These gamers aren't rejecting reality entirely. They have jobs, work, families, commitments, and real lives they care about. But as they devote more and more of their free time to game worlds, the real world increasingly feels like its missing something… Reality, compared to games, is broken… In today's society, computer and video games are fulfilling genuine human needs that the real world is currently unable to satisfy.
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For McGonigal, the gamers' break from their external reality is ultimately the fault of that reality's inability to grant the player the same level of achievement that the games can provide. Uncompelled by the narratives of their everyday existence, these gamers turn to the emergent narratives of virtual environments and the social support mechanisms of participatory fan

cultures. While McGonigal notes that most gamers do not and cannot separate themselves entirely from their "real world" commitments, she goes on to argue for increased immersion in games as way of using the medium's innate emergent attributes to address social problems (10) and ultimately to "fix" reality (7). In her view of games, games can be used, not as vehicles of escapism, but as a means of increasing engagement in life (349).

McGonigal's optimistic approach—with game designers described as "happiness engineers" and life goals identified as "epic wins" (*Reality is Broken* 183)—to game studies is not without its critics. Her close colleague, Bogost, entitled his review "Reality is Alright," targeting her main premise that games could be used to fix reality. Assuming an arguably more cynical posture, Bogost nevertheless calls for an embrace of reality in all its messiness rather than an idealized march towards an impossible solution:

> I don't think reality is broken. It's messed up and horrifying, sure, but we don't get to fix it, ever. It's flawed and messy and delightful and repellent and stunning. Reality is alright… And I don't think games are happiness engines either. They are complex rusty machines built to show us that the world is so much bigger and weirder than we expected. For me, the solutions we find through games do not lead us to more successful mastery of the world, but a more tranquil sense of the elusiveness of that mastery… Where she values happiness and epic wins, I value wonder and sublimity.

For his part, Bogost's preference for "wonder and sublimity" could be construed as equally idealized as McGonigal's pursuit of "happiness" and "epic wins," albeit in a less teleological direction. Interestingly, however, both view games as a means to distance one's self from the world, while simultaneously reflecting of the world. While Bogost may not share the utopian visions of McGonigal, he still allows for the use of participatory fan cultures to traverse game and real-world boundaries to generate more positive outcomes through emergent narratives, particularly through the work of persuasive games (Bogost *Persuasive Games* 46). In the end, while games may never fully toss aside their association with escapism—and indeed, it may be

against their nature to do so—these immersive tendencies, while potentially the instruments of negative outcomes, can nevertheless be utilized in the pursuit of positive, if not perfect, results.

For the boundaries between the imagined worlds of games and the mundane world of reality to be demonstrably not only broken, but traversable through the interaction of emergent narratives and participatory fan cultures, the delineation between players and fans needs to be clearly demarcated. While the player's interaction with the game mechanic causes the initial event of narrative emergence, it is the transmission of that event to the wider participatory fan community through the intervention of the fan that ultimately affords the emergent narrative a much wider social meaning. The player and the fan, however, can certainly be the same person, and one person might switch back and forth between the roles in differing circumstances. Ultimately, these roles are connected to the evolution of these fan cultures which will be explored in the next section in greater detail.

THE EVOLUTION OF PARTICIPATORY FAN CULTURES

With an understanding of the relationship between games and escapism, the question of why fan communities evolve around such media becomes necessary. While games seemingly drive players away from external societies, the emergence of fandom and player communities demonstrates an ability of the interaction between players and game mechanics to feedback on their external communities. In this sense, the escapism of a game is more akin to the "escapism" of a vacation, whereby the traveller leaves home, becomes enriched by his or her experience, and returns to impart that enrichment on the community from which they came or possibly forge a new one. As players bond over their shared experiences with games—both inside and outside the frameworks of play—the community surrounding the game achieves a

cohesive identity and can ultimately be exported well beyond the initial field of play. While the magic circle serves as the emergent site of origin, the interaction between player, spectator, and the world outside, its boundaries are blurred and the emergence of narrative remains ultimately driven by the interaction with the mechanics of the game.

In effect, fans of a particular game—be they player or spectator—are drawn to like-minded fans as a means of extending their positive engagement with the experience. While certainly single-player games can be enjoyed in the company of one's self, a cultural context is nevertheless necessary both to introduce a player to the game—and assure that the player has the requisite skills necessary to engage with it. Furthermore, a play experience is never fully held in isolation, linked temporally to the influence of preceding play experiences and an undeniable influence, albeit to varying degrees, on the player's approach to subsequent game sessions. Likewise, in order to validate his or her engagement with a game—or at the very least to derive expressive meaning from it—a player or spectator must inevitably approach the experience through discursive rhetoric, which in turn requires a sharing of elements with a wider community. In other words, in order to establish his or her own identity in relation to the game experience, the player or spectator compares or contrasts his or her experience vis-à-vis the experience of others. Even if the player chooses never to discuss his or his experience with a game with another person, that experience has already been informed by both past personal play experiences and familiarity with the previous play experiences of others in other games. Furthermore, even without a formal public discussion, the player's experience will ultimately—even if it is at a subconscious level—inform his or her future play experiences and interactions with members of the participatory fan community. In this way, the emergence of narrative from the player's interaction with the game leads inexorably to engagement with a

wider cultural context, ultimately impacting and expanding the wider participatory fan community.

This community, of course, can also have an impact on further designs and adjustments to pre-existing game designs, creating a critical feedback loop as part of the participatory nature of Jenkins' convergence culture (*Fans, Bloggers, and Gamers* 1-2). For Jenkins, the fans' desire to embrace the wider community is at least partially motivated by a desire to assert ownership over a beloved franchise at least through a shared emotional attachment to its characters, narratives, and mechanics. By embracing aspects of the collective community of a game fandom, a fan reinforces his or her own play identity:

> The fan constitutes a scandalous category in contemporary American culture, one that calls into question the logic by which others order their aesthetic experiences, one that provokes an excessive response from those committed to the interests of textual producers… Rejecting "aesthetic distinction," fans passionately embrace favored texts and attempt to integrate media representation within their own social experience… Like cultural scavengers, fans reclaim works that others regard as "worthless" trash, finding them a source of popular capital…. Fandom is a vehicle for marginalized subcultural groups (women, the young, gays, and so on) to pry open space for their cultural concerns within dominant representations, fandom is a way of appropriating media texts and rereading them in a fashion that serves different interests, a way of transforming mass culture into popular culture.
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> Jenkins *Fans, Bloggers, and Gamers* 39-40

For Jenkins, the act of fandom of a particular game represents in itself an act of emergent resistance towards a wider "mainstream" culture that may not hold these particular texts in quite so high a regard. By embracing these texts as quintessential aspects of their cultural—or in this case subcultural identity—fans reject "aesthetic distinction" and attempt to incorporate media representation in ways that ring true to their personal experience, and therefore interpretation, with the text in question. In many ways, Jenkins sees fan communities as an extension of Fiske's "semiotic brothels" (*Reading the Popular* 76), agreeing with Fiske that not

only can games serve as resistive identity engines for the player (Fiske *Reading the Popular* 65), but also as refuges for the subordinate (Fiske *Reading the Popular* 69).

This articulation of fan communities as fundamentally spaces of emergent resistance towards mainstream cultural influence, however, does not appear to hold as equally true for all games. For many sports for example—in particular those with widespread media coverage, financial investment, and embrace from the national culture such as ice hockey in Canada or association football in Brazil—games and their surrounding communities can be often used to reinforce rather than resist established cultural hegemonies. In the Olympic Games, for example, the success of a national team can be used to rally supporters in the team's home country, constructing support for their national cultural identity through a nationally recognized participatory fan community. Certainly, mainstream sports can be used as vehicles to challenge cultural assumptions within that national culture—such as the introduction of Jackie Robinson to major league baseball undermining the imposition of a colour barrier (Robinson and Wendell 10)—but they can also act as a force of conformity for mainstream identification, celebrating the games that have achieved widespread cultural acceptance and dismissing those that have not.

This is not to say that the resistant fan communities of Jenkins and Fiske do not exist, as even in the most widely established game communities there is always an element of emergent resistance. However, it should be noted that—like any human social grouping built around the concept of shared identity—subcultural participatory fan communities are also built around not only the shared cultural identities they exclude, but also the internal identities they impose. In this way, game communities must, on the one hand, push against the characteristics they define themselves against, while, on the other hand, pull their membership into the same

subcultural vicinity through the pressure of conformist tendencies. While this dichotomy is an essential aspect of any establishment of cultural identity, in its very construction it embodies a certain inevitable tension between what members think the group is and what it should be. As fan communities are ultimately constructed communities, their construction and deconstruction is also a perpetually ongoing process, meaning their shared identities must also incorporate a degree of dynamism. In this way, not only must these communities forge themselves in resistance to the external world, they must impose an external consistency while at the same allowing a degree of flexibility in order to remain adaptable to ever evolving identification. All in all, this tension can often rise to the point of catastrophe, leaving the fan community unable to maintain internal cohesion. Under these circumstances, fandoms might be torn apart from within, overly dedicated to the new evolution and detached from their historic identity, or stubbornly resistant to the need for adaptation itself, rendering the community increasingly nostalgic and ultimately obsolete.

In recent years, this tension within the digital participatory gaming community was perhaps most intensely represented by the explosion of the GamerGate controversy in 2014. This controversy was sparked when Eron Gjoni—the ex-boyfriend of indie game developer Zoë Quinn who won critical acclaim for her Twine game *Depression Quest* earlier that year—accused[27] Quinn of pursuing an unethical romantic relationship with a reviewer for the game (Todd 64). In a matter of weeks, an online campaign quickly spiralled into a loose movement mainly aimed towards feminist game critics and often resorting to all out harassment and threats of death, sexual assault, and other injuries. While the GamerGate movement seemed heavily influenced by—if not outright motivated by—misogynistic tendencies as well as the

[27] Gjoni later retracted the accusation when it was proven false.

assumption of unethical journalism, the larger battle was ultimately around the notion of gamer identity, the definition of which—in a world where the availability of a diverse range of games from a wide array of creators was growing exponentially (Shaw and Chess 279)—had begun to significantly erode away from its historical roots. In her commentary on "GamerGate and Resistance to the Diversification of Gaming Culture," Cherie Todd reflected that:

> As a result of […] gender imbalance, the culture of games continues to be heavily influenced by highly masculinist discourse. There is an increasing diversification of gaming culture that is occurring due to the growing popularity of games. While many perceive this to be a positive step, there are some who are resistant to these fundamental shifts and who do not want the culture of games to change.
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According to Todd, the GamerGate furor was driven by a perception that the foundational gamer identity was under threat. This anger had been fuelled by the speculation that the gaming industry's inexorable movement towards greater diversity came at the expense of a previously more niche, and therefore less culturally mainstream, state.

The past authenticity of this pre-diverse gamer identity was in itself a constructed emergent identity, and not necessarily one reflective of a past reality. In *Social, Casual and Mobile Games: The Changing Game Landscape*, Tama Leaver and Michele Willson open with a challenge to previously held notions of what constitutes a gamer:

> While the term 'gamer' probably evokes a particular image for many people—perhaps the stereotype of the nerdy white male teen playing on multiple screens in his parents' basement, wearing a headset and rarely seeing sunlight—the term has never been representative of all or even the majority of people who play video games... The average age for video game players is not underage, but between eighteen and forty-nine years, with almost as many female players as there are male. The games industry has seen an increase in the number of women producing games as well, further challenging any singular stereotyping of gamers or game creators. Yet perhaps the biggest change in the game landscape is the increase in the range of devices and platforms on which games can be played. As online social networks such as Facebook facilitate social games played with a user's social network, and mobile devices such as phones and tablets mean almost anyone can

> take a suite of game apps wherever they go, games have become increasingly ubiquitous.
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> 211

For Leaver and Willson, the gamer identity has always been a constructed, artificial, and ultimately ethereal phenomenon, but recent technological and cultural developments have forced the dilution of the gamer stereotype and left some members of the participatory fan communities struggling to reconcile with the speed of change. The profusion of an ever-diversifying range of platforms has brought with it an increasingly diverse community of people engaging with games, even if they do not necessarily self-identify as gamers. In the end, the increasing ubiquity of gaming has pushed the emergent culture that surrounds it far from Fiske's semiotic brothels more towards mainstream dominance. In the process of the fragmentation of past constructed identities, the new identities became increasingly convergent as gamers, resistant or otherwise, must inevitably join the mainstream culture they once theoretically resisted.

Some critics, such as Bogost, have even called into question the continued relevancy of the gamer label, arguing that "as videogames broaden in appeal, being a 'gamer' will actually become less common, if being a gamer means consuming games as one's primary diet or if identifying with videogames as a primary part of one's identity" (*How to Do Things with Videogames* 154). The gamer identity has not disappeared entirely, but in its adoption into ubiquitous mainstream cultural acceptance, it promotes a greater deconstruction, a more specific breakdown into niches and sub-groupings from which new sub-cultural participatory fan communities can emerge. Instead of a broadly defined gamer community, communities may be defined by genre—such as Japanese-style role-playing game (JRPG) fandom such as the *Final Fantasy* series or community of players around a specific first-person shooter (FPS)

such as *Counter-strike*. Casual players may resist any and all gaming monikers altogether while still engaging in game-play on a regular basis. These new emerging niches may serve as their own bases of subordinate resistance, precipitating the repeat of the cycle all over again.

In the end, however, this circular movement from the creation of niche subcultures to mainstream acceptance of those subcultures, leads to the profusion of new niche groups who reject that cultural mainstream acceptance and the cycle continues anew. This is not a phenomenon unique to gaming. In fact, it can be widely identified in many forms of popular media ranging from film to television to literature and even music genres. Certainly, there are parallels between game-based participatory fan communities and the participatory elements of other media fandoms, but the interactivity focus of games augments the factor of fan participation in the game development to a larger extent. The third question of how fan communities emerge from the interaction of players with game mechanics, will be answered here not only through examining the play of the games themselves, but also through the interaction with the observing audience and the use of game elements for cultural identification.

INTERACTION AND FANDOM

As established in earlier chapters, the emergence of narrative from game mechanics is the driving force behind the development of a participatory fan community around a particular game community or game-related transmedia franchise. This emergence is felt, not only by the player or players immediately playing the game, but also by the community observing the play, the spectators, and by extension the broader fandom in which the game is situated. Cultural contexts are always pre-existing conditions for the players, even before playing the game for

the first time, but are invariably modified, even if only slightly, by the act of interaction with the game mechanics.

Participatory fan communities, then, emerge from the interaction of the players with the game mechanics as a consequence of the emergence of narrative from that game mechanic. As Christian Metz and H. Porter Abbot argue—in *Film Language* and *The Cambridge Introduction to Narrative* respectively—narrative is fundamentally an attempt at deriving meaning through interpretive experience of a discursive unfolding of events (28; 3-4). Meaning, however, cannot exist in a vacuum. In order to achieve a requisite level of validity, interpretive meaning must inherently be recognized by a cultural group for whom the interpretation bears relevance. By finding meaningful value in the games that they play or watch, members of a play community inadvertently lay out the foundation for the emergence of that community, defined by its emotional attachment to the game in question. Anyone with the necessary ability to play the game—or at least the capacity to watch it and understand it to a certain degree—can therefore be considered a member of that community, even if tangentially.

It should be noted that this participation in the community may be almost involuntary. Despite Huizinga's and Caillois' assertions to the contrary (10; 6), play can be rendered compulsory, particularly when it is included as part of an educational program or a fitness regimen. Furthermore, the social pressure to play can effectively force a resistant player to become engaged in a game or risk social alienation. Furthermore, as Caillois does note with professional players (6), the occupation of playing a game professionally does occur for a select few and undermines the notion that play must always be voluntary. With this in mind, it should be noted that most games, however, remain largely voluntary. However, like the

blurring of the boundaries of the magic circle before it, the voluntary status of games may be considered more of a varied and ill-defined spectrum than previously thought.

With participatory fan communities being an outcropping of the emergence of narrative from play mechanics, it reasonably flows that these communities are equally fluid in their membership. While some groups of fans may seek to organize themselves along official lines, the reality is that anyone's interaction with the game mechanics—be it directly as a player or indirectly as a spectator—involves him or her, at least to some extent, in the surrounding play community. As such, one could unintentionally stumble into engagement with the participatory fan culture simply by coming across a game in action and having a curious mind about it. It would not even, necessarily, have to be the game itself. Seeing an athlete training for example, might raise questions as to the ultimate goal of the training exercises, and some players, in an effort to hone their skills, commit far greater time to practicing a game than actually playing it. In the sport of golf, for example, the profusion of driving ranges and miniature golf has allowed for the spin-off construction of practice-driven facilities, or whole new games in the case of miniature golf, that have emerged from the original game into an increasingly independent form. In many respects, this progression represents another instance of the niche to mainstream to niche to mainstream cycle.

Many participatory fan communities are also exemplified by their active emergent discussions—be these discussions carried out online, in person, or over other types of media. These conversations perpetuate the participatory fan culture in between games, increase the intensity of key matches, and facilitate the competitive expression of various rivalries. In general, these rivalries can be used to encourage spectator association with a particular team or a player—or heighten the emotional intensity of competition between rival teams and

players—which feeds into the subcultural identification with one particular athlete or group in strict opposition to another. Sometimes these rivalries can be friendly—as underpinned by the idealized principle of good sportsmanship—but they can also turn ugly as well, as demonstrated by the violent hooliganism of Russian fans at Euro 2016 association football tournament (Millward). While using rivalries to define who they are against, many fans will also use aspects of a game, such as souvenir uniform, for their own cultural identification. In this sense, games serve as cultural touchstones, individual elements that can connect a disassociated mass of people that might not otherwise have much in common.

Sports, however, while seemingly stable in popularity are not always so, and the popularity of a given sport can ebb and flow tremendously over time. Likewise, new sports, or novel evolutions of older ones, arise on a consistent basis. One in particular, the sport of quidditch, emerged directly from a participatory fan culture, in this case that which surrounds the *Harry Potter* series of young adult novels by J.K. Rowling and the subsequent film franchise it spawned (Cohen and Peachey 522). Distinguished from its fictional literary inspiration by its use of a lower case "q," the physical world sport of quidditch grew out of the imaginations of two fans of Rowling's work, Xander Manshel and Alex Benepe, who, while attending Middlebury College in 2005, had become dissatisfied with the traditional sports on offer and opted to design something more akin to the magical game that involves flying on broomsticks in a fantasy universe (International Quidditch Association). This game exemplifies the means by which participatory fan communities can receive emergent understandings of a transmedia franchise and provide active feedback in reconstructing it towards their own means.

Quidditch, an example of what Adam Cohen and Jon Welty Peachey call an "alternate sport" (522), is a rather unique popular approach to designing athletic competition based on the

ideas of a participatory fan community. Like its compatriots in eSports but unusual amongst physical games, quidditch is a sport based on a privately held intellectual property. Unlike most eSports, however, the International Quidditch Association (IQA) has so far not received any official recognition or association from the official holders of the intellectual property in question, in this case Warner Bros. and J. K. Rowling. In this sense, the sport acts both as a celebration of the original fictional variant of the game—and indeed, perhaps the closest real-world immersive realization of the physical playing of the game for a fan living in a world in which broomsticks are not in fact airworthy devices—as well as a point of resistance against the official rendition of the game. By choosing to take the main attributes of the fantasy game and translate them into a real-world context, Manshel and Benepe also invariably impose a degree of their own authorship on the game, allowing their interpretation of Rowling's game to emerge into a physically playable prototype.

Rowling, for her part, never intended for quidditch to be a viable game design concept. Her initial concept for the game as depicted in her novel series was meant to be a parody of the obsession with sport in the British culture around her. In other words, as Rowling explains, quidditch was meant to be something of an anti-sport sport:

> [Quidditch] was invented in a small hotel in Manchester after a row with my then boyfriend. I had been pondering the things that hold a society together, cause it to congregate and signify its particular character and knew I needed a sport. It infuriates men...which [was] quite satisfying given my state of mind when I invented it.
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> Furness

For Rowling, the idea for quidditch emerged not from acceptance, but from frustration with a particular participatory fan community. This underlying motivation behind the design of the fictional game was exemplified by the overly complex and chaotic rules of play—which simultaneously featured three active and distinct balls, as well as four different active player

types and a purposefully unbalanced scoring system. The fictional variant of the game is fundamentally and intentionally broken. The golden snitch for example, is worth 150 points and automatically ends the game once captured whereas most other scores are only worth 10 points. The fictional variant of the game, of course, also heavily relies on magic. These issues, however, were addressed by the participatory fan community through emergent narrative forms of play that could be practical and more game-worthy in the physical world. The "muggle" version of the game balanced the scoring by making the snitch worth only 30 points, changing the snitch from a flying enchanted golden ball to a tennis ball wrapped in a sock and tucked in the waistband of a neutral athlete dressed in yellow who runs around, taunts the players on both teams, and can even venture away from the pitch in an effort to avoid the capture of the snitch by either of the team's seekers. The field itself features three hoops at each end through which an opposing chaser might throw a quaffle in order to score 10 points. If the chaser is hit by a bludger—a ball made of iron in the fantasy version and a dodgeball in the real-world version—they are required to drop any quaffle they are holding and return to their team's goal post before mounting a new offense. Overall, the resulting play is far more chaotic than most real-world sports, as the design purposefully lacks a central focus, with multiple widely-diverse actions being performed simultaneously in separate portions of the field and surrounding area. As a replacement for the flying broomsticks in the fantastic version, real world quidditch players are expected to run with a broom between their legs as they progress in the field, incurring a penalty if they fail to do so (International Quidditch Association).

In this sense, quidditch has been able, minus a few changes due to practical considerations, to largely translate Rowling's game into a physical world setting with many of the same design attitudes still intact. Unlike many sports, so-called "muggle" quidditch is

unabashedly literary—the IQA continues to promote literacy campaigns as part of its marketing of the sport—and intellectual in its construction, often critiquing the conservative nature of more established sports by promoting more progressive policies. The sport's official approach to gender, for example, is based on emergent gender identification not biological sex, and boasts an inclusionary policy towards all genders not simply the male and female ones. Furthermore, the sport is fundamentally co-ed, arguing that no more than five players who identify with the same gender may be on the field at any given time (Cohen and Peachey 524). In the spirit of the sport's embrace of grassroots fun and participatory fandom—in particular its motto of "creativity, community, and competition" (IQA; Cohen and Peachey 522)—many of its players have been encourage to employ unorthodox jersey identification such as adopting numbers like π or ∞ instead of traditional whole numbers. Today, the IQA holds bi-annual World Cup tournaments and facilitates quidditch teams from 20 nations across six continents. The example of quidditch represents a clear demonstration of the engagement of a fandom with the emergent narrative of a game mechanic; first with an engaging fictional fantasy portrayal of the mechanics and then a real-world adaptation driven by the participatory fan culture.

Of course, muggle quidditch is certainly not the only example of a participatory fan culture generating its own original content derived from a popular source material. *Filk music*[28], for example, has been used by fans for decades to re-appropriate popular culture ideas through their own musical lens (Coppa 41). Another example would be fan fiction,[29] where fans consciously adopt popular franchises and create new unofficial storylines based on their

[28] Generally associated with speculative fiction fandoms—particularly science fiction, fantasy, and horror—*filk music* refers to fan-made music derived from a popular franchise. It often borrows key elements, such as melody or plot points, and frequently acts as a form of parody. The name is derivative of folk music where the genre has roots.

[29] Also referred to as *fanfic*, this form of storytelling features fan-produced new narrative material based on a popular work without official licensing from the work's original author or copyright-holder.

own discretion. In *Textual Poachers: Television Fans and Participatory Culture*, Henry Jenkins explains this act of reclamation:

> Fan writing builds upon the interpretive practices of the fan community, taking the collective meta-text as the base from which to generate a wide range of media-related stories. Fans, as one long time Trekker explained, "treat the program like silly putty," stretching its boundaries to incorporate their concerns, remolding its characters to better suit their desires
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> 159

For Jenkins, the fans are actively exerting their agency by creating original material based around their favoured franchises. These acts—and those of filk music and cosplay for that matter—are ultimately acts of conscious authoring. While these narratives emerge from the participatory fan community—often in response to ideas that emerge within—their premediated construction separates them from the often-accidental emergence of narrative that is derived from the interaction between a player and a game mechanic.

While emergent narrative is not devoid of elements of authorship—as was discussed at length in the first chapter—it is nevertheless distinct from the traditional act of authoring, instead serving a natural consequence of the act of interaction. In the case of participatory fan communities, the emergence of narrative is produced more through the conditions of interaction rather than through a scripted act. This distinction between natural emergence and intended authorship raises the question of to what extent the fan and the object of their fandom—for the purposes of this dissertation, the game—can be effectively separated. This fourth question will serve as the main area of discussion in the next section.

THE SEPARATION OF GAME AND FANDOM

It has been demonstrated how important a role participatory fan culture can serve, not only in the emergence of narrative from game mechanics, but also in the ongoing development of the games themselves. In this respect, the question of the possibility of separating analysis of a game from the analysis of its participatory fan culture can be raised. Even so, the reliance of games on interactivity—and consequently the reliance of interactivity on a certain number of players with which the game can interact—eliminates the capacity to remove players, and the ensuring participatory fandom they represent, entirely from a game. Participatory fan culture is an unequivocal aspect of what makes a game meaningful and relevant, and therefore worthy of study.

This separation between game and participatory fan community is not unlike the dichotomy between player-focused studies and game-focused studies that has been a major factor in game studies research in recent years (Juul *Half-Real* 35). Still, just as the game cannot fully be removed from the player and still retain its status as a game, so too can the player not fully retain his or her status as such without emergent interaction with the game. By extension, neither the player nor the game can be analyzed in isolation from the culture that spawned it—and the participatory fan culture that embraced it. Viewing the game, the player, or the participatory fan culture in isolation neglects major aspects of what makes that game important and at best creates an incomplete understanding of the game in question. In this way, separating a game from its surrounding community—a delineation which occasionally may appear to be useful—as a subject of research may be theoretically possible. However, it would ultimately be arbitrary and more than likely undermine the intended goals of the researcher in question.

However, it should be noted that while the player and the game are related, they are not the same entity. In the conclusion of *Half-Real: Video Games between Real Rules and Fictional Worlds*, Jesper Juul articulates this distinction through the means by which both interact with the external world:

> That the rules of a game are real and formally defined does not mean that the player's experience is also formally defined. However, the rules help create the player's informal experience. Though the fictional worlds of games are optional, subjective, and not real, they play a key role in video games. The player navigates these two levels, playing the video game in the half-real zone between fiction and the rules.
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> 202

By defining the relationship as "half-real", a notion important to inspire the book's title, Juul attempts to reconcile the real and artificial elements of the game universe through the straddling mechanism of interaction. Still though, by clinging to the assumption that one of the world's is real and the other is not—or rather that one world is more real than the other—he obfuscates the capacity by which interactions with a fictitious game world might have fully real emergent consequences. As Edward Castronova notes in *Synthetic Worlds*, the game world may be a fictitious place, but "events inside games have effects outside of them" and vice versa (4). Castronova goes on to note that these effects are carried between the game world and the external world by the fans themselves, in other words by the mechanisms of participatory fan communities.

Understanding the limits of what can be considered the participatory fan community can be tricky. Just as the boundary between where the game ends and the community begins can ambiguously defined, so too can the extent of what constitutes a community around the game. A casual gamer, as mentioned by Leaver and Willson, may not see the need to identify as a gamer (2-3), or even resist the imposition of the identification by a third party, even if he

or she engages in games regularly. The membership of the community, then, is driven fundamentally by participation, both in the game and in the larger discourse surrounding it, with weak membership afforded to those who only sparingly engage in either. Even if a player does not engage in the larger discourse his or her experience—in some form—is informed by what elements of the discourse do reach him or her. In this sense, the two classic categories of casual gamers and hard core gamers emerge, distinguished both by their differing levels of enthusiasm for the game in question, as well as their differing levels of willingness to self-identify as a member of the game's corresponding participatory fan community (Juul *A Casual Revolution: Reinventing Video Games and Their Players* 26).

This dichotomy has become rather visible in recent years through the burgeoning populations of casual gamers in comparison to the relatively mild growth or even stagnation of hardcore gamers. As noted by Leaver and Willson, the behavioural trends of recent years have demonstrated a clear and decisive shift towards casual gaming, particularly thanks to the profusion of smartphones, tablets, and other mobile devices (2). As demonstrated to a certain extent by the backlash surrounding the GamerGate controversy—and the highly reactive and emotionally aggressive campaigns that arose from it—there is visibly genuine anxiety towards this turn towards the casual gamer (Shaw and Chess 279). For some in the hardcore participatory fan community in particular, there is a tangible feeling that the ground upon which they have built their present identity is becoming inevitably lost to a vaguely understood force of change. This causes some hardcore fans to lash out at the perceived progenitors of that change, even if these actions may be misguided, unethical, and overly destructive. This form of resistance, however, is ultimately futile. The push towards more casual gaming is driven—as with most dramatic changes in the digital gaming community—by the two-pronged influence

of both changes in available technology and the widespread cultural willingness to adapt said technology for the use of games, combined with the developers' pursuit of profit in an increasingly lucrative area. Still, the emergent narratives are perpetually moving and adjusting and any attempt to hold the status quo in place must ultimately and invariably fail.

The hardcore participatory fan communities, however, have not disappeared entirely, nor did a majority of the community condone the GamerGate harassment campaigns or the exclusion of casual gamers from the field of play. Indeed, while hard core gamers have perhaps been losing relative proportion of the market share when compared with casual gamers (Leaver and Willson 1), their ranks—assuming them to be gamers who both play regularly and identify as such—have nevertheless still grown tremendously relative to the numbers of hardcore games in past decades (Leaver and Willson 1). Furthermore, the ease of access to the Internet—and user-content driven delivery of fan-based channels on video on demand sites such as *YouTube*—have promoted communication between fans, and the sharing of recorded experiences of emergent narrative interactions with game mechanics, to unprecedented levels. At the time of writing, the most widely watched and subscribed channel on *YouTube* was that of Felix Arvid Ulf Kjellberg's, better known as PewDiePie, *Let's Play* series of video game reviews has attracted over 46 million subscribers and over 12 billion views (*YouTube*). These online series, many of which rank among the most successful on *YouTube*, are ultimately emergences of the participatory fan culture of the games that they feature. Interest in these programs is supported by the notion that the familiar personalities in question are engaging with a commonly understood object text, namely the game, and that the emergent narratives they produce echo those of the fans watching.

This infusion of intense interest among the participatory fan community is not only emergent in the digital landscape, but physically visible in the analogue world as well. In recent decades, popular culture conventions—initially low-key events attracting a handful of local enthusiasts—have exploded into large scale events that can attract visitors by the tens of thousands. Some of the larger such events—such as San Diego's Comic Con, Toronto's FanExpo, Indianapolis' GenCon and the multicity versions of PAX—can have dramatic effect, not only on their local convention centre, but on surrounding neighbourhoods and businesses akin to a major sports championship (Jenkins "Superpowered Fans" 22). While facilitated, at least in part, by discussion through online or other digital means, these analog celebrations of fandom serve as evidence of the potential influence of emergent narrative from game mechanics. This influence can spread widely outside the periphery of the original magic circle and merge or otherwise interact with other emergent narratives. The mass gathering of both fans and developers in the same physical location as well, reinforces the feedback loop whereby ideas from fans about modifications to existing games or the direction new games should pursue, can be exposed to developers and ultimately influence future designs.

For Jenkins in *Fans, Bloggers*, *and Gamers*, the international spread of these popular culture conventions is evident of a growing popular cosmopolitanism, defined as the embrace of a globalized popular culture—celebrated through participatory fandom—as an escapist resistance to the "parochialism" of the fan's local community (152). This escapist tendency, then, is linked to the fan's use of emergent narrative from interactions with game mechanics and other media to collectively construct a shared mutual identity that can cross international boundaries and re-affirm closeness based not on shared national experiences but shared emergent ones. In this way, the critical nature of the emergence narrative from game

mechanics in the construction not just of individual fan identity, but shared fan identity underpins the great potential influence such interactions may possess. In the next section, the final question will be addressed, looking at how these participatory fan communities, and their interactions with games and players, might be useful in both addressing issues in the physical world and creating better games.

APPLIED PARTICIPATORY FAN CULTURE

Instead of asking whether or not a game should be considered in isolation from its surrounding participatory fan community, one might rather ask this chapter's final question: how can knowledge of the interaction of participatory fan culture, stemming from the emergence of narrative from game mechanics, be used to better understand, design, and use games? As has already been demonstrated throughout this chapter, the fundamental mechanism from which participatory fan culture is derived, is in fact the emergence of narrative from game mechanics, as this emergence—and the cultural construction it facilitates—can never truly be extricated from a meaningful understanding of the game itself. Therefore, by analyzing games alongside the cultural contexts in which they are embedded, a much greater appreciation of games as a cultural medium can be achieved, and the games themselves can be designed to embrace their own emergent narratives and potentially be used to address real world issues.

The question of the physical world application of games, and potential impacts on participatory fan communities, has long dominated much of the academic discussion around games, as critics sought to legitimize the power of games a cultural medium. Some critics have sought to legitimize games as a potentially socially destabilizing force, such as Grüsser, Thalemann, and Griffiths' finding that games could be considered psychologically addictive

for a significant minority of players (290). Others have viewed games as a potentially powerful engine for effecting positive social change, perhaps best exemplified by McGonigal's assertion that games could be used as an instrument to "fix" reality (*Reality is Broken* 7). For his part, Bogost in "Reality is Alright" may have been critical of McGonigal's optimism as overly idealistic with progressivist undertones. Nevertheless, in both *Persuasive Games* and *Unit Operations*, Bogost champions the idea of games as sources of emergent expression of new ideas (3; ix). He describes the mechanical cause of this emergence by coining two key terms, "unit operations" and "procedural rhetoric." He explains unit operations by arguing that "any medium—poetic, literary, cinematic, or computational—can be read as a configured system, an arrangement of discrete, interlocking units of expressive meaning functioning as "procedural rhetoric" (*Unit Operations* ix). In *Persuasive Games*, he expands on this notion of mechanized expression through the configuration of processing with his understanding of procedural rhetoric as "the practice of using processes persuasively" (3). In this sense, while he might not share McGonigal's direct optimism, he nevertheless acknowledges that games can be effective mechanisms for persuasion, and therefore change. This change, by extension, is ultimately driven by the emergence of narrative from game mechanics.

For Rita Raley, the intentional use of interactive media—particularly game mechanics—with a rhetorical intent, primarily of disruption, can be an effective mechanism of emergent resistance towards socio-normative pressures. In *Tactical Media*, she argues that the titular term actually "signifies the intervention and disruption of a dominant semiotic regime, the temporary creation of a situation in which signs, messages, and narratives are set into play and critical thinking becomes possible" (6). For Raley, game-based rhetoric should fundamentally be an act of disturbance, a challenge to the presumptive status quo. Mary

Flanagan echoes this activist stance from a fine art perspective (13), pushing for an avant-garde approach to radically alternative game design (2). In both cases, Flanagan and Raley view game design as an ultimately intention-driven process, where the designer's intentions are granted a natural ascendancy over the presumably passive audience's ability to interpret those intentions. As games are a fundamentally interactive medium, however, they must inevitably cede a greater degree of meaningfulness to the player and the participatory fan community that surrounds him or her. As such, the game designer can erect emergent "narrative architecture" as Jenkins would describe it ("Game Design as Narrative Architecture."), but he or she must allow for the player's interaction with the game mechanics, and the consequent emergence, to take precedence. In this sense, while games can be designed with a particular social intent in mind—and can indeed be effective in achieving that intent—their approach must always be broadly defined and open to adaptation as the playing community interacts with it in new ways. With this understanding of participatory fan cultures, and both their relationship to game and players and their capacity for interaction with the physical world, the next section will conduct a case study on improvisational theater, a modern form of performance known both for its foundation in emergent games and its involvement of participatory audiences.

CASE STUDY

On theatrical stages around the world—and often in coffeehouses, school auditoriums, and various forms of drinking establishments—improvisational troupes have performed without a script. Some might occasionally have access to an accompanying pianist or other form of musician, or an assortment of props—some of which may err on the side of bizarre. Most have little more to work with than the movement and articulation of their own bodies and

voices and perhaps a handful of minimalist-styled chairs. Nevertheless, this unorthodox improvisational approach to theatre—often referred simply as "improv" (Swartjes 74)—has not only been effective enough to maintain its popularity over the course of decades, but spawn the careers of various comedic legends ranging from Alan Alda and Alan Arkin to Bill Murray and John Candy to Julia Louis-Dreyfus and Mike Myers to Stephen Colbert and Tina Fey to name a few (*Second City*). While it intentionally omitted the foundational script basis of a mainstream play, improv instead focused on achieving the emergent expression of story through the interaction between actors on the stage, and often members of the audience, through a series of mechanically structured forms of play. In other words, improv establishes emergent narrative through the interaction between its players, its games, and a participatory fandom.

Improvisation in theater, not unlike emergent narratives and participatory fan cultures in general, is not entirely a recent phenomenon. The centuries old Italian tradition of commedia dell'arte—whose roots can be traced as far back as the Atellan Farce of ancient Rome (Fanthan 23)—was a precursor and major influence on the evolution of modern improvisation, alongside a myriad of later traditions such as vaudeville theatre, cabaret, improvisational jazz music, beatnik poetry, stand-up comedy, psychotherapy, various children's games, and even baseball (Seham xvii). What truly separated modern improvisational comedy apart from its predecessors, however, was not only its emphasis on minimalist structure, but that those structures that did exist were understood primarily as those of games. The modern tradition of improv has been historically linked to the city of Chicago, which Robert Keith Sawyer hailed as "the birthplace of modern improvised comedy" (14):

> Chicago-style improv theater, originating in the 1950s, is now practiced around the world, and is considered by many to be America's single most important contribution to theater. Although many performance traditions around the world incorporate elements of improvisation, Chicago improv theater is perhaps the most purely improvised of all of them. Theater scholars have suggested that America is particularly hospitable to improvisation; improv is the apotheosis of mainstream American ideals, including individualism (the performers' creativity and personality comes out), egalitarianism (the performer is just as "good as" a playwright or director), and spontaneity.
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> Sawyer 14-15

Sawyer's emphasis on the "American" attributes of improv aside, it has certainly been successful outside of the United States although traditionally in cultures that share similar values towards open performance, egalitarianism, and spontaneity. The Chicago school of improv established a new standard for aspiring troupes to emulate, derived from the influential work of local theatre academic Viola Spolin. Spolin's son, Paul Sills, would take her ideas about improvisation out of the academy and onto the public stage, founding first the Compass Players improv troupe and ultimately its successor, *Second City*.

Second City's influence, in particular, has been undeniably linked to the profusion of game-based improv. In *Whose Improv is it Anyway? Beyond Second City*, Amy E. Seham outlines the pivotal role *Second City* played in the development of modern improvisational comedy through theatre games:

> The term "improvisation" has many meanings and uses in the world of art and philosophy. Chicago-style improv-comedy, or *improv*, however, refers to the specific form of improvised comedy that originated with the Compass Players and the Second City comedy theatre in the 1950s and continues to be performed by troupes around the world. Chicago-style improv-comedy is a form of unscripted performance that uses audience suggestions to initiate or shape scenes or plays created spontaneously and cooperatively according to agreed-upon rules or game structures, in the presence of an audience—frequently resulting in comedy. It is usually performed by small groups of players who often develop strong bonds.
>
> xvii

The Chicago scene's innovation, then, was the emphasis on games rather than scripts in the spirit of storytelling. While certainly performers would come into the performance with already developed skills, as well knowledge of current events and cultural cues likely to cause the desired reaction from the audience, by employing an emphasis on game mechanics to tell stories, they freed themselves from the rigid predictability of standard scripted theatre enabling a new level of spontaneity, edginess, and adaptability. While some other theatre traditions would intentionally break the fourth wall, few others made direct audience participation and emergent storytelling—through called out suggestions, audience volunteers, and other similar techniques—mainstays of a typical performance.

For Ruth Aylett, who coined the term "emergent narrative" in "Narrative in Virtual Environments: Towards Emergent Narrative" (83), the commonality between emergent narrative and improvisational theatre has always been evident by the means by which both stem from interactions between players, the game, and the participatory fan community. In "Narrative in Virtual Environments," Aylett outright argues that "the basis for a 'free improvisation' is also the basis for an emergent narrative" and that audience interaction fuels the production of both (85), calling for further analysis of the connection. In *Whose Story is it Anyway?: How Improv Informs Agency and Authorship of Emergent Narrative*., Ivo Martinus Theodorus Swartjes takes up Aylett's call for further analysis, comparing emergent narrative and improvisational theatre point by point. On the one hand, he notes that both avoid relying on scripts, distribute the responsibility for emergence over various parties and undermine authorship, and rely on "local, in-the-moment" decision-making (83). On the other hand, Swartjes argues that: improvisers are concerned with generating compelling drama in a way that game players are not, improvisers inform their performances by drawing on an extensive

history of personal experiences allowing for more open-ended possibilities than most games will allow, improvisers perform for an audience whereas game players typically entertain themselves, improvised events acquire meaning only after they have been performed whereas emergent narrative is not so retrospective, and improvisation develops the frame for the story alongside the emergent narrative rather than based on the conditions of the existing game world (84).

In making these observations, Swartjes makes some compelling points. His understanding of emergent narrative, however, continues to be hitched to the idea of linear narrative constraints, such as his assertions that emergent meaning can only be generated within the pre-existing constructs of the game world and that emergent narrative cannot be retrospective. As this chapter and dissertation has clearly shown, meaning generation can easily bridge the boundary between the game world and the external reality through the development of participatory fan cultures, and that these cultures add a retrospective element to in-game activity. Furthermore, the performative aspects of professional athletes in sports or eSports contradict Swartjes' notion that game players are not performing for an audience. Even some tabletop games could be considered performative. The independent role-playing game *Fiasco* for example, which is heavily influenced by theatrical improvisation, has itself been used for stage performances (Morningstar and Segedy *The Fiasco Companion* 13). In the end, the similarities between improv games and other types of games outweigh the dissimilarities and both are testament to the effectiveness of generating emergent narrative through interaction with a participatory audience.

Spolin herself—often considered the mother of modern improv (*Second City*)—always emphasized the importance of games as the root of theatrical improvisation through emergent

narratives, even from the outset. She coined the term “theater games,” which she popularized through her seminal text, *Improvisation for the Theater*, often cited as the bible of improv (Spolin 1). In this book, Spolin quickly establishes the importance of using games to allow compelling narrative to emerge in a participatory sense:

> The game is a natural group form providing the involvement and personal freedom necessary for experiencing. Games develop personal techniques and skills necessary for the game itself, through playing. Skills are developed at the very moment a person is having all the fun and excitement playing a game has to offer—this is the exact time he is truly open to receive them. Ingenuity and inventiveness appear to meet any crises the game presents, for it is understood during playing that a player is free to reach the game's objective in any style he chooses. As long as he abides by the rules of the game, he may swing, stand on his head, or fly through the air. In fact, any unusual or extraordinary way of playing is loved and applauded by his fellow players. This makes the form useful not only in formal theater but especially so for actors interested in learning scene improvisation, and it is equally valuable in exposing newcomers to the theater experience, whether adult or child. All the techniques, conventions, etc. that the student-actors have come to find are given to them through playing theater games.
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> Spolin 4-5

For Spolin, theater games are to theatrical scripts what oral storytelling is to the novel, a chance to return a narrative experience to its more participatory roots. By embracing play as an instrument of learning—Spolin was above all an educator—the students were encouraged to unlock their own natural abilities. From her opening line, Spolin was adamant that “everyone can act, everyone can improvise” (3), noting it as an aspect of everyday life such as unscripted conversation. Furthering the parallel with game studies, she also acknowledged that playing a role could be seen as form of escapism, “a sort of vacation from one’s everyday self and the routine of everyday living (5).” In this sense, the theatre can be said to take on many of the characteristics of Huizinga’s magic circle (10), becoming a more gameful and also emergent space. By using game mechanics to facilitate the interaction between performers and audience members, Spolin creates the conditions for narrative to emerge.

While Spolin's work predates Csíkszentmihályi's understanding of "flow" by a couple of decades, the same principle is visible in her understanding of the peak of improvised immersive experience.

> In this spontaneity, personal freedom is released, and the total person, physically, intellectually, and intuitively, is awakened. This causes enough excitation for the student to transcend himself—he is freed to go out into the environment, to explore, adventure, and face all dangers he meets unafraid. The energy released to solve the problem, being restricted by the rules of the game and bound by group decision, creates an explosion or spontaneity and as is the nature of explosions, everything is torn apart, rearranged, unblocked. The ear alerts the feet, and the eye throws the ball. Every part of the person functions together as a working unit, one small organic whole within the larger organic whole of the agreed environment which is the game structure. Out of this integrated experience, then, a total self in a total environment, comes a support and thus trust which allows the individual to open up and develop any skills that may be needed for the communication within the game. Furthermore, the acceptance of all the imposed limitations creates the playing, out of which the game appears, or as in the theater, the scene. With no outside authority imposing itself upon the players, telling them what to do, when to do it, and how to do it, each player freely chooses self-discipline by accepting the rules of the game ("it's more fun that way") and enters into the group decisions with enthusiasm and trust. With no one to please or appease, the player can then focus full energy directly on the problem and learn what he has come to learn.
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For Spolin, improvisation on the one hand allows the improviser to free him or herself from the pressure of expectation of authority, while on the other hand providing the necessary and sufficient foundational guidelines—the game's rules so to speak—to facilitate an experience of play. In effect, the player becomes one not only with the game, but with his or her fellow players, and by extension the theater audience, in the ongoing emergence of the narrative from their playful interactions. The emergence occurs by evolution not by design—although the improv games can be argued to be designed to a certain extent—with excessive pre-planning serving as a detriment to the outpouring of the final spontaneous product. Participatory

audiences serve as a mechanism to undercut tendencies towards over-planning on the part of the performers, allowing for more organic narrative emergence.

There is, however, some question as to whether improvisational games can even be considered games in the traditional sense. Improvisational theatre games often seem distinct from the idea of an "orthogame"—a term coined by George Skaff Elias, Richard Garfield, and K. Robert Gutschera in *Characteristics of Games* as the "most 'normal' or 'usual' kind of game:

> …[O]*rthogame*… we define as a game for two or more players, with rules that result in a ranking or weighting of the players, and done for entertainment. Explicit winners or losers, scores, or time to completion all count as rankings or weightings—the point is there is something explicit to tell you how well you've performed.
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In effect, Elias, Garfield, and Gutschera are referring to an orthodox game, which is a game that incorporates the most elements commonly thought to define one. Many examples of games used in previous chapters, particularly *Tetris* and go and to some extent Telltale's *Game of Thrones*, are primarily thought of as having entertainment purposes and clear-cut win conditions. *Tetris* and go have clear cut ranking systems while *Game of Thrones* allows players to compare and contrast their decisions against those of the wider participatory fan community, a metric of one's performance albeit a less conventional one. In either case, "winning" or "losing" the game becomes a primary point of discussion amongst the participatory fan community and a definitive aspect of the emergent narratives.

While improv games generally do involve troupes of two or more "players"—in this case the term player is conflated with both the actor performing in a theatre as well as the agent acting in the course of a game—they rarely emphasize specific rankings and weightings. There

are some exceptions of course. Keith Johnstone's model of Theatresports, for example, built upon the Chicago school of improvisation by adding a competitive framework, with multiple improv troupes competing against each other for a participatory audience's approval, in a mode analogous to major league sports or professional wrestling. The long-running television franchise, *Whose Line Is It Anyway?*, did generally exhibit a pretext of a seemingly arbitrary points system—which they often gleefully described as not mattering—and often would proclaim an emergent "winner" at the end from amongst the troupe who would usually have to read the credits in a peculiar way or participate in some other sketch. In these cases, however, the point system seemed more a source of comedic colouring rather than a rigid rubric that had to be followed in a typical sport or digital game. In this sense, improv games may seem unlikely candidates for the status of orthogames.

For Spolin, however, the goal was merely a productive interaction, and the rules of improv games were meant to be taken as seriously as any other game in that regard.

> Any game worth playing is highly social and has a problem that needs solving within it an objective point in which each individual must become involved, whether it be to reach a goal or to flip a chip into a glass. There must be group agreement on the rules of the game and group interaction moving towards the objective if the game is to be played. Players grow agile and alert, ready and eager for any unusual play as they respond to the many random happenings simultaneously. The personal capacity to involve one's self in the problem of the game and the effort put forth to handle the multiple stimuli the game provokes determine the extent of this growth. Growth will occur without difficulty in the student-actor because the very game he plays will aid him.
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> 5

The goal in one of Spolin's games, then, is not to defeat one's supposed opponent, but to work with one's fellow players and spectators to generate an immersive and emergent experience. The "win" condition is merely the solution of a problem, created spontaneously through the emergent interaction of play with a participatory audience. In this sense, improv games are not

terribly distinct from orthogames, for a win condition is merely a form of a problem needing to be solved. Furthermore, the win itself is not the most important aspect of the game. Rather, it is the structured use of play to achieve an end, and to do so in a fundamentally social context that is ultimately derived from the interaction between different players with each other and the game mechanics.

As such, improv games might be unorthodox, but they are not as distinct from orthogames as might be imagined, and consequently can be validly identified as games. While all games emphasize the interaction of player with the game, and the degree to which said player's agency can affect the outcome, it should be noted that no game can exist entirely outside of the cultural context in which it is played, meaning all games are subject to participatory spectator observation in one form or another. If improv games are to be considered distinct from other forms of games, it is in their willingness to not only acknowledge the fluidity of boundaries between the magic circle of the players and the participatory audience, but also consider that audience an intrinsic and welcome aspect of the emergent play experience.

CONCLUSION

As the final element of the trifecta of emergent narrative—the others being the player and the game mechanics—participatory fan culture is the most indistinctly delineated, yet its importance to the cultural transmission of emergent narrative is unmistakable. My contribution to the field of research on the relationship between participatory fan cultures and the emergence of narrative is driven by two main points. The first is that some form of participatory fan culture is inescapable, as all players are informed by culture in their

engagement with games. The second is that the player's interaction with the game, in turn, influences—at some level—all future engagements with game mechanics and ultimately the larger participatory fan community. Games serve as both cultural and subcultural instruments of identification, and the means of that identification is a production is the emergence of narrative from player interaction with game mechanics. Since games are ultimately objects, even a privately held game of solitaire is not fully isolated from the larger discourse in which the play event is situated.

The subject of culture, however, is a considerably wide one and far beyond the scope of this dissertation. Cultural scholars such as Fiske (*Reading the Popular* 57) and Jenkins ("Superpowered Fans" 22) have certainly already examined the means through which subcultural resistance can be pursued through involvement with a participatory fan community, although both Fiske and Jenkins generally perceive it as an active attempt to distinguish one's self-identity. Emergent narrative, I would argue, is not necessarily always so premeditated, and its connection to the establishment of fandoms can often be more loosely understood.

Many developments within fan communities have occurred so rapidly that the academy has not yet adequately engaged with them. The use of cosplay—which Lamerichs described as a "practice scarcely examined"—deserves more attention both as a matter of subcultural interest but also a point of authorial resistance. While many fan-generated cultural products, such as filk music, have been studied for some time, there is currently precious little academic literature available comparing their form of constructed narratives to the emergent narrative of games. In particular, the role that a participatory fan culture plays in the active construction of narrative—versus the natural emergence of one—is a subject that bears further research.

For the purposes of this chapter, however, the goal has been to examine how participatory fan culture is related to player interaction with game mechanics and ultimately the emergence of narrative. By establishing a link between the three, I hope that ongoing theories of narrative will understand that the relationship between producer and consumer—be they audience and reader or game and player—can no longer be reduced to a simple binary relationship. While the larger community does not have to be present for the physical interaction itself—or even be aware of it—no player can engage with a game without coming into it from some form of cultural background that informs their play. Furthermore, since the act itself creates emergent narrative—which in itself is a cultural phenomenon—that play session will inform that player's future interactions both with the game and wider community.

In the end, however, the fundamental connection between the emergence of narrative from game mechanics and the inseparable construction of the surrounding fan community demonstrates, not only the legitimacy of games a cultural medium, but also the vast potential application of games as long as their designs remain true to the nature of the medium. As participatory fan communities continue to grow and diversify, tensions between mainstream acceptance and resistance will continue to arise, challenging the future of the medium and those who interact with it, while at the same time infusing it with the necessary dynamism to carry it forward. Like an improv troupe interacting with an engaged audience, games can employ a minimalist collection of tools in a sophisticated fashion to induce the emergence of narrative, not only to captivate its local audience, but expand greater construction of the wider community. The next chapter will focus on this interaction between a persuasive game and the wider community through examination of the relationship between emergent narrative and applied gaming.

CHAPTER FIVE: EMERGENT NARRATIVE AND APPLIED GAMING

While it is one thing to develop a new understanding of the emergence of narrative from the interaction between players, game mechanics, and participatory fan cultures, it is important to find a practical use for that knowledge for some form of application outside of improved game design. However, emergent narrative, by its very definition and its association with elements exterior to the game itself, cannot be contained entirely within the game. If emergent narrative is understood to influence and induce phenomena outside of the game-world in which it was initially generated, then it makes sense to wonder if that emergent narrative can be harnessed towards some form of practical application, or at the very least a social good.

Emergent narrative, however, cannot be as easily directed as scripted narrative. As a natural consequence of the interaction between players and game mechanics—as well as the larger playing community—it is subject to a myriad of influences and competing agendas that might guide it in one direction or another. In this sense, not only can emergent narrative never be fully controlled, it can often resist control. In some ways, it is defined by its ability to reconfigure a game designer's intended narrative in service of player or community agency. Nevertheless, if game design is properly applied, emergent narrative can be directed, albeit obliquely at times, towards a particular outcome, provided the player and the participatory fan community can be convinced that this outcome is in their best interests as well.

For this chapter, my goal will be to explore the ways in which applied games have used emergent narrative successfully or not in the pursuit of a particular purpose. The focus on the emergence of narrative through player interaction with game mechanics will be examined from the perspective of applied gaming. I will consider games that intentionally attempt to break

Huizinga's magic circle (10), by designing for emergent narrative interactions between the players and the world outside the game, and—particularly in the place of so-called "persuasive games" (Bogost *Persuasive Games* 46)—attempt to influence a positive and potentially measurable effect on that external world. The main question this chapter asks is: **If narrative is emergent from player interaction with game mechanics, how can designers use what has been learned about emergent narrative to create more effective games for applied purposes?** With the understanding that all games are engines of rhetoric—"procedural rhetoric" to put it in the terms of Ian Bogost (*Persuasive Games* 1)—this chapter will argue that by designing mechanics that better allow narrative to emerge through play, rather than in opposition or interruption of it, game designers can create immersive experiences that provoke players into asking questions or understanding new perspectives, not only more effectively, but in a way unlike any other media form.

In order to explore this area of discussion, this chapter will be divided into four central questions followed by a case study on *The Kitchen Table* game. This chapter will mainly focus on more widely known examples of applied gaming including practical uses of augmented reality. The first question will ask: **what is applied gaming?** This section will examine a selection of games that attempt to achieve a particular goal in the physical world, and the theoretical research behind them such as the discussion around "serious" games or persuasive games, seeking to explain how emergent narrative might serve to make them more successful. The second question will ask: **what are the limits of using the emergence of narrative from the interaction between players and game mechanics in applied gaming?** Looking at examples of applied gaming, in particular augmented reality applications such as Niantic's *Pokémon Go*, this section will explore the limits of what applied gaming can constitute, as well

as areas where the line may blur between what is applied and what is not. The third question will ask: **how effective are applied games in addressing their intended concerns?** For this section, the discussion will focus around claims and critiques of capacities for games to solve problems, as well as the means by which a more directed emergent narrative approach might be more successful. Finally, the fourth question will ask: **how should applied gaming be used or not used?** In answering this last question, different examples of applied gaming will be analyzed and discussed, with some predictions presented for ways in which applied gaming may prove greatly beneficial through emergent narrative and ways in which it could become inherently problematic.

DEFINING APPLIED GAMING

To start with, it would be beneficial to address the first question concerning the definition of "applied gaming." An *applied game*, to put it simply, is a game designed for a purpose other than mere entertainment, particular the use of a game to produce a practical solution to a particular issue or problem. In other words, it is a game with an intended application other than fun. Also known as "serious games," the notion has been around at least since Clark C. Abt's *Serious Games* (5) was published back in 1970. Since then, however, discussions around serious games have grown tremendously, particularly after the evolution and establishment of mainstream popularity of the digital game, and in more recent years the increased accessibility of game development and distribution. As well, as focus has shifted from linear narratives to emergent narratives in games, so too has the notion that design elements help the emergence of a more desired narrative over a less desired one. While the term "serious game" is used contiguously with applied game, the term is somewhat

problematic from a ludological point of view. For one, the somewhat oxymoronic application of "serious" to a game, implies that non-applied games are somehow not serious, and therefore less worthy of study. Furthermore, the use of the term serious seems antithetical to the fundamental need of a game to embrace play, which even applied games must succeed at to a certain extent. Therefore, for the purposes of this chapter, the term applied game will take precedence over serious game.

Games designed to achieve a particular objective other than merely playful entertainment—be they one of Ian Bogost's "persuasive games" (*Persuasive Games* 46) or one of the myriad attempts at "edutainment" games designed primarily to educate not to entertain (Egenfeldt-Nielsen)—have not always been successful. If the approach is too heavy-handed, the gameplay itself substantively lacking, or mechanics are too detached from the main cause the game was designed to champion, the applied game may produce an emergent narrative that runs contrary to its intended goals. For example, the browser game *Congo Jones*, was intended both to educate players about the ongoing deforestation and exploitation of the Congolese rainforest and motivate them to take action to contest it. The game-play itself, however, which consists largely of *Super Mario*-esque platform jumping—without the requisite polish—deviates to an absurd degree from any realistic portrayal of the struggle to save the jungle in the central African country. While some messages regarding the rain-forest issue are occasionally presented in text format—text that is easily glossed over by the player and which is ultimately irrelevant to the play of the game itself—the game itself does not adequately evoke the dire conditions of the Congolese rainforest and the threat posed to it. In fact, the cartoonish graphics and amateurish design can often distract players from the core message of the game, resulting instead in the emergence of satirical narratives from and ultimately towards

the game's lacklustre and unoriginal mechanics and a de-legitimization of the seriousness of the issue on the ground in the Congo. Where *Congo Jones* fails is in its adoption of a tired game mechanic without sufficient innovation and one that seems tagged on to the issue at hand rather than an intrinsic part of understanding through the emergence of narrative from game mechanics. In other words, *Congo Jones* is unable to truly capitalize on the emergent narrative potential of a game, because it does not understand the power of its own emergent narrative. Its mechanics, for example, are focused on platforming, an activity that has nothing to do with protecting the rain-forest. As such, the narrative that emerges from the game mechanics of *Congo Jones* push the player away from the intended subject matter, not towards it.

It should be noted that the concept of an applied game is distinct from Bogost's notion of persuasive games, although both ultimately mount procedural rhetoric in order to achieve the goals for which they have been designed (*Persuasive Games* 1). The distinction lies in that while persuasive games intentionally privilege a specific argument as a primary aspect of their design, applied games may not necessarily be intending to put forward a specific argument, although both effectively make one through the process of emergent narrative. Educational games, for example, may simply be attempting to increase player awareness around a particular subject, such as mathematics, without necessarily—at least explicitly—arguing for the importance of that subject. All games, whether they intend to be persuasive about a particular argument or not, mount rhetoric to a certain degree through the emergence of narrative. Simply by existing as a game to encourage players to improve their skills in mathematics, such an educational game invariably carries with it an implied rhetorical position that becoming more skilled in mathematics is a viable and worthwhile pursuit.

The difference, then, between an applied game and a non-applied game lies in the intention of the game's initial design. This condition, however, can also be problematic as the emergent narrative nature of games means that the narratives that arise from them can never be fully confined by the intent of the designers and must be free to evolve organically through the interactions of the players, the game mechanics, and the wider community. Chess, for example, is thought to have been initially conceived as a means of training young Indian noblemen in the medieval art of war, making it—at least in its initial construction—an applied game with a specific intended goal. Today's battlefields have changed considerably from that of medieval India, but the emergent narratives of strategy—such as identifying and capitalizing on an enemy's defense weakness, strengthening one's own defenses, and pushing for key positions in the field of the battle—are still as relevant today as they were centuries ago. Furthermore, as chess diversified widely over time and spread both to other parts of Asia and ultimately Europe, undergoing substantial changes as it was influenced by different cultures and time periods, the emergent narratives still maintained their relevance even as the game progressed further down the path of abstraction. Most importantly, however, the emergent narratives of the game could not be confined by the original intent of the designers. Any game left free to evolve and change over time—if it retains sufficient popularity—will develop towards a status most favourable to that of its players' appreciation of the game which is still largely driven by enjoyment. To ensure long-term survival, a game driven by intents other than entertainment must find a means to satisfy its players, through the production of meaningful emergent narratives, or risk rendering itself irrelevant.

Intent may not only be associated with the designer, however, but may also be the domain of the player or the player's facilitator in the case of an educational game. Playing

chess today may not be quite as useful in underpinning necessary strategies for a successful campaign on a modern battlefield, but it can help develop abstract reasoning, strategic planning, and other mental skills that can prove beneficial in a wide variety of life situations. Furthermore, the maintained popularity of a game may not only be linked to the satisfaction it grants to those who play it, but its usefulness in developing skills, training, and other forms of education. It also can be effective in maintaining cultural ideas and arguments that players, designers, and the surrounding community feel the need to reinforce. In this sense, even a game mostly considered non-applied, such as chess, may have been applied at one point in its history.

Still, if the main intention of a game is entertainment, and not the achievement of a practical goal, it must be considered a non-applied game not an applied one. While this addresses the distinctions between applied games and non-applied games, it must be noted that these categories do incorporate a degree of vaguely defined boundaries. Any given game, therefore, may possess the ability to act as both an applied game and a non-applied game, depending on the intents of those involved with it and the motivations for playing. Practicing soccer, for example, for the purposes of improving one's position on a professional team is far different, from playing soccer for the purposes of getting fresh air and exercise, bonding with friends, and enjoying one's self. Both, however, are intrinsically the same game—although the former is arguably more applied in its intent than the latter—equally capable of producing emergent narratives, although the emergent narratives they produce are likely to be very distinct. Soccer is not traditionally considered a persuasive game, and does not put forward an explicit argument. While applied games do not have to be as explicit as persuasive games in advancing a particular rhetorical case, they do require a clearly defined application that

justifies their status. The limits of that application will be explored in the next section on the limits of applied gaming.

THE LIMITS OF APPLIED GAMING

The limits of applied gaming, and by extension the limits of the practical use of emergent narrative from the interaction between players and game mechanics, will now be explored in response to the second question. Understanding an applied game as any game intended for something other than pure entertainment, it must also be noted that such games must therefore also attempt to influence the achievement of some particular goal outside of the magic circle (Huizinga 10). By focusing on the world outside the game, applied games are often directly associated with real world phenomenon, and many attempt to embrace their external realities to varying degrees of success. For the purposes of this section, the augmented reality game *Pokémon Go* will be explored as an example of a borderline applied game, one that was primarily intended and adopted for entertainment purposes and yet carried practical elements, which could be considered emergent narrative, as a foundation of its design. While not all augmented reality games are designed with an applied goal in mind, the focus on interaction with the real world makes them especially attractive to applied game designers.

As their name would suggest, augmented reality games have often attempted to mix game-play and emergent narratives with physical world contexts, attempting in effect to use emergent narratives in a non-game setting. According to Alan B. Craig in *Understanding Augmented Reality: Concepts and Applications*, "augmented reality is a medium in which information is added to the physical world in registration with that world" (15). In other words,

augmented reality games not only apply information to the world outside of their traditional contextual content, but it also takes into consideration what is happening in the external environment. True augmented reality, then, is not simply super-imposing a digital image over an analogue environment, although doing so may constitute a weak form of augmented reality. It should be noted that all augmented reality applications are not necessarily games, with examples like fitness watches and Google Glass being augmented reality technologies that may contain game-like qualities, but are not inherently games. Digitally driven augmented reality devices and applications, particularly those intended to serve a particular purpose, are still a relatively recent phenomenon, with many still at the developmental stage. Nevertheless, while they are not necessarily an intrinsically game-based medium, the potential usefulness for applied games and gaming applications is clear. In addition to the capacity to tie games to real-world locations, augmented reality applications, such as *Zombies, Run!*, can tie the progress of a person's real world efforts to the completion of a game-like scenario, bringing gamification into a new level of intensity. Even traditional tabletop games, can be augmented by digital assists, such as adding digital elements to the game to boost the aesthetic aspects of game, storing complicated data tables and computing complex calculations on behalf of the player, offering strategic advice on various scenarios, or linking the player to the wider community while playing. As these elements add new mechanics to the game, so too do they add means of generating new forms of emergent narrative.

By Craig's definition, as well, augmented reality may not necessarily be a digital phenomenon, with 3D screen technology—which was originally developed for cinematic film—being arguably an early form of it. Digital technology, however, likely represents the most viable method of allowing augmented reality devices to both add information and

interactivity to reality-based digital applications. As well, the recently developed ubiquity of handheld computational devices—particularly the smartphone—have made augmented reality applications not only considerably more mobile but also far more accessible to a large and diverse audience. For the most part, most augmented reality games, many of which were intended as promotional campaigns to increase awareness of a different commercial property, were only able to gain modest popular acceptance with their current technological capabilities (Craig 7). By trying to tie their mechanics to real-world locations, augmented reality games use the interaction of players with real-world locations to spur emergent narrative, although the effectiveness of these mechanics are greatly determined by the available mobile technology and the ease of use.

While some earlier augmented reality games, such as Niantic's *Ingress*, managed to get a reasonably widespread use across much of the globe, the company really had its first major breakout hit in the summer of 2016 with the release of *Pokémon Go*, a quasi-applied game. Niantic, in partnership with the Pokémon Company and Nintendo, began a staggered release of the *Pokémon Go* application for smartphones across various national markets around the world. Niantic already had the digital infrastructure in place from *Ingress* and successfully adapted it for a Pokémon-style adventure. *Ingress* previously challenged players to seek out sources of cosmic energy called portals, with each team competing for greater influence over one portal against the other. For *Pokémon Go*, Niantic maintain this framework of team-based competition, but also focused on the more traditional *Pokémon* aspect of hunting for and trying to capture the eponymous creatures as epitomized by the slogan of "gotta catch'em all" (Bhutia). Once they had collected, bred, or trained a sufficient number of Pokémon, players could then venture to a nearby gym to have their chosen Pokémon battle against those of other

Pokémon trainers and establish or improve their ranking. In this sense, the game was intended to create interest amongst its players, not only into exploring their local communities, but also into meeting like-minded players. In other words, Niantic was attempting to use *Pokémon Go* augmented reality capabilities to generate a participatory fan culture—through emergent narrative—both in the real world as well as the digital one.

Upon its initial release, *Pokémon Go* took its audience by storm, as many players—particularly those who had grown up playing earlier games in the franchise and were excited about the opportunity to hunt for Pokémon creatures in the real world—quickly downloaded the application even before it was officially released in their country. Niantic itself seemed surprised by the overnight popularity of the game, often struggling to keep up with an exponentially increasing demand for bug fixes, server usage, and other issues (Hanson). The madness of the release also caught the attention of journalists who were noticing increasing numbers of people distracted by their phones showing up in unusual locations and interacting with each other both digitally and physically over their shared experience with the game. Some of the news reports were less than positive, such as the reports of opportunistic thieves using the application's popularity and encouragement of exploring unknown neighbourhoods and locations, to lure unsuspecting Pokémon players into a secluded area where they could then be robbed. Furthermore, many of the regional landmarks or other locations selected by Niantic's algorithms to serve as a Pokéspot, a place for players to pick up more supplies and catch more desirable Pokémon, or a Poké Gym, a place for players to have their Pokémon compete and do battle, did not appreciate the new influx of heavily distracted visitors. Religious centres, such as the Westboro Baptist Church, memorial sites, particularly those associated with the Holocaust, and even police stations found themselves controversially associated with stops

such as these (Lazarro), leading to protests as the behaviour of the participatory fan culture—driven by emergent narrative—was violating the cultural norms of the external reality in which it was mixing. Many observers also worried that the heightened distraction of the Pokémon players, combined with the requirement for movement through the real world, was increasing the danger of players walking into oncoming traffic, off the edge of docks or other ledges, or otherwise bumbling into other hazards an observant, non-distracted, walker could easily avoid. In other words, *Pokémon Go* was acting like an applied game, but its application was leading people into danger.

Nevertheless, while the popularity of the game has since peaked, it presently stands as the most successful augmented reality game yet released (Bhutia). Not only did *Pokémon Go* become the first widespread major augmented reality success story, it introduced the possibility of the medium to an audience many times larger than had been previously expected, changing the future of the medium, invariably, for the long term. In "Go Pokémon Go," Lhendup G. Bhutia identifies the impact this game has made and what might be the consequences for virtual reality and augmented reality in the long run:

> Although AR has long been the stuff of science fiction, it is only now that the concept is gaining mass popularity with this game. Here, your real environment is 'augmented' with computer- generated images of Pokémon, which you go about gathering and can be used to battle one another. In *Halo* or *Grand Theft Auto* and other such first-person games, we move around in imagined cities or fictional locations modelled on places like San Andreas, but *Pokémon Go* plugs us into the actual world around. By overlaying an imagined scenario on our real world, it blurs the boundary between what is real and what is virtual. Where this game, future iterations of it or other AR games will take us, only time can tell. But the direction appears to have been set by *Pokémon Go*, which has turned the old gaming experience on its head. Players are not asked-unhealthily to many mental health researchers-to sit by a gaming console for hours on end. It instead pushes people to go outdoors, explore landmarks, and to ditch the car and walk for hours (for Pokemon eggs can be hatched only if you walk for several kilometres). Using GPS

> and augmented reality to hunt and catch Pokemon, many people are now discovering for the first time the great wilderness of their cities. Some have injured themselves, walking into closed doors and lampposts, but then, as others have said, these are mostly nerds out in the urban wild for the first time.

For Bhutia, the occasional accident or negative consequence of playing *Pokémon Go* is simply a by-product of the game's encouragement of traditionally housebound gamers being inspired by the game to emerge from their theoretical basement recreation rooms and embrace gaming in their external physical communities. In other words, *Pokémon Go* is an applied game in that it encourages gamers to get more physical exercise, by incorporating a certain number of steps into key mechanics of the game such as egg incubation. In this sense, the emergent narrative of incubating a Pokémon is directly tied to the real-world consequence of walking a greater distance. This notion, drawn as it is inevitably on increasingly inaccurate stereotypes of gamers (Leaver and Willson 1), nevertheless underscores an ongoing movement in digital gaming driven by health concerns surrounding traditional sedentary behaviour and the need to promote exercise. At the spearhead of this movement, naturally, is both augmented reality, which provides the technological means to fuel this aspiration, as well as applied gaming which provides the intent-based impetus to drive this greater physicality and socialization through the emergence of narrative through interaction with game mechanics.

Pokémon Go may not seem a likely candidate for an applied game. It is, after all, first and foremost a commercial release. However, as mentioned by Bhutia, it does incorporate some significant applied mechanics in its construction, particularly the notion that players are required to walk a significant distance in order to "hatch" the eggs of the Pokémon creatures they are attempting to breed. Niantic even incorporated some elements, such as a speed limit on how fast players can move over that distance before their distance travelled is no longer counted, to discourage players from cheating out of actually walking the distance by switching

to a faster moving motor vehicle. This exemplifies the notion that distinction between applied games and non-applied games might be blurred, with potentially the most successful applied games being those that are substantially effective at that blurring, encouraging the players through behaviour on their own part to achieve the desired goal without overly enforcing that desired behaviour with a strong hand. While *Pokémon Go* is primarily intended to entertain, and indeed benefitted greatly from a pre-existing popular brand recognition and fan base, the applied aspects of the game were often among its most celebrated attributes (Hanson). While the popularity of the game reached a plateau relatively rapidly—a consequence of global market saturation, news-worthiness fatigue, game-play issues, and a fading of the initial novelty—it nevertheless has established the potential success of using augmented reality as a gaming platform, particularly for the applied game.

As *Pokémon Go* demonstrated, an applied game can achieve some degree of success—or at the very least initial popularity—by emphasizing its entertainment value first and foremost, even if that is not the main intent of the designers. In this case, Niantic was also able to draw upon a large pre-existing fan base, brand recognition, and a wave of nostalgia, which certainly supported interest in emergent narratives from the game in ways *Ingress* could never have received. The unreliability of the game itself, and the limited capacity for continued emergent gameplay once the novelty wore off, ultimately undermined the game's staying power. Even the intent to get players outside and walking more, while initially successful, was ultimately undercut by players who found means to circumvent it, such as by driving their car very slowly. In this sense, while the idea of an applied game is sound, the effectiveness of using one as a solution to a practical problem remains in question. While some emergent narrative elements of the game were successfully harnessed, others were not quite as effective.

To explore this issue further, the next section will now turn to the effectiveness of applied games.

THE EFFECTIVENESS OF APPLIED GAMES

Moving on to the third question, however, this chapter will be examining more traditionally recognized applied games, such as the protein-folding game *Foldit*, to answer the question as to how effective applied games are at achieving their intended goals through the application of emergent narrative. While applied games do have their limitations—such as the need to prioritize compelling gameplay, to attract and maintain the target audience, and to remain both technologically and educationally accessible while directed at the intended goal—they nevertheless represent an incredible potential use of the emergence of narrative from game mechanics to accomplish much more than entertainment. Judging the success of such an enterprise, however, often remains a tricky undertaking. For the purposes of this section, two applied games will be analyzed, one from the scientific community, *Foldit*, and one from American politics, *Howard Dean for Iowa*.

In the case of *Foldit*, the game was designed to address a major computational issue facing structural microbiology, mainly the need to identify and catalogue the extremely large number of potential combinations and arrangements for amino acids at the level of proteins. While computational algorithms have been derived to determine these protein combinations by simply trying all possible combinations, these algorithmic approaches have proven cumbersome in the face of the spectacularly large number of theoretically possible permutations. Realizing that they could design a game to harness a community-driven approach to this solution, the creators of *Foldit* developed the applied game and released into a

citizen science gaming community. In "Harnessing Agency for Efficacy: 'Foldit' and Citizen Science," Ashley Rose Kelly and Kate Maddalena provide a brief synopsis of *Foldit*'s role.

> Foldit (http://fold.it/portal/), an online scientific game from the University of Washington, enlists people to solve puzzles that correlate with protein folding possibilities to find the best outcomes. The game designers hypothesize that human beings are superior to their digital counterparts in this kind of puzzle-solving—and they are right. Foldit is a networked game that uses numerous players' interactions with game protocols to produce knowledge about potential protein structures that, in turn, are fed back to computers to make them more efficient at predicting protein structures. With computers unable to apply decision-making heuristics to solve the folding problems, the cultivation of a community of human players becomes crucial. Such work aligns more broadly with emerging trends in citizen science, where non-experts are enlisted for productive alliances.
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For Kelly and Maddalena, *Foldit*'s true value was in its ability to harness the power of collective human mental activity, united in this case through the emergence of narratives from their interactions with the game's puzzles, to overcome an obstacle the computational approaches were struggling to solve. The algorithmic approach was not eliminated, nor was the use of human thinking rendered obsolete, but rather both achieved a symbiotic relationship that proved effective in dealing with complex problems, that both systems would have struggled to deal with independently.

Foldit remains a noteworthy success story for the field of applied gaming. Not only was it instrumental in ongoing research in the field of structural microbiology, but it has also directly assisted with medical research towards viruses and bacteria as well as "promise for the production of renewable fuels, drugs, and chemicals" (Eiben et al. 190). The game has proven especially useful in the development of antiviral drugs in particular for the Mason Pfizer monkey virus (M-PMV):

> Following the failure of a wide range of attempts to solve the crystal structure of M-PMV retroviral protease by molecular replacement, we challenged players of the protein folding game Foldit to produce accurate models of the protein. Remarkably, Foldit players were able to generate models of sufficient quality for successful molecular replacement and subsequent structure determination. The refined structure provides new insights for the design of antiretroviral drugs.
>
> Khatib, Firas, et al. 1175

While years of previous academic and computational efforts to map the M-PMV protein had been met with failure, the *Foldit* participatory player community was able to determine viable solution in less than three weeks through play. In other words, the emergent narratives of multiple players working in connection—although not always consciously—was able to solve a significant scientific problem with real-world medical applications. Members of the scientific community were successfully able to mobilize gamer activity to solve an applied problem through emergence, a solution that may have lasting impact on medicine for years to come.

By activating emergent narrative solutions to engage a citizen science community, headway can be made on scientific quandaries that had puzzled researchers for years. After their study on the game's success at dealing with protein entanglement, Christopher B. Eiben and his co-authoring colleagues celebrated the potential of the game and others like it in the pursuit of addressing both macroscopic and microscopic scientific dilemmas, arguing that the "results demonstrate that human creativity can extend beyond the macroscopic challenges encountered in everyday life to molecular-scale design problems" (190). Of course, however, it is much easier to determine the success or failure of an applied game when the result is a scientifically measurable outcome. The effectiveness of a game can be considerably murkier when the result is a social impact on a community.

While Bogost is well-known as a developer of applied games under the mantle of "persuasive games" (*Persuasive Games* 10)—as well as being an ardently vocal critic of gamification ("Gamification is Bullshit")—it should be noted that his first major persuasive game was *Howard Dean for Iowa*, which he co-developed with Gonzalo Frasca, which was applied in the sense it was meant to attract support for the leading Democratic candidate ahead of the Iowa primary in 2004. As noted in earlier chapters, Bogost's accusation of gamification as being "exploitationware" is problematic in light of the intended use of his "persuasive games" to achieve a particular agenda. The major difference appears to be that while Bogost views gamification as subservient to a corporate agenda; his own games often serve a political one. This distinction, however, is not one of the medium, but merely of who is applying it, with both politics and business having plenty of capacity for the exploitation of players. The problem, however, is that emergent narrative is never fully controlled, and it is equally possible for it to be abused for politics as for business.

In the case of *Howard Dean for Iowa*, the applied game put players in the position of door-to-door canvassers and other grassroots campaigners tasked with getting the word out for Dean. Players could assign volunteers to various regions of Iowa that required a boost in support and attempt to sway public opinion with animated sidewalk demonstrations. Released near the end of 2003, the game was meant to be a tool to galvanise Dean's supporters, particularly Iowan supporters, ahead of the first presidential primary which is traditionally pivotal in determining which candidate eventually receives the official nomination. Its ultimate goal of the official nomination of Dean as the Democratic candidate for the American election of 2004 was not achieved. In fact, Dean infamously underperformed at the Iowa primary that year, coming in third place behind John Kerry and John Edwards, suffering what many

observers considered a humiliating defeat. Dean's campaign never regained its momentum and he ultimately suspended it in the weeks that followed (Hindman). Bogost and Frasca's *Howard Dean for Iowa* was not likely the main contributor to Dean's political plummet, but the game itself, despite its developmental costs, was not able to help Dean win Iowa or stay in the race for the presidency. Ultimately, while it did not help Dean, it did pave the way for mainstream adoption of politically inspired digital games meant to promote one candidate or another; and one agenda or another.

In the end, the effectiveness of an applied game depends on a wide range of variables, but is ultimately driven by the degree to which it can create compelling emergent narratives along its intended lines. Both *Foldit* and *Howard Dean for Iowa* were at least partially successful in their intended goals, although *Foldit's* were more concretely measurable and less vulnerable to outside variables. In either case, however the game was first and foremost a tool, a means to achieve a particular end through the production of emergent narrative. In this sense, it should be noted that applied games could be used for both positive and negative purposes, and in some cases these games may encompass a degree of moral ambiguity. Furthermore, as emergent narratives can never be fully controlled—and can often resist the wishes of the game designer, well-intentioned or otherwise—there are significant questions about how the applied use of emergent narratives might prove problematic. In the next section, this question of the ethics of applied gaming will be explored at greater length.

THE ETHICS OF APPLIED GAMING

Applied games, and the emergent narratives they generated, have come to be viewed as a potential tool in the arsenal of many a business, politician, organization, or individual with a

particular agenda. The effectiveness of applied games, as well as the potential controversies surrounding those agendas, leads this chapter to its final question on the ethics of using applied gaming, and its corresponding narratives, to achieve particular goals through the emergence of narrative. On the one hand, the narrative that emerges from applied games can be used to create more universally positive outcomes in such areas as the treatment of medical conditions, the solution to scientific problems, and increased awareness of environmental and social issues (McGonigal *Reality is Broken* 14). One the other hand, games dealing with delicate subject areas—such as an ongoing military conflict, political situation, or a controversial figure or organization—can often be accused of insensitivity, libel, or even outright propaganda. Jane McGonigal's *SuperBetter*, for example, has proven therapeutically useful at helping victims of a medical trauma deal with psychological issues associated with their recovery and progress towards a happier state (1). Issues, however, arise when the same tools are used to pressure employees into working longer hours, spread misinformation about a particular topic, or otherwise pursue a problematic agenda, causing Bogost to describe gamification as "exploitationware" ("Gamification is Bullshit"). In some cases, while the outcome may appear positive to some, it may be negative to others. The United States Army's development and use of the *America's Army* first-person shooter was successful in its goal of encouraging a greater recruitment of soldiers, many of whom became ultimately involved in controversial overseas campaigns such as the war in Iraq. In this section, a few examples of games will be examined from an ethical standpoint to determine if there is any reasonable cause for concern on the use of applied game emergent narratives over any other form of media tool.

America's Army stands out as a particularly interesting example of an applied game with a potentially problematic ethical footing. First released in the early 2000s, between the

start of the American military intervention in Afghanistan and on the eve of the American invasion of Iraq, *America's Army* was originally intended as a recruitment tool, the idea being that players playing a more realistic FPS might then be inspired to enlist having already been acquainted—and enjoyed—the virtual activity of an American soldier. Coming out amidst a surge in popularity of first-person shooters such as the *Halo* and *Battlefield* series, *America's Army* was developed by the American military, in cooperation with private companies, to create a realistic battlefield experience that could use the emergence of narratives to potentially entice players into enlisting. In *America's Army Game and the Production of War*, Abhinava Kumar argues that it was also used to legitimize American military actions overseas:

> …what makes war possible in video games is also what makes it possible outside of them… Videogames are considered a form of discursive production as they convey meaning through narrative—visually, textually, sonically, and in some respects through tactility. Furthermore videogames draw on and constitute representations of war… Representation constitutes security for the subject. It provides the vocabulary of security, setting up for the subject the ways in which security can be apprehended. Rather than merely a reflection of the world as it is, representation produces the world.
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> 3-4

For Kumar, the game not only desensitized the player towards military actions overseas, it normalized the players understanding of the conflict so that the military response seemed a suitable conclusion. In a semiotic sense, the realism the game was often touted for, as well as its official association with the American military, afforded it greater authenticity in its representation of conflict zones, boosting the perceived accuracy of its emergent narratives. In this way, demonstrations of its biases towards an American military agenda could become overlooked and accepted as normal. For example, in online player-vs.-player play, it was unacceptable to allow any team to play as "terrorists." Instead, each team would be framed as soldiers in the American military while, from their point of view, their opponents would be

framed as terrorists. In this sense, the game's mechanic produced emergent narratives that echoed the militaristic tradition of dehumanizing the enemy, assuming one's own side to always be in the right and the enemy always in the wrong. While *America's Army* was far from the most hawkish media phenomenon of the early to mid 2000s, this applied game can nevertheless be implicated in generating interest in serving in the controversial conflicts of the time.

Coming out around the same time period, another military-themed applied game offered a contrasting form of emergent narrative. *September 12* put players in the hands of delivering air strikes aimed at terrorists in a crowded Middle Eastern city. Unlike *America's Army*, *September 12* uses its mechanics to critique American military intervention overseas while at the same time simulating it. As the player attempts to fire on the terrorists, the missiles arrive with a delayed reaction leaving collateral damage on the ground. As innocent civilians are killed, nearby survivors mourn them and are converted to yet more terrorists, worsening the problem with each strike. The game is intentionally unwinnable, its designed argument—which emerges from play—that violence begets more violence until that which the player wished to protect is left in ruins of his or her own making. In this sense, the emergent narrative of the game is that the main activity of the game—attempting to bomb terrorists—is inherently problematic. In contrast to the implicit militarism of *America's Army*, *September 12*'s applied argument was inherently pacifist, drawing the browser game critiques of its own.

In a similar platform to *September 12*, Molleindustria's *McDonald's Game* also included intentionally structured mechanics designed to make the applied game effectively unwinnable. This emergent narrative was meant to reflect the unsustainability and exploitive practices of the fast food industry, demonstrated in the game by the escalating pressure to:

overwork employees, mistreat livestock, bribe politicians and health officials, over-cultivate agricultural land, distort public opinion, destroy natural areas, and displace villages in the developing world. The *McDonald's* multinational corporation itself condemned the game, saying it "has no association with McDonald's, and is therefore a complete misrepresentation of our people and our values" (Bluestein). While the multinational corporation has certainly been no stranger to accusations of misconduct (Kincheloe 2), Molleindustria's game did not provide hard evidence of the actions of the company, nor citations to reinforce its accusations of globe-spanning malpractice. Instead, it relied on the games emergent narrative—stemming from player interaction with its game mechanics and the larger community—to reinforce the idea that McDonald's was a destructive corporate entity. In this sense, while the game may have echoed popular ideological sentiments, it also repeated the biases of those sentiments. In effect, it masqueraded an applied game as emblematic of the truth in much the same way as *America's Army*.

In the end, applied games are just as vulnerable to the biases of their creators as any other media form. While the use of emergent narratives can help a game move beyond the limitations of its designers, the players and the participatory fan community—as influenced by social culture—are ultimately equally subject to bias. In that sense, the use of applied games to deal with real world issues must always be undertaken with these biases in mind. The potential for applied games to be effective through the use of emergent narrative is real, so is the potential for detriment. Though emergence of narratives, however, comes in many forms, and because of the greater emphasis on player interaction, so too is there a greater capacity for reciprocal reaction from the players, the participatory fan community, and the intended audience. In this way, the applied use of emergent narrative maintains not only great potential,

but great adaptability to changing needs. In the following section, a case study will be focused on *Kitchen Table*, a tabletop game designed to deal with awareness issues around persons with food allergies, which will be analyzed for its effectiveness, its limitations, and its fairness as an applied game.

CASE STUDY

As opposed to the previous chapter case studies which looked at games with which I had no personal involvement with the design, the case study for this chapter will look at a recent attempt I made to use emergent narrative to generate greater empathy towards people with severe food allergies. As the designer of the game, I certainly have an interest in its success as a platform for addressing this issue, which might raise the question of bias. However, having served as the designer on this project allows me greater insight into what the game was intended to accomplish, what it actually accomplished, and the difficulties I faced in trying to both design an applied game that would encourage empathy towards people with severe food allergies and to find a means to quantify and qualify the success or failure of the project.

This case study focused on the *Kitchen Table* game, an applied tabletop game intended to address issues around food allergy awareness through the production of emergent narratives of empathy. It was developed for the Canadian Institute of Health Research (CIHR) in collaboration between the University of Waterloo Games Institute and the University of Waterloo Department of Geography and Environmental Management. This project was part of the wider Genetics, Environment, and Therapies: Food Allergy Clinical Tolerance Studies

(GET-FACTS) project. I designed the game while still a doctoral student in the University of Waterloo Department of English Language and Literature, but with prior experience as a tabletop game designer. I also conducted the study—entitled the "Use of Persuasive Games to Promote Empathy for Persons with Food Allergies"—on behalf of supervising faculty Dr. Neil Randall, of the Department of English Language and Literature and the Games Institute, and Dr. Susan Elliot from the Department of Geography and Environmental Management. The case study discussion of this game will involve an examination of the initial hypothesis of the study, namely that playing the *Kitchen Table* game could produce measurable results to indicate an increase in empathy towards people with anaphylactic food allergies using emergent narratives. Using results from the study, it will be demonstrated that not only was this trend towards empathy established as a direct result of the emergent narrative that came from playing the game, but that the degree of change was also significant.

The *Kitchen Table* game was designed to serve first and foremost as an engaging and broadly playable activity that could not only educate players about issues related to anaphylactic food allergies, but also situate them—using the mechanics of the game—in the position of a person with anaphylactic food allergies. By doing so, it was hoped that players might better appreciate what it might be like to approach meal preparation and consumption from that perspective through the operation of the games mechanics. In other words, I was trying to manipulate the game mechanics to produce the emergent narrative of empathy. Before the study commenced, I demonstrated and playtested with people with severe food allergies to judge the accuracy of the intended emergent narratives. While some were disappointed that the game was unable to cover certain elements of their experience—such as the shock of being

hospitalized for a food allergy—the vast majority were strongly supportive of the game and eager to see how effective its emergent narratives would be in generating empathy.

There was a clear and growing need for not only more research in this area, but also for more tools for schools, health care organizations, non-profits, and businesses to address this burgeoning issue. Not only was there a clearly established and strong need for greater understanding and engagement with issues around anaphylactic food allergies, but this need had not yet been adequately addressed by existing materials and media strategies. Furthermore, unlike other forms of social stigmas—such as those associated with ethnicity, gender, age, sexual orientation, or religion—people with anaphylactic food allergies share a diagnosed medical condition which could prove ultimately fatal. As diagnoses of anaphylaxis continue to rise, it can be expected that the social alienation experiences surrounding those who have the condition will also continue to rise, making the timing apt for developing engagement materials—particularly those which generate narrative through the emergence of game mechanics—to deal with this issue. The question then became as to whether an applied game can be used to generate empathy through emergent narrative towards people with anaphylactic food allergies.

Empathy, for the purposes of this chapter, can be understood as "an other-oriented emotional response elicited by and congruent with the perceived welfare of an individual in distress" (Barcel, Decety, and Mason 1427). It can be differentiated from the similar notion of sympathy, which is limited to the ability to care about and understand the suffering of another individual. Empathy, unlike sympathy, places the empathizer in a like-minded emotional position of the sufferer so that he or she can relate to that suffering more directly. In "Empathy

Gaps for Social Pain: Why People Underestimate the Pain of Social Suffering," Loran F. Nordgren, Geoff MacDonald, and Kasia Banas argue that while there is a growing recognition of the legitimacy of social pain as a serious and legitimate concern, many individuals still struggle to adequately empathize with victims of social anguish when "people's beliefs about the severity of social pain and the accuracy of these beliefs in relation to the actual experience of social pain is poorly understood" (121). Social pain is particularly vulnerable to the "empathy gap," a form of cognitive bias where one individual struggles to relate to another individual's emotional state which is too dissonant from his or her own. This notion is particularly exemplified by George Lowenstein's notions of cold-to-hot or hot-to-cold empathy gaps (272) that demonstrate the great difficulty individuals face in modifying their own emotional state in order to better understand the emotional state of another. To better facilitate this process, the challenge then becomes to place the individual in the same emotional position as the person with which he or she wishes to become empathetic, and the vehicle for doing so through an applied game is its emergent narrative.

To this end, applied games represent a particularly suitable medium for embedding individuals, in the form of players, into these roles. Through proper game design, players place themselves in the role of someone with severe food allergies, but without actual risk to their own person. In this sense, they can gain a more empathetic understanding of the position of a person with severe food allergies, by interacting with the game and producing an emergent narrative that leans more in that direction.

The *Kitchen Table* game was a simple board game with a card-based mechanic. Designed as a co-operative applied game rather than a competitive one—in order to better

emphasize an emergent narrative trend towards empathy—the game put players in the position of a family around a table trying to prepare food together and ensure that everyone had enough to eat. The components consisted of a series of eight trackers each with a matching set of tokens, a deck of *What's in the Cupboard Cards?*, a deck of *Dietary Restriction* cards, and a single-sided board with six large differently but brightly coloured squares. As the game progresses, players draw cards which could be used to build recipes, satisfy the required servings in a particular food group, or be faced with new food allergens, contaminations, and guests. If, at any point, the *What's in the Cupboard?* draw pile ran out of cards, or one of the players managed to move all of his or her tracker tokens into the "Just Right" range, this would trigger the declaration of last round, with everyone else given one last turn. The final score would be tallied by counting the number of servings outside of the "Just Right" range for each player in each food category, as well as the number of meal-times missed by each player. Once the numbers were determined for each individual player, all of the numbers would be added together to see the final score, with a score of zero being the ultimate goal and higher numbers less desirable. A perfect game, a score of zeroes all around, was possible in *Kitchen Table*, although it occurred rarely and only twice over the course of the study.

Kitchen Table set out, not only to create an applied game with meaningful emergent narratives, but also gameplay that authentically replicates the experience that was meant to be simulated and emulated. It was also intended to be both reasonably easy to learn and sufficiently compelling to encourage players to play on their own volition for entertainment as well as for educational purposes. The decision was made early on to adapt *Kitchen Table* first as a tabletop board game, rather than a digital game, as this approach would allow for much faster prototyping and tweaking as necessary. Board games and other tabletop games have

been experiencing something of a popular resurgence in recent years as demonstrated by the proliferation of online communities, tabletop conventions, and board game cafés (Gajadhar). Likewise, board games have the advantage over the majority of digital games in that the player's focus is not on a screen, but directly on the other players, which increases the likelihood of empathetic bonding. Furthermore, many of the target families for the project—particularly those older members of the family—may be intimidated by the use of digital devices and more comfortable with the use of a more familiar card-based system. In the end, however, the creation of *Kitchen Table* as a board game does not preclude its eventual adaptation into a digital game if the need should arise.

This applied game was meant to use its emergent narratives to address issues of social isolation experienced by people with severe food allergies, particularly anaphylaxis—the most serious form of food allergy—which can lead to very serious epidermal, respiratory, gastrointestinal, cardiovascular, and other forms of reactions (Food Allergy Canada). In some cases, the reaction may even prove fatal, particularly if it leads to difficulty breathing or a blood pressure drop. While historically only affecting a slim minority of humans, the rate of diagnosis for anaphylactic food allergy has been on the rise. While only 2.5% of adult Canadians have been diagnosed with a severe food allergy, that number increases to 6-8% when applied to Canadian children under the age of three (Ben-Shoshan et al. 1327). This data not only demonstrates a significant trend towards an increasing number of diagnoses, it also reveals a clear generational divide over the prominence of the condition. For some older Canadians, the increasing occurrence rate of anaphylactic diagnosis may be cause for criticism of the condition or an inclination to not take it seriously as a severe medical issue, with anaphylactic children being instructed to "toughen up." In some cases, grandchildren may have

to be isolated from grandparents who do not appreciate the significant risk of cross contamination and other forms of exposure to the allergen.

In addition to dangerously negligent attitudes towards the person with an anaphylactic food allergy, there is also a tendency towards over-protection which can have dire effects on the person's ability to maintain healthy social relationships in a larger community. Many of the people with anaphylactic food allergies who were interviewed in the process of the design of the *Kitchen Table* applied game reported receiving denials of service at popular restaurants—justified by the restaurant management through fears that nothing available on the menu or in the facility could be understood as definitively free of the allergen in question and therefore safe for the person with an anaphylactic food allergy. These denials of service often came as the person with the anaphylactic food allergy was attempting to engage in a social outing with friends, classmates, or even business colleagues, meaning the inability to participate was not only detrimental to his or her social well-being but potentially also to his or her career. As the increasing rates of anaphylactic food allergy diagnosis remains primarily identified amongst the youngest Canadians—as well as younger generations in much of the developed world—the condition remains invariably associated with children and youth, particularly those in or about to enter the educational system. In "Illustrating Risk: Anaphylaxis Through the Eyes of the Food-Allergic Child," Nancy Elizabeth Fenton, Susan Elliot, Lisa Cicutto, Ann E. Clarke, and Laurie Harada, conducted a qualitative study focusing on the social experiences of 20 children and teenagers with anaphylactic food allergies expressed through the process of illustration as well as an interview process (171). Fenton et al. identified "five prominent themes" where children and teenagers with anaphylaxis expressed deep concerns about their social experiences around anaphylactic food allergies. These themes included "social and

environmental barriers to safety,… coping strategies,… [the] emotional burden of responsibility,…[the] balance of responsibility (transitions), and… [the] redefining [of] 'normal'" (171). In other words, not only were anaphylactic children and teenagers concerned about their own personal safety amidst the ever present threat of accidental exposure to an allergen—and the ability to cope with such a situation should a reaction occur—but they were also experiencing underlying social pressures from overprotective school officials, the distancing between them and other students, and the criticism from members of the community, resistant to rule changes enforced upon them, who questioned the legitimacy of the anaphylactic children's medical condition.

In "Illustrating Risk," Fenton et al. relate some anecdotal experiences from the point of view of some of the anaphylactic children who participated in the study through illustrations. While these children scripted their narrative experiences through the illustrations, they became noteworthy examples of the types of narratives *Kitchen Table* should try to simulate emergently. One participant, nine-year-old Ashley, sketched a picture of her and her classmates eating lunch. When her classmate Matt opens a package of Reese's Pieces, innocently forgetting about Ashley's severe allergy to peanuts, an oxygen-masked authority figure—which Ashley refers to as a "weird dude"—fires a fire extinguisher at Matt, verbally berating him for his carelessness (177). In her mind, Matt's act of eating Reese's Pieces is an act borne not out of malicious intent but rather ignorance about her condition, an ignorance that is repeated in the weird dude's over reaction. For Ashley, the bigger threat is the weird dude who exacerbates the social isolation she experiences by being associated with an anaphylactic food allergy by overly punishing one of her classmates for a mistake which she fundamentally sees as innocent.

Another example involves sixteen-year-old Richard, who instead of feeling over-protected, reported feeling under supported amidst the problem of frequently occurring food fights in his school cafeteria that the staff seemed incapable of preventing. In his illustration, Richard drew his classmates throwing food around in a carefree celebratory frenzy while he hid under the table in resignation (179). Like Ashley, Richard did not portray his classmates as intentionally malicious, but rather ignorant of the danger their actions presented for him. In both cases, the primary driver of the inappropriate behaviour was ultimately borne of ignorance, which is to say a lack of awareness of the problem in question.

For the study on *Kitchen Table* itself, the goal was not only to qualitatively observe and record participants playing the applied game—including the emergent narratives they produced out of interaction with it—but to quantitatively measure if their attitudes had moved towards a more emphatic direction towards people with anaphylactic food allergies as a result of their engagement with the game, and by what degree this movement had occurred. For this purpose, two nearly identical questionnaires, one to be completed immediately before the playing of the game and one to be completed immediately following the playing of the game, were developed. The only difference between the pre-playtest questionnaire and the post-playtest questionnaire was the inclusion of a brief demographic section on the pre-playtest questionnaire and the post-playtest questionnaire's inclusion of a section that covered the player's specific experience with the game for the purposes of further refinement. Both questionnaires employed a Likert scale whereby participants were presented with a series of statements such as "While some allergic conditions are serious, many people with food allergies exaggerate the severity of their condition to receive special treatment" and "I would date a person with an anaphylactic food allergy," and were asked to rate the degree to which

they agreed with the statement in question by indicating their response as either Strongly Agree, Agree, Somewhat Agree, Neutral, Somewhat Disagree, Disagree, or Strongly Disagree. The decision to include Somewhat Agree and Somewhat Disagree as options was made to allow more room for movement from one position to another over the course of the two questionnaires. By tracking this movement, both the degree to which it occurred and the direction in which it went, it could be demonstrated quantitatively how much on average the opinions of participants changed as a result of playing the game and whether or not they were trending towards empathy for people with anaphylactic food allergies. Participants were assigned a random identification number when completing the questionnaires that they were instructed to keep confidential and which was never revealed to the facilitator. Both questionnaires were completed individually through the use of a private mobile electronic device.

In addition to the questionnaires, a focus group-style discussion was held with the participants following the completion of the post-playtest questionnaire to see if they had consciously changed their attitudes towards persons with severe food allergies after exposure to the game and its emergent narratives. At this point, participants were asked qualitative questions about their experience with the applied game and their thoughts on the challenges faced by people with anaphylactic food allergies. Participants were also encouraged to freely offer their own opinions on the subject in question and on the *Kitchen Table* game, with many choosing to use the opportunity to offer their own insights. Some samples of the dialogue received will be provided later on in this chapter, but for now the results of the questionnaire will be discussed in detail. Of the 20 participants in the preliminary study, 60 percent were between the ages of 18 and 24, while 40 percent were between the ages of 25 and 34. These

numbers were within expectations as most of the recruitment took place on the campus of the University of Waterloo and in nearby areas. Ten of the participants self-identified as female, seven self-identified as male, one self-identified as other, and the remaining participants declined to respond to this question. Just over 70 percent of the participants reported having no food allergies, while slightly fewer than 30 percent claimed to experience a mild form of food allergies. None of the participants claimed to be anaphylactic. However, the target demographic for the study was not people who already had been diagnosed with anaphylactic food allergies, and therefore would probably be already well-informed about the condition, but those who had little to no experience with it. One of the participants did report having an immediate friend or family member who had been diagnosed with anaphylaxis. Half of the participants reported having to make accommodations for people with anaphylactic food allergies about once or twice a year, while ten percent reported doing so a couple times a month and another ten percent reported doing so more than a couple of times a week.

In terms of the Likert scale questions themselves, there was substantial evidence of emergent narrative-driven movement towards a direction of greater empathy towards people with anaphylactic food allergies[30]:

- On the statement that declared "While some allergic conditions are serious, many people with food allergies exaggerate the severity of their condition to receive special treatment," 30 percent of participants agreed or somewhat agreed on the pre-playtest questionnaire. On the post-playtest questionnaire, this number dropped to 20 percent with only 10 percent of participants declaring that they outright agreed with the

[30] Copies of both the pre-playtest and the post-playtest questionnaire are included in the appendix, as well as a copy of the results tables.

statement. Furthermore, the number who disagreed or strongly disagreed with the statement grew from just 60 percent on the pre-playtest to 65 percent on the post-playtest. Overall, this represented a positive trend towards empathy for people with anaphylactic food allergic by 15 percent after just over an hour of applied play.

- In terms of the statement of "People with food allergies face significant social stigma," 15 percent of participants said they agreed with it during the pre-playtest questionnaire and 20 percent responded that they somewhat agreed. During the post-playtest questionnaire, these numbers jumped to 20 percent for agree and 30 percent for somewhat agree. For this question, a positive trend towards empathy towards people with anaphylactic food allergies can be observed as 15 percent.
- The statement "Accommodating the needs of people with food allergies can often be too demanding of event organizers" was met with some form of disagreement by 45 percent of participants in the pre-playtest questionnaire. In the post-playtest questionnaire, this figure moved to 50 percent, a trend towards empathy of 5 percent.
- Sixty percent of participants disagreed or strongly disagreed that "Food allergies are not as serious as other conditions requiring dietary restrictions" on the pre-playtest questionnaire. For the post-playtest, that number jumped to 80 percent. This movement represented a positive empathetic trend of 20 percent.
- During the pre-playtest questionnaire, 60 percent of participants disagreed with the statement "I am reluctant to prepare food for a person with an anaphylactic food allergy," in some capacity. For the post-playtest questionnaire, the same question elicited some form of disagreement from 75 percent of participants. This change represented a positive trend towards empathy for people with anaphylactic food

allergies of 15 percent. It should be noted that *Kitchen Table* was mechanically very focused on simulated meal preparation, which might help explain the high confidence of participants during the post-playtest where three out of every four participants no longer felt reluctance in preparing food for a person with a severe food allergy.

- Seventy-five percent of participants, on the pre-playtest questionnaire, disagreed in some form with the statement of "I am reluctant to invite a person with an anaphylactic food allergy over to my home." Ten percent agreed with it in some form. On the post-playtest questionnaire, the number in agreement in some form stayed the same, but the number in disagreement in some form rose to 80 percent, representing a positive trend towards empathy of five percent.
- On the pre-playtest questionnaire, 75 percent of participants agreed in some form that they would befriend a person with an anaphylactic food allergy. That number rose to 80 percent on the post-playtest questionnaire, signifying a trend towards empathy of 5 percent despite an already high starting value.
- Interestingly, 85 percent of participants agreed in some form that they would consider dating a person with an anaphylactic food allergy on both the pre-playtest questionnaire and the post-playtest questionnaire. Since this number was already exceptionally high, it was not surprising to see little change on the agreement side of the spectrum. On the disagreement side, however, the percentage of participants who refused to date a person with an anaphylactic food allergy declined from 10 percent to 5 percent between the pre-playtest questionnaire and the post-playtest questionnaire. This change represents a 5 percent movement towards empathy.

- For the pre-playtest questionnaire, the statement "all public places should be safe for people with food allergies" had 40 percent of participants somewhat agree, 25 percent agree, and 15 percent strongly agree. In the post-playtest questionnaire, only 15 percent of participants somewhat agreed, but 40 percent agreed and 25 percent strongly agreed. In effect, the number of participant strongly agreeing rose 10 percent, while those agreeing rose 15 percent, representing a shift towards empathy of 25 percent.
- The statement that "All unpackaged food products, such as produce or baked goods, that may contain allergens should be clearly labelled" drew a response of agree or strongly agree from 55 percent of participants during the pre-playtest questionnaire. For the post-playtest questionnaire, that same figure jumped to 75 percent. This represented a positive movement towards empathy of 20 percent.
- Finally, on the notion that "The general public should be better educated about food allergies," the pre-playtest questionnaire results revealed that 80 percent of participants agreed or strongly agreed with 20 percent in strong agreement. The post-playtest questionnaire results found that 80 percent of participants still agreed or strongly agreed with the same statement, but now the percentage that strongly agreed represented 35 percent of the participants. In this case, the positive trend towards empathy was 15 percent.

In terms of the qualitative discussions and the game play itself, some of the conversations, with the permission of the participants, were recorded. During the play of the applied game itself, many participants made emergent statements that reinforced the notion that they were embodying their assigned character and acting in empathetic accordance with that character's position. Examples of this dialogue include: *"*Dangit! I didn't know I couldn't eat that,*"* *"*I

would play this, but [other player] has an allergy to tree nuts. Does anyone have something we could substitute?*"* "Shoot! I'm allergic to that. I can't eat it," "Man, he still hasn't anything to eat yet, we should make something we all can eat," "I'm allergic to gluten, how am I supposed to eat enough grains?" and "Man, must be tough having to read labels all the time." In this way, greater empathetic awareness of the position of people with anaphylactic food allergies was communicated, not through the passive consumption of educational material, but through the active participation in the collective conversational construction of an emergent narrative driven by interaction with the game mechanics. In this sense, it was not specifically the game in of itself that was driving the trend towards empathy, but rather the interaction of the players with the game as well as with each other. These conversations were a direct result of the game, as the players discussing it formed the basic foundation of a fledgling participatory fan community. While not all players moved towards greater empathy on all questions—there were a few cases where attitudes moved in the opposite direction—the results were generally in the direction of greater empathy overall.

There were considerable limitations with this applied game study which should be noted here. For one, due to budgetary limitations, the study was restricted to a sample size of 20 participants, a fraction of the number originally intended. Furthermore, the study was intended to function as a pilot study, a means of gathering preliminary results and laying the groundwork for future research with a wider sample size. Likewise, due to the nature of the study's requirement for ethical clearances, it was decided not to conduct the study with anyone under the age of 18, although further research would likely be required to determine the game's suitably and effectiveness among children and youth who would represent an important segment of its target demographic. Also, since the recruitment for the study occurred primarily

around the main campus of the University of Waterloo, the recruited participants were overwhelmingly post-secondary students in their mid to early twenties, many of whom likely already had some experience with allergy education and entered the study with already reasonably sympathetic viewpoints. Notably, however, this context may suggest that, considered a small but significant positive trend towards empathy towards people with anaphylactic food allergies was observed, this trend could prove to be even larger and more definitive in a larger and educationally broader sample size.

Another criticism of the study, and an aspect of its limitations in terms of budget, was the absence of a separate control group. In effect, the control was established temporally rather than spatially, with the testing of the participants' perspectives in the pre-playtest being taken as the control—a representation of their attitudes prior to exposure to the *Kitchen Table* game—and the compared to the post-playtest—a representation of their attitudes after interacting with the applied game. While it is true that the same style of study could have been performed using another media form—such as lecture or an educational video—to deliver allergy awareness and education materials, the point of this initial study was not to compare the effectiveness of the *Kitchen Table* game's versus other media forms, but to demonstrate its own potential effectiveness before comparing it to other media forms in a wider study. Furthermore, even if the *Kitchen Table* had been demonstrated to be comparably effective as more traditional passive forms of media, this eventuality would still underscore its potential as another means of reaching audiences, particularly those who may be reticent about or less suited to more traditional campaigns.

Another issue, as mentioned previously, is that the study was conducted by myself, who—as the designer of the game—has an unavoidable bias towards its success. As such, I would argue that the study should be replicated independently—without my involvement—in order to ensure that the results were predicated entirely on the player experience with the game and not on their contact with me. Conducting the study personally was the only available means to ensure that the project worked in principle for its intended purpose—generating empathy towards people with severe food allergies. Its success as a preliminary study, by extension, should serve as grounds for further independent research into the use of *Kitchen Table* to promote empathy towards people with severe food allergies and the broader use of emergent narrative through applied games.

Despite these limitations, the study does demonstrate that applied gaming, while not without its limitations, can be an effective means of achieving a social or cultural goal through carefully designed game materials to create the conditions for emergent narrative from player interaction with game mechanics. The success of this study reinforces the understanding that applied games with their unique capability to immerse the player directly in the position of a character external to him or herself, are supremely positioned to bridge the empathy gap by artificially recreating the emotional state through a controlled and voluntary environment (Caillois 6). In this sense, a savvy game designer might even be able to influence the attitudes of those individuals who are initially hostile to the agenda he or she is seeking, through the creation of compelling game-play and allowing the narrative to be emergent from the player's own actions in the games. This could also allow games, when dealing with a particular issue with which some audiences may be less receptive than others, to avoid the pitfalls of "preaching to the choir" (Hestres), whereby most of the message is being presented to an

audience who already has a vested interest in it and is already inclined to agree. Many traditionally passive media forms—such as film, television, lectures, and even the Internet to a large extent—can struggle to attract and engage audiences who are inclined to be opposed to their point of view, but games can use the power of compelling gameplay to attract these audiences to engage anyway with content they might not necessarily agree. Games, by their very nature, engage the player directly in the execution of the media form, making games responsible, to some extent, for the eventual outcome (Ruggill and MacAllister 3), and this responsibility can breed greater ownership of the activity in question. Games also allow a myriad of different communicative approaches—including visual, textual, auditory, and physical communication—allowing them to easily incorporate multiple learning styles (Rolfe and Cheek 177). In the end, the use of an applied game such as *Kitchen Table* is not without its limitations and concerns, but the potential effective use of it as a tool to address pragmatic issues remains too large to be ignored. The key thing that must always be remembered, however, is that as emergent narrative can never be fully controlled, any applied game design that attempts to employ it for a particular purpose must accept the fluidity of player responses and accept that the emergent narrative might take it in entirely new directions.

CONCLUSION

Applied games—or at least the use of games to serve some particular purpose—have become rather trendy in recent years, both in the academy and in the practical world. Few other media forms can compete with the capacity of games to achieve Csíkszentmihályi's flow (3) and this emphasis on consumer participation situates the player in such a way that the emergence of narrative from interaction with game mechanics can take on a more personal

level while at the same time feeding the development of a participatory fan culture. Other than strict training programs, applied games will always struggle to a certain extent in directing their emergent narratives towards a definite goal, but by embracing more fluid outcomes they may be able to achieve unforeseen outcomes.

Through the development of *Kitchen Table*, I was able to experiment firsthand with the use of emergent narrative through applied games, in this case applied to generating greater empathy towards people with severe food allergies. By establishing this preliminary study, my hope is that this experiment will set the groundwork for a great multitude of further studies based on the use of an applied game to solve a problem, distinguished now by the understanding that it is the emergent narratives that affect the lasting changes more so than the game mechanics themselves. Much research still needs to be done as to how these studies should be quantified and qualified, but the work I have done here hopefully serves as a step in that direction.

In terms of narrative theories and game study, this chapter has emphasized the practical use of emergent narrative, which should now be understood, not only as an inevitable consequence of player interaction with game mechanics, but as phenomenon that designers will seek to harness for a variety of purposes. As with any media form, the way games are used remains subject to ethical questions and considerations, but the tendency of emergent narrative to defy initial authorial intent in favour of the will of the player and the participatory fan community should lead the use of applied games to a great deal of beneficial work. In the end, the way in which a game is applied is ultimately a question of the intent of its creators and its playing community. Through the power of emergent narrative from game mechanics, the

game's initial designers can never truly exert total authority over the play of the game during the course of its lifetime, as doing so would infringe on the game's capacity to function as a game. As such, the playing community may play the game with intentions in concert with the designers, but may also resist those intentions through its interaction with the game mechanics, and effect the creation of new emergent narratives that diverge from the original intent of the designers or counter them entirely. Ultimately, the potential application of games in solving complex problems is too great an opportunity to ignore, and tools should be created to facilitate the emergence of narrative in a variety of directions. Like any tool, the ethics of applied gaming are ultimately in the hands of those who use them. However, the focus must be on applying new and existing game mechanics to practical purposes with the mindset that even an applied game must function as a game first—and in so doing create the conditions for emergent narrative—if it seeks to achieve its function at all.

CONCLUSION

This dissertation asked the central question: **do game mechanics inherently produce emergent narratives?** In response to this question, it was hypothesized that game mechanics do indeed inherently produce emergent narrative as a consequence of the necessary interaction between them and the players as well as the participatory fan community. To support this argument, five chapters were written to explore this idea, provide evidence in favour of it, address possible criticisms, and lay the foundation for research and applications. These chapters explored the specific topics of agency in the following order: narrative generation, non-narrative games, participatory fan culture, and applied gaming. Throughout, it was demonstrated how these areas related to the emergence of narrative from game mechanics.

In this conclusion, I will briefly touch on each of these chapters, identifying their contribution to present-day scholarship, their wider meaning, and their broader implications for research and application. Following this discussion, the overall conclusions of this dissertation will be presented with emphasis on its importance to the field of game studies and other areas. Finally, the possible practical applications of this research will be considered, as well as indications of future areas of research.

REVIEW OF CHAPTER ONE

In the first chapter, the question was asked: **what is the relationship between player agency within games and the emergence of narrative from game mechanics?** For emergent narrative to be understood as emerging inherently from the interaction between players and game mechanics, it first had to be demonstrated that players could have a unique degree of agency in games in comparison to other media forms. To this end, the chapter explored various

conceptualizations of agency and compared the relationship of agency, and by extension emergent narrative, to games as well as other popular media forms. It was found that while all media forms challenge traditional notions of authorship to a certain degree, the emphasis on interactivity found in games greatly empowered and encouraged players to take on a more active engagement with their chosen media, even in games with more traditionally linear narratives. This increased engagement, in turn, led to a greater propensity for the development of emergent narratives. Finally, potential barriers to agency were investigated to determine if they represented significant barriers to the emergence of narrative from agential player interaction with game mechanics. To explore the relationship between agency and emergent narrative further, TellTale's transmedia adaptation of *Game of Thrones* was examined and critiqued as an attempt at greater player agency in a linear storytelling format. In the end, it was determined that all parties to the construction and operation of a game—including designers, publishers, players, and fans—had a limited degree of agency, but by embracing their unique capacity for interactivity, games could allow for the development of richer emergent narratives and more satisfying play experiences.

The main contribution this chapter makes to the discussion of emergence of narrative in game studies is the reinforcement of the notion that players do have a high degree of agency in their interaction with game mechanics. This agency—which is critical for the emergence of narrative to occur—is nonetheless tampered by the limitations imposed by the game designer and the socially constructed identity of the player. Nevertheless, this dissertation firmly asserts that player agency not only does exist through interaction with game mechanics, but can in fact exceed the limitations imposed by the designer and extend into the wider participatory fan community. Even in games such as Telltale's *Game of Thrones*, which rely heavily on the

illusion of agency rather than agency in its purest form, players find ways to assert their agency by imposing their own interpretation of characters and events and challenging authorial assumptions in the interactive fandoms.

The wider meaning of this understanding is that players, as independently acting agents, can never be fully corralled by the imposition of a games rules. While some players do enjoy greater restrictedness and minimalism over widespread openness and explorability, games must at least satisfy the basic elements of player agency to compel engagement. Furthermore, games that do a better job of facilitating player agency, rather than resisting it, are likely to receive stronger critical acclaim and popularity. The implication is that games that embrace emergent narrative in their design and accept it as a quintessential element of their ongoing development are much more likely to be successful in the longer term.

REVIEW OF CHAPTER TWO

The second chapter addressed: **how do game mechanics, which are seemingly divorced from narrative, in fact generate it?** Splitting the discussion into four more specific areas, the chapter first considered how emergent narrative and game mechanics might be connected in a tangible sense. Then, the chapter explored the historical ludology versus narratology debate to better understand how the relationship between narrative and games had both been investigated and conceptualized in the past. Building upon this discussion, the presumed requisite for games to have a narrative was called into question, and potential limits to the association of narrative and games were explored. In the end, however, while it was determined that linear narratives are by no means an essential requirement of games, emergent narratives—of one form or another—remain an inevitable by-product of the interaction

between game mechanics, players, and the surrounding community. In order to demonstrate this idea, the classic video game *Tetris* was examined as a source of emergent narrative.

This chapter's main contribution was the description and discussion of the main processes through which narrative emerges from the interaction of players and game mechanics, cementing the idea that this was a widespread phenomenon in games and not just the occasional purview of a select few. Through explaining these processes and building on the previous chapter's discussion of agency, it underpinned my conceptualization of emergent narrative that underwrote the rest of the dissertation and provided an updated understanding of the term for the field of game studies. The wider meaning of this chapter is the notion that emergent narrative can be applied to all games, therefore implying that emergent narrative is a quintessential element of what makes a game, a game.

REVIEW OF CHAPTER THREE

Building on the previous chapter's discussion, the third chapter focused on making the case for the emergence of narrative in non-narrative games with the following question: **does emergent narrative exist in non-narrative games?** In addressing this question, this chapter first began by defining non-narrative games and distinguishing them from other forms. Next, the chapter considered various different media platforms for games—such as digital, tabletop, and physical games—and questioned whether or not the means of delivery might impact the emergence narrative from non-narrative games. In the end, the theoretical possibility of eliminating narrative entirely from a game was examined, but it was ultimately determined that emergent narrative, in one form or another, continued to persist. To underscore this phenomenon, the highly abstract tabletop game go was considered as a case study, in particular

the match between Lee Sedol and AlphaGo, where it was shown that, even in a game famous for its abstraction, meaningful narrative experiences did emerge.

This chapter contributed to the dissertation and to the wider discussion of emergent narrative in game studies by addressing the assumption—often espoused by self-styled ludologists like Espen Aarseth ("Quest Games as Post-Narrative Discourse") and Greg Costikyan ("Where Stories End and Games Begin.")—that some games have no relationship to narrative. While certainly linear narratives are optional attachments to games for the most part, emergent narratives are products of the interaction between players, games mechanics, and the surrounding community. Wherever this interaction occurs, some degree of emergent narrative must always be present. By examining the existence of emergent narrative in games often considered non-narrative—in particular the traditional Chinese board game Go—this chapter reinforced the universality claim for the emergence of narrative. The wider meaning of this chapter is that no game can truly be understood as completely non-narrative, implying that all games have emergent narrative elements through the interaction of players, game mechanics, and communities.

REVIEW OF CHAPTER FOUR

In the fourth chapter, discussion turned towards participatory fan culture, driven by the question: **what is the relationship between a game's participatory fan community and the emergence of narrative through game mechanics?** As in previous chapters, this one began by first identifying how the concept of a participatory fan community should be understood. With this conceptualization in mind, the process by which these communities evolve around popular games was explored, demonstrating that this evolution was an extension of emergent

narratives produced through player interaction with game mechanics. Understanding recent trends towards game-focused or player-focused game studies, the chapter called into question the idea that players and games could be realistically separated in any meaningful capacity, and noted that likewise the participatory fan community was inherently linked with both. Finally, it was shown that by embracing this relationship with the participatory fan community, game-derived emergent narratives could be used for external applications. The case study for this chapter focused on the subject of improvisational theater as an example of using game-based mechanics to facilitate stronger audience participation and ultimately compelling emergent narratives.

The main contribution of this chapter to the dissertation was a more thorough examination of the role of the participatory fan community in the emergence of narrative from interaction between players and games. In terms of contributions to the field of game studies, this underlined the notion that games, players, and the communities that incorporate them, are best understood, not as isolated units, but as interconnected operators working off of each other in the production of emergent narrative. By viewing participatory fan communities as an essential part of this complex intermingling, the field of game studies can better appreciate the wider meaning of this interaction and gain a better understanding of the role these quasi-external forces play. Through the use of improv theatre as a case study, I demonstrate that through embracing the interaction between audience and the players as well as the game, the process of engagement even agency can be spread well beyond the limited confines of Huizinga's magic circle (8). This implies that participatory fan communities and even audiences themselves should not be considered passive observers, but active agents in the emergence of narrative that occurs.

REVIEW OF CHAPTER FIVE

The fifth chapter explored the subject of applied games and their relationship with emergent narrative, outlined by the following question: **If narrative is emergent from player interaction with game mechanics, how can designers use that interaction to generate meaningful play and to mount effective rhetoric through applied games?** Once again, this chapter began by defining its key overriding term, in this case applied games. Once what was and was not an applied game was clarified, the discussion moved on to the subject of how the emergence of narrative from applied games might be limited. Building upon this discussion, the next section considered the effectiveness of applied games in the past, arguing that they were only successful when meaningful emergent narratives were achieved. This led to the final question of to what purposes should applied gaming be directed. The case study for this chapter featured an in-depth analysis of the "Use of Persuasive Games to Promote Empathy for Persons with Food Allergies" study and the *Kitchen Table* game, which demonstrated that not only does meaningful narrative emerge from player interactions with game mechanics but that emergent narrative can serve a practical application in addressing difficult, genuine, and serious issues.

By looking at potential practical applications of this research, this chapter contributed a pragmatic understanding of the dissertation's discussion of emergent narrative. While the study of games is not always concerned with such hands-on approaches, the field nevertheless benefits from knowing how my research might be applied to ongoing or future projects in which the emergent narrative of a game is intended to address a real-world goal. By better understanding how the emergence of narrative operates in applied games, game designers can

more effectively use the tools at their disposal to achieve the desired effect. Since contemporary attempts at serious games and gamification often misappropriate or misunderstand the use of games to achieve a particular end (Bogost "Gamification is Bullshit"), putting forward a more in-depth understanding of the role of the emergence of narrative should allow for more successful projects in the years to come. The *Kitchen Table* game, and other projects like it, are preliminary attempts to refine the use of emergent narrative for a particular cause. The understanding of emergent narrative that I put forward in this dissertation could be widely useful in addressing a myriad of ongoing social issues. The implication is that the games that will be most successful are those that employ the use of emergent narrative, not only for their own specific goals, but for the betterment of the players, the game, and the surrounding participatory fan community.

RESEARCH CONCLUSIONS

This dissertation has certainly not been the first academic investigation into the relationship between emergent narrative and game mechanics. When Ruth Aylett coined the term *emergent narrative* in "Narrative in Virtual Environments," she understood emergent narrative as a potential consequence of some games, but hardly a universal phenomenon (83). Subsequent academic investigations into this relationship—in particular the "narrative architecture" of Henry Jenkins ("Game Design as Narrative Architecture") and Jesper Juul's notions of games of emergence versus games of progression ("The Open and the Closed" 323)—have maintained this assumption that emergent narrative as a phenomenon is only relevant to certain types of games in certain circumstances. Throughout this dissertation, I have

taken a divergent approach to this long-standing idea, presupposing instead that all games produce emergent narrative.

The main underlying idea that this dissertation adds to ongoing research is that the existence of emergent narrative in a game is not subject to a question of if it exists but a question of to what degree it exists. This distinction is key as it moves the discussion away from whether or not a game has overt narrative elements, therefore avoiding many of the pitfalls of the previous narrative versus ludology debate. With the existence of emergent narrative defined as a degree on spectrum rather than a yes or no condition, this dissertation allows for a more fluid understanding of the role emergent narrative serves not only in game development but also in the experience of play itself. In this case, narrative in games is not predicated on linear attachments such as a digital cut-scene or an instruction manual—although each, when designed appropriately, can certainly be effective in shaping the emergence of narrative—but rather on the direct interaction between the player and the game itself. Since all games by their definition require the existence of this interaction, all games likewise can be seen as producers of emergent narrative.

Through understanding emergent narrative as a fundamental consequence of player interaction with game mechanics, this dissertation has laid the groundwork for viewing any and all play experiences as foundationally meaningful. While the degree of a game's meaningfulness might vary considerably—and in certain cases be difficult to detect—understanding the play experience itself as meaningful at some level better illustrates the capacity for games to engage players with such intensity. This new conceptualization allows for a more useful framework for how games operate, allowing game designers to embrace the

emergent narrative inherent within their own game's interactivity and produce more engaging products.

In recent years, the field of game studies has often been divided into player-focused and game-focused studies (Juul *Half-Real* 35). This dissertation rejects that approach, arguing that no study of games is truly complete if the role of the player and the role of the game are viewed in isolation rather than in relationship to each other. Instead, I have argued throughout that phenomena of games are best understood through the interaction of players and game mechanics, and by extension the wider community that surrounds them. By understanding players and games not as isolated units, but as fluidly defined nodes with loose boundaries in a web of interactive relationships, this dissertation has allowed for the emergence narrative to become visible where otherwise it may have been considered impossible.

This understanding of the universality of the emergence of narrative from game mechanics also allows for a greater incorporation of the role of participatory fan communities in the continuing evolution of games. While the importance of the specific relationship between the player and the game has been paramount throughout this dissertation, this symbiosis was never considered to be a phenomenon in isolation from the wider external community that ultimately spawned it. While games are still often considered to be inherently escapist—and many one player games, such as the card game solitaire, are often thought to be inherently antisocial—no game can truly exist without the background of cultural knowledge and experience that came before it. For that matter, no player enters into a play session without some form of residual culturally constructed experience as to what it means to play. Furthermore, through interacting with each other to produce emergent narrative, games and

players can directly or indirectly impact the ongoing development of games, and the construction of culture in the communities in which they are participating.

Throughout this dissertation, it has been repeatedly and consistently established that game mechanics, owing to the nature of interactivity with players and participatory fan communities, is inherently linked to the emergence of narrative. By first establishing that this emergence was a result of increased agency in comparison to other media forms, the dissertation went on to demonstrate how narrative emerged from the interaction between game mechanics, players, and participatory fan communities, even in the case of supposedly non-narrative games. By focusing on the relationship between game mechanic, player, and participatory fan community, it was shown that games could be designed to direct the emergence of narrative towards more applied ends. Overall, by understanding emergent narrative as inherent to all games as a product of their interaction with players and communities, the study of games can become more comprehensive.

RESEARCH IMPORTANCE

This research and the conclusions it has drawn will be beneficial, not only to scholars interested in game studies, but to prospective or veteran game designers and developers looking to establish a more emergent and meaningful experience for their players. Furthermore, by cementing the understanding of game mechanics and emergent narratives as not distinct structures, but aspects of a combined social system, this greater accuracy will help both game scholarship and game development move in a more integrated direction. For player and participatory fan communities, this should also mean more engaging and meaningful experiences. In some cases, the research should also prove useful for the development and

implementation of emergent narrative projects designed to deal with a particular issue in the physical world.

By understanding emergent narrative as a quintessential element of the gameplay experience, scholarship on games can finally move away from the dead ends of the ludology versus narratology debate and focus on the true potential of games as a storytelling medium in their own right. In this era where games are increasingly being developed with compelling narratives that operate in tandem with their game mechanics and are produced through emergence, game studies scholarship can no longer dismiss narrative as merely an awkward ghost of the past. If games are truly to be understood, then they must be understood as the full composite of their interaction between player, game mechanics, and participatory fan community.

Furthermore, the use of emergent narrative in applied gaming is ongoing and demands further study. As mentioned previously, the recent announcement by UNESCO's Mahatma Gandhi Institute of Education and Peace to use games to generate empathy is but one example of NGOs, non-profit, governments, businesses, and other organizations trying to employ the emergence of narrative to achieve one means (Ore). If the field of game studies is to truly understand how games are being used to help people, or even in some cases harm them, then it can no longer allow the delusion that games have nothing to do with narrative. The time has come for the field of game studies not to view narrative as an imposition from humanities scholars in other disciplines, but as a fundamental aspect of games that, through its embrace of emergence, underscores the uniqueness of games rather than erasing it.

RECOMMENDATIONS FOR FUTURE RESEARCH

While this dissertation covered a broad range of games and ideas, there were many areas of discussion I was not able to fully address, but would strongly recommend for future research. For one, since I was mostly concerned with the operation of games at their most basic level, I decided to treat the three main categories of games—that is to say physical games, tabletop games, and digital games—as equally as possible. However, each of these categories alone more than merits a deeper investigation as to how it uniquely sparks the emergence of narrative as compared to the other two. Likewise, within each category there is potentially sufficient range for the exploration of the emergent of narrative in a particular genre or platform.

The chapters on agency, non-narrative games, participatory fandoms, and applied games, could each use a more extended focus, although doing so was outside the purview of this dissertation with which I was primarily concerned with establishing the production of emergent narrative from the interaction between players, game mechanics, and their surrounding community. Agency in games, or the competition for agency between the player, the designer, and the fans, would certainly be a worthwhile area for future research, particularly into how such agency is used to generate player identity. While I feel like I dealt with non-narrative games as much as possible in this dissertation, some scholars may wish to revisit the subject and re-examine how narrative might exist through emergence in non-narrative games. The role of participatory fandoms likewise has only grown more prominent in recent years, and the continual development of social media will likely only accelerate the trend, leaving plenty of fertile ground for the game scholars of tomorrow. The use of applied games is also set to become increasingly relevant in the years to come, and game scholars must

remain vigilant to ensure that emergence of narrative is being used the right way for the right reasons.

Another major area for further research would be the production of culture from games as a result of the emergence of narrative. For instance, games have proven effective at producing emergent narrative in a wide range of international cultures and settings and specifically-engineered games and their emergent narratives could theoretically be used to bridge linguistic and intercultural barriers. The interaction of game mechanics, players, and player communities can lead to an increasing number of divisions into various subcultures, but it could also be theoretically used to bridge cultural gaps and build stronger communal identification. Furthermore, player self-identity, in particular the attraction to using the agency of games to express oneself in a mechanical environment, remains a fertile area for further consideration.

Finally, the applied use of emergent narratives in terms of education has much potential for future research. The various attempts to use games for instruction—some more successful than others—are arguably the most common examples of applied gaming. The use of games for educational purposes can be considered separately from the other persuasive games due to the sheer volume of examples—many of which were poorly designed, earning a derogatory quality to the "edutainment" nickname for the genre. While much scholarly research has already been done into the use of games in education, applying the new understanding of emergent narrative as I have argued for in this dissertation may allow a better understanding of why certain educational games failed and why others might succeed.

In the end, the main focus of this dissertation has been on the inherent production of emergent narrative from the interaction of game mechanics, players, and participatory fan

communities. With this connection now firmly in place, the next step will be to explore the myriad of ways that connection might be used both for further research in game studies and for application in the field of game design. Ultimately, a greater understanding of the integrated function of games should and will lead to the development of better games that acknowledge the integrated and composite nature of the media and allow games to be used to a greater potential.

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APPENDIX

This appendix includes copies of both the pre-playtest and post-playtest questionnaires as used in the "Use of Persuasive Games to Promote Empathy for Persons with Food Allergies" study involving the *Kitchen Table* game discussed in chapter four. Included at the end, there is also results tables from the study.

PRE-PLAYTEST QUESTIONNAIRE <to be completed online>

Please read and answer all questions to the best of your ability. Please remember that participation is voluntary and you may stop participating at any time. The questionnaire has been divided into three sections: demographic information, perspectives on food allergies, perspectives on persuasive games, and playtest feedback. It should take you approximately 20-30 minutes to complete this questionnaire.

SECTION ONE-DEMOGRAPHIC INFORMATION

Please read each question and choose the answer that is most appropriate for you.

#1-What is the identification number provided to you at the start of the study? Please enter it here.

#2-In what range is your age?

8-12 13-17 18-24 25-34 35-44 45-54 55-64 65-74 75-84 85+

#3-What is your gender?

Male Female Other

#4-What is your personal relationship with food allergies?

I have an anaphylactic food allergy or allergies
I have a mild food allergy or allergies
I have no food allergies
I don't know

#5-Is there a member of your immediate friends and family with food allergies?
Yes, with a mild food allergy or allergies
Yes, with an anaphylactic food allergy or allergies
No, no one in my immediate friends and family has food allergies
I don't know

#6-How often do you have to make accommodations for people with food allergies?
More than once or twice a week
Once or twice a week
A couple of times a month
A couple of times a year
Never
I don’t know

#7-How often do you play tabletop games (examples include board games, card games, pen and paper role-playing games, chess, etc.)?

More than once or twice a week
Once or twice a week
A couple of times a month
A couple of times a year
Never
I don’t know

#8-How often do you play digital games (examples include video games, computer games, mobile games, Internet browser games, etc.)?

More than once or twice a week
Once or twice a week
A couple of times a month
A couple of times a year
Never
I don’t know

SECTION TWO-PERSPECTIVE ON FOOD ALLERGIES

Please read each statement and choose the answer that most closely resembles your point of view.

#1-People with food allergies have other effective treatment options rather than just avoiding the allergen.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#2-While some allergic conditions are serious, many people with food allergies exaggerate the severity of their condition to receive special treatment.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#3-In recent years, more people seem to have been diagnosed with food allergies than ever before.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#4-People with food allergies face significant social stigma.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#5-Accommodating the needs of people with food allergies can often be too demanding of event organizers.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#6-Food allergies are not as serious as other conditions requiring dietary restrictions.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#7-People with food allergies can overcome or "grow out of" their condition if they learn to eat food which contains the allergen.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#8-Organizations such as schools and businesses have gone too far in trying to accommodate people with food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#9-A food allergy is a curable condition.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#10- I am reluctant to prepare food for a person with an anaphylactic food allergy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#11-I am reluctant to invite a person with an anaphylactic food allergy over to my home.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#12-I would befriend a person with an anaphylactic food allergy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#13-I would date a person with an anaphylactic food allergy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#14-All schools and educational facilities should be safe for people with food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#15-All offices and places of work should be safe for people with food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#16-All public places should be safe for people with food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#17-All packaged food products that may contain allergens are clearly labelled.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#18-All unpackaged food products, such as produce or baked goods, that may contain allergens should be clearly labelled.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#19-All restaurants should provide a list of all the ingredients in all of their dishes.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#20-The general public should be better educated about food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

SECTION THREE-PERSPECTIVE ON PERSUASIVE GAMES

Please read each statement and choose the answer that most closely resembles your point of view.

#1-Tabletop games are popular leisure activities amongst my family and friends.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#2-Digital games are popular leisure activities amongst my family or friends.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#3- Amongst my family and friends, I am usually the organizer of games.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#4-Persuasive games, games designed for purposes other than simply entertainment, can be a valuable educational tool.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree

Disagree
Strongly Disagree

#5- Persuasive games can be a valuable tool for generating social change.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#6-Games that attempt to accomplish goals other than just entertainment are not fun.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#7-Games that emphasize mechanics based on chance over skill do not interest me.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#8-Games that require complex strategies to win interest me.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#9-Games which require interaction with other players are better than games that feature no social interaction.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#10-When playing against opponents, I prefer to play in-person rather than through a digital device.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#11-I prefer co-operative games to competitive games.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#12-I prefer games that tell a story.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#13-I think games are an important form of media like books, television, or the Internet.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#14-I think people spend too much time playing games of any type.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#15-I think games distract people from work.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#16-I think games make people less social.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#17-I think too much gaming is a serious problem in today's society.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#18-I think games are capable of raising serious questions.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#19-Games often increase personal conflict between players.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#20-Games can be a form of therapy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

POST-PLAYTEST QUESTIONNAIRE <to be completed online>

Please read and answer all questions to the best of your ability. Please remember that participation is voluntary and you may stop participating at any time. The questionnaire has been divided into four sections: participant number, perspectives on food allergies, perspectives on persuasive games, and playtest feedback. It should take you approximately 20-30 minutes to complete this questionnaire.

SECTION ONE-PARTICIPANT NUMBER

Please answer the following question.

#1-What is the identification number provided to you at the start of the study? Please enter it here.

SECTION TWO-PERSPECTIVE ON FOOD ALLERGIES

Please read each statement and choose the answer that most closely resembles your point of view.

#1-People with food allergies have other effective treatment options rather than just avoiding the allergen.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#2-While some allergic conditions are serious, many people with food allergies exaggerate the severity of their condition to receive special treatment.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#3-In recent years, more people seem to have been diagnosed with food allergies than ever before.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#4-People with food allergies face significant social stigma.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#5-Accomodating the needs of people with food allergies can often be too demanding of event organizers.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#6-Food allergies are not as serious as other conditions requiring dietary restrictions.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#7-People with food allergies can overcome or "grow out of" their condition if they learn to eat food which contains the allergen.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#8-Organizations such as schools and businesses have gone too far in trying to accommodate people with food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#9-A food allergy is a curable condition.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#10- I am reluctant to prepare food for a person with an anaphylactic food allergy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#11-I am reluctant to invite a person with an anaphylactic food allergy over to my home.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#12-I would befriend a person with an anaphylactic food allergy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#13-I would date a person with an anaphylactic food allergy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#14-All schools and educational facilities should be safe for people with food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#15-All offices and places of work should be safe for people with food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#16-All public places should be safe for people with food allergies.

Strongly Agree
Agree

Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#17-All packaged food products that may contain allergens are clearly labelled.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#18-All unpackaged food products, such as produce or baked goods, that may contain allergens should be clearly labelled.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#19-All restaurants should provide a list of all the ingredients in all of their dishes.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#20-The general public should be better educated about food allergies.

Strongly Agree
Agree
Somewhat Agree

Neutral
Somewhat Disagree
Disagree
Strongly Disagree

SECTION THREE-PERSPECTIVE ON PERSUASIVE GAMES

Please read each statement and choose the answer that most closely resembles your point of view.

#1-Tabletop games are popular leisure activities amongst my family and friends.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#2-Digital games are popular leisure activities amongst my family or friends.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#3- Amongst my family and friends, I am usually the organizer of games.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#4-Persuasive games, games designed for purposes other than simply entertainment, can be a valuable educational tool.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree

Disagree
Strongly Disagree

#5- Persuasive games can be a valuable tool for generating social change.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#6-Games that attempt to accomplish goals other than just entertainment are not fun.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#7-Games that emphasize mechanics based on chance over skill do not interest me.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#8-Games that require complex strategies to win interest me.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#9-Games which require interaction with other players are better than games that feature no social interaction.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#10-When playing against opponents, I prefer to play in-person rather than through a digital device.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#11-I prefer co-operative games to competitive games.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#12-I prefer games that tell a story.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#13-I think games are an important form of media like books, television, or the Internet.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#14-I think people spend too much time playing games of any type.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#15-I think games distract people from work.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#16-I think games make people less social.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#17-I think too much gaming is a serious problem in today's society.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#18-I think games are capable of raising serious questions.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#19-Games often increase personal conflict between players.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#20-Games can be a form of therapy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

SECTION FOUR-PLAYTEST FEEDBACK

Please read each question or statement and choose the answer that most closely resembles your point of view. This section is about your experience playing *Kitchen Table*.

#1-How much time did you **feel** like you were spending playing the game today?

Less than an hour
One to two hours
Two to three hours
Over three hours

#2-I could play this game again without looking at the rules.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#3-I did not have a clear strategy.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#4-I became more comfortable with the other players through the gameplay experience.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#5-I stayed interested in the game throughout the duration.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#6-The other players were more competitive than cooperative.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#7-We managed to win the game.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#8-As an individual player, I did not feel in control of the outcome of the game.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#9-As a group of players, we were in control of the outcome of the game.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#10-I had a fair chance to succeed.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#11-I have played co-operative games before.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#12-I would play this game again.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#13- I found the game easy to play.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#14-I would recommend this game to a friend.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

#15-This game helped me become more empathetic towards people with food allergies.

Strongly Agree
Agree
Somewhat Agree
Neutral
Somewhat Disagree
Disagree
Strongly Disagree

RESULTS TABLES

Table A.1-SECTION ONE-DEMOGRAPHIC INFORMATION

In what range is your age?

18-24	25-34	No Answer
55%	35%	10%

Sample Size

20

What is your gender?

Male	Female	Other	No Answer
35%	50%	5%	10%

What is your personal relationship with food allergies?

I have a mild food allergy or allergies	65%
I have no food allergies	25%
No Answer	10%

Is there a member of your immediate friends and family with food allergies?

Yes, with a mild food allergy or allergies	45%
Yes, with an anaphylactic food allergy or allergies	5%
No, no one in my immediate friends and family has food allergies	35%
I don't know	5%
No Answer	10%

How often do you have to make accommodations for people with food allergies?

More than once or twice a week	10%
A couple of times a month	10%
A couple of times a year	45%
Never	25%
No Answer	10%

How often do you play tabletop games?

More than once or twice a week	15%
Once or twice a week	25%
A couple of times a month	35%
A couple of times a year	15%
No Answer	10%

How often do you play digital games?

More than once or twice a week	40%
Once or twice a week	25%
A couple of times a month	10%
A couple of times a year	10%
Never	5%
No Answer	10%

Table A.2-SECTION TWO-PERSPECTIVE ON FOOD ALLERGIES

These results indicate the percentage for each Likert response from both the pre-playtest and the post-playtest questionnaires, as well as the overall trend. Please note that if trend is a positive number, it indicates overall movement towards the position in question. Consequently, a negative trend indicates movement away from the position. If the statement is empathetic towards people with food allergies, a positive trend should represent greater empathy as a result of the emergent narrative produced through interaction with the game. If the statement is not empathetic towards people with food allergies, a negative trend should likewise represent greater empathy as a result of the emergent narrative produced through interaction with the game. Please note some questions, geared more towards awareness, were not directly related to empathy. For each statement, participants had the option of choosing Strongly Agree, Agree, Somewhat Agree, Neutral, Somewhat Disagree, Disagree, Strongly Disagree, or not answering the question.

#1-People with food allergies have other effective treatment options rather than just avoiding the allergen.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	5%	25%	25%	10%	10%	25%	0%
Post-playtest	5%	10%	30%	20%	20%	10%	5%	0%
Trend	5%	5%	5%	-5%	10%	0%	-20%	0%

#2-While some allergic conditions are serious, many people with food allergies exaggerate the severity of their condition to receive special treatment.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	5%	25%	10%	5%	35%	20%	0%
Post-playtest	0%	10%	10%	15%	5%	50%	10%	0%
Trend	0%	5%	-15%	5%	0%	15%	-10%	0%

#3-In recent years, more people seem to have been diagnosed with food allergies than ever before.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	10%	45%	15%	25%	5%	0%	0%	0%
Post-playtest	10%	45%	5%	30%	10%	0%	0%	0%
Trend	0%	0%	-10%	5%	5%	0%	0%	0%

#4-People with food allergies face significant social stigma.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	15%	20%	25%	5%	30%	5%	0%
Post-playtest	0%	20%	30%	10%	5%	25%	10%	0%
Trend	0%	5%	10%	-15%	0%	-5%	5%	0%

#5-Accommodating the needs of people with food allergies can often be too demanding of event organizers.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	5%	25%	25%	10%	25%	10%	0%
Post-playtest	10%	10%	20%	10%	20%	25%	5%	0%
Trend	10%	5%	-5%	-15%	10%	0%	-5%	0%

#6-Food allergies are not as serious as other conditions requiring dietary restrictions.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	0%	0%	20%	20%	30%	30%	0%
Post-playtest	0%	0%	5%	10%	5%	55%	25%	0%
Trend	0%	0%	5%	-10%	-15%	25%	-5%	0%

#7-People with food allergies can overcome or "grow out of" their condition if they learn to eat food which contains the allergen.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	5%	10%	15%	30%	30%	10%	0%
Post-playtest	0%	5%	20%	10%	30%	30%	5%	0%
Trend	0%	0%	10%	-5%	0%	0%	-5%	0%

#8-Organizations such as schools and businesses have gone too far in trying to accommodate people with food allergies.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	10%	20%	20%	5%	35%	10%	0%
Post-playtest	5%	15%	15%	15%	10%	25%	15%	0%
Trend	5%	5%	-5%	-5%	5%	-10%	5%	0%

#9-A food allergy is a curable condition.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	0%	25%	20%	20%	30%	5%	0%
Post-playtest	5%	15%	15%	15%	10%	25%	15%	0%
Trend	5%	15%	-10%	-5%	-10%	-5%	10%	0%

#10- I am reluctant to prepare food for a person with an anaphylactic food allergy.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	5%	15%	15%	10%	40%	10%	0%
Post-playtest	10%	0%	0%	15%	25%	35%	15%	0%
Trend	5%	-5%	-15%	0%	15%	-5%	5%	0%

#11-I am reluctant to invite a person with an anaphylactic food allergy over to my home.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	0%	5%	10%	15%	25%	35%	5%
Post-playtest	5%	5%	0%	5%	10%	45%	25%	5%
Trend	0%	5%	-5%	-5%	-5%	20%	-10%	0%

#12-I would befriend a person with an anaphylactic food allergy.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	45%	30%	0%	10%	0%	10%	5%	0%
Post-playtest	45%	35%	0%	0%	5%	5%	10%	0%
Trend	0%	5%	0%	-10%	5%	-5%	5%	0%

#13-I would date a person with an anaphylactic food allergy.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	40%	40%	5%	10%	0%	0%	5%	0%
Post-playtest	30%	40%	15%	5%	0%	0%	10%	0%
Trend	-10%	0%	10%	-5%	0%	0%	5%	0%

#14-All schools and educational facilities should be safe for people with food allergies.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	25%	60%	10%	5%	0%	0%	0%	0%
Post-playtest	50%	30%	10%	0%	10%	0%	0%	0%
Trend	25%	-30%	0%	-5%	10%	0%	0%	0%

#15-All offices and places of work should be safe for people with food allergies.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	25%	55%	15%	0%	0%	5%	0%	0%
Post-playtest	40%	35%	15%	0%	5%	5%	0%	0%
Trend	15%	-20%	0%	0%	5%	0%	0%	0%

#16-All public places should be safe for people with food allergies.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	15%	25%	40%	15%	0%	5%	0%	0%
Post-playtest	25%	40%	15%	10%	5%	5%	0%	0%
Trend	10%	15%	-25%	-5%	5%	0%	0%	0%

#17-All packaged food products that may contain allergens are clearly labelled.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	25%	30%	25%	0%	5%	10%	5%	0%
Post-playtest	50%	25%	10%	0%	10%	0%	0%	5%
Trend	25%	-5%	-15%	0%	5%	-10%	-5%	5%

#18-All unpackaged food products, such as produce or baked goods, that may contain allergens should be clearly labelled.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	45%	45%	10%	0%	0%	0%	0%	0%
Post-playtest	60%	35%	0%	5%	0%	0%	0%	0%
Trend	15%	-10%	-10%	5%	0%	0%	0%	0%

#19-All restaurants should provide a list of all the ingredients in all of their dishes.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	30%	35%	20%	10%	5%	0%	0%	0%
Post-playtest	45%	25%	15%	15%	0%	0%	0%	0%
Trend	15%	-10%	-5%	5%	-5%	0%	0%	0%

#20-The general public should be better educated about food allergies.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	20%	60%	15%	5%	0%	0%	0%	0%
Post-playtest	35%	45%	10%	10%	0%	0%	0%	0%
Trend	15%	-15%	-5%	5%	0%	0%	0%	0%

Table A.3-SECTION THREE-PERSPECTIVE ON PERSUASIVE GAMES

#1-Tabletop games are popular leisure activities amongst my family and friends.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	20%	60%	15%	5%	0%	0%	0%	0%
Post-playtest	15%	70%	10%	5%	0%	0%	0%	0%
Trend	-5%	10%	-5%	0%	0%	0%	0%	0%

#2-Digital games are popular leisure activities amongst my family or friends.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	45%	35%	10%	10%	0%	0%	0%	0%
Post-playtest	40%	45%	5%	0%	5%	5%	0%	0%
Trend	-5%	10%	-5%	-10%	5%	5%	0%	0%

#3- Amongst my family and friends, I am usually the organizer of games.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	20%	35%	10%	20%	10%	0%	0%
Post-playtest	5%	20%	45%	10%	15%	5%	0%	0%
Trend	0%	0%	10%	0%	-5%	-5%	0%	0%

#4-Persuasive games, games designed for purposes other than simply entertainment, can be a valuable educational tool.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	20%	70%	10%	0%	0%	0%	0%	0%
Post-playtest	35%	60%	5%	0%	0%	0%	0%	0%
Trend	15%	-10%	-5%	0%	0%	0%	0%	0%

#5- Persuasive games can be a valuable tool for generating social change.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	15%	50%	15%	15%	5%	0%	0%	0%
Post-playtest	30%	55%	10%	5%	0%	0%	0%	0%
Trend	15%	5%	-5%	-10%	-5%	0%	0%	0%

#6-Games that attempt to accomplish goals other than just entertainment are not fun.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	0%	5%	15%	15%	50%	15%	0%
Post-playtest	0%	0%	10%	5%	20%	45%	20%	0%
Trend	0%	0%	5%	-10%	5%	-5%	5%	0%

#7-Games that emphasize mechanics based on chance over skill do not interest me.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	15%	15%	20%	10%	25%	5%	5%
Post-playtest	10%	20%	30%	5%	0%	30%	0%	5%
Trend	5%	5%	15%	-15%	-10%	5%	-5%	0%

#8-Games that require complex strategies to win interest me.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	15%	40%	15%	15%	10%	0%	5%	0%
Post-playtest	25%	45%	15%	10%	5%	0%	0%	0%
Trend	10%	5%	0%	-5%	-5%	0%	-5%	0%

#9-Games which require interaction with other players are better than games that feature no social interaction.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	15%	40%	25%	20%	0%	0%	0%	0%
Post-playtest	15%	55%	10%	20%	0%	0%	0%	0%
Trend	0%	15%	-15%	0%	0%	0%	0%	0%

#10-When playing against opponents, I prefer to play in-person rather than through a digital device.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	35%	25%	25%	0%	10%	0%	0%
Post-playtest	10%	40%	25%	20%	0%	5%	0%	0%
Trend	5%	5%	0%	-5%	0%	-5%	0%	0%

#11-I prefer co-operative games to competitive games.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	25%	30%	15%	10%	15%	0%	0%
Post-playtest	5%	35%	15%	20%	15%	5%	5%	0%
Trend	0%	10%	-15%	5%	5%	-10%	5%	0%

#12-I prefer games that tell a story.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	10%	35%	15%	40%	0%	0%	0%	0%
Post-playtest	20%	35%	15%	25%	5%	0%	0%	0%
Trend	10%	0%	0%	-15%	5%	0%	0%	0%

#13-I think games are an important form of media like books, television, or the Internet.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	35%	35%	15%	10%	5%	0%	0%	0%
Post-playtest	40%	35%	15%	10%	0%	0%	0%	0%
Trend	5%	0%	0%	0%	-5%	0%	0%	0%

#14-I think people spend too much time playing games of any type.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	5%	20%	20%	5%	25%	15%	5%
Post-playtest	5%	10%	15%	20%	15%	25%	10%	0%
Trend	0%	5%	-5%	0%	10%	0%	-5%	-5%

#15-I think games distract people from work.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	20%	20%	30%	25%	0%	5%	0%
Post-playtest	5%	15%	5%	15%	35%	20%	5%	0%
Trend	5%	-5%	-15%	-15%	10%	20%	0%	0%

#16-I think games make people less social.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	0%	15%	15%	10%	40%	15%	0%
Post-playtest	5%	0%	10%	25%	0%	35%	25%	0%
Trend	0%	0%	-5%	10%	-10%	-5%	10%	0%

#17-I think too much gaming is a serious problem in today's society.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	5%	15%	15%	15%	10%	35%	5%	0%
Post-playtest	5%	5%	15%	20%	20%	25%	10%	0%
Trend	0%	-10%	0%	5%	10%	-10%	5%	0%

#18-I think games are capable of raising serious questions.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	15%	55%	10%	15%	5%	0%	0%	0%
Post-playtest	35%	40%	10%	10%	0%	5%	0%	0%
Trend	20%	-15%	0%	-5%	-5%	5%	0%	0%

#19-Games often increase personal conflict between players.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	0%	10%	25%	25%	10%	20%	10%	0%
Post-playtest	0%	10%	20%	20%	20%	25%	5%	0%
Trend	0%	0%	-5%	-5%	10%	5%	-5%	0%

#20-Games can be a form of therapy.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Pre-playtest	35%	55%	10%	0%	0%	0%	0%	0%
Post-playtest	35%	55%	10%	0%	0%	0%	0%	0%
Trend	0%	0%	0%	0%	0%	0%	0%	0%

Table A.4-SECTION FOUR-PLAYTEST FEEDBACK

#1-How much time did you feel like you were spending playing the game today?

Questionnaire	Less Than a Hour	One to Two Hours	Two to Three Hours	Over Three Hours
Post-playtest	40%	60%	0%	0%

#2-I could play this game again without looking at the rules.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	5%	60%	20%	0%	0%	0%	5%	0%

#3-I did not have a clear strategy.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	10%	5%	15%	10%	25%	30%	5%	0%

#4-I became more comfortable with the other players through the gameplay experience.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	20%	60%	15%	0%	0%	0%	5%	0%

#5-I stayed interested in the game throughout the duration.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	25%	45%	15%	0%	5%	10%	0%	0%

#6-The other players were more competitive than cooperative.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	0%	5%	5%	5%	10%	50%	25%	0%

#7-We managed to win the game.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	20%	15%	35%	10%	5%	15%	0%	0%

#8-As an individual player, I did not feel in control of the outcome of the game.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	5%	5%	20%	10%	30%	25%	5%	0%

#9-As a group of players, we were in control of the outcome of the game.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	10%	50%	20%	10%	5%	0%	5%	0%

#10-I had a fair chance to succeed.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	25%	40%	15%	10%	5%	5%	0%	0%

#11-I have played co-operative games before.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	30%	50%	10%	5%	0%	0%	5%	0%

#12-I would play this game again.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	25%	45%	10%	5%	10%	0%	5%	0%

#13-I found the game easy to play.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	15%	55%	25%	5%	0%	0%	0%	0%

#14-I would recommend this game to a friend.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	15%	45%	15%	5%	15%	5%	0%	0%

#15-This game helped me become more empathetic towards people with food allergies.

Questionnaire	Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Answer
Post-playtest	15%	35%	25%	15%	0%	5%	5%	0%