Drama in games is created by the interplay of the narrative structure of story and the ludic structure of challenges. In this paper, we combine Csikszentmihalyi's model of engagement and flow with Freytag's pyramid, a model of narrative structure. Using this combination, we explore the dramatic structure of Halo: Combat Evolved, comparing ludic and narrative structures at each stage of the game. Based on our analysis, we recommend that game designers recognise the importance of psychological states beyond flow, and structure gameplay to lead the player on a journey through different states. In particular, we defend the idea of pushing the player out of their comfort zone early in the game to provide motivation and positive stress, and ending the game with challenges below the player’s level of expertise, to allow them to relax, reflect, and experience a sense of closure.

1. INTRODUCTION

Good stories inspire us, transform us, take us to another world. So a storyteller might answer that the dramatic structure of the narrative is what makes a good story. A game designer might argue that a good game challenges the player without overwhelming them. Games differ from other storytelling media in that they give the player agency the power to succeed, and also to fail. Challenges are an integral part of games [1-6], and must interplay with the story, if the story is to have meaning within the context of the game [1, 5]. In combining game and story, however, the game designer faces the risk of compromising the narrative structures that make stories powerful in the first place, or losing the meaningful challenges that make games fun. In order to create powerful, meaningful games, it is important that game designers have tools for structuring the combination of narrative and challenges [5]. Our approach is to bring together a model for structuring narrative with a model for structuring challenges, to create a model for structuring play.

This paper explores the use of dramatic structures, in conjunction with models of psychological experience, to analyse and create engaging play. We first describe dramatic structures, both narrative and ludic, and compare two different models of the psychological experience of flow. We then use these tools to analyse the well known game Halo: Combat Evolved, and make recommendations for designing games according to dramatic structures to improve the experience of play.

2. DRAMATIC STRUCTURES

In literature, theatre, and other non-interactive fictional media, the drama of a work results from the structure of its narrative [7, 8]. The interactive nature of games introduces the possibility of creating drama with variations in the difficulty of challenges [1-4], which we refer to as ludic structure.

2.1 Narrative Structure

Freytag’s pyramid is a narrative structure which was initially identified in successful theatrical tragedies [8]. It has since been widely applied to all narrative forms, and found to characterize most successful fiction [7] as a tool to shape the narrative structures of their works, and can likewise be gainfully utilised by game designers [4]. The premise of Freytag’s analysis is that stories can be divided into five acts: Exposition, in which the setting, protagonist and primary complication are introduced; Rising action, in which the primary complication is confounded by secondary complications; Climax, which marks a turning point in the story, and makes clear the path ahead; Falling action, in which the primary complication is resolved; and Conclusion, which restores a state of normality [4, 7, 8]. The drama rises from the exposition to the climax, then falls again to the conclusion (see Figure 1).
Freytag’s analysis also defines three important dramatic moments: the inciting moment occurs at the end of the exposition, and provides a motive force for the remainder of the story; the moment of reversal is the culmination of the climax, which marks a change in the dramatic momentum of the story; finally, the falling action concludes with the moment of final suspense, in which the outcome of the story is in doubt [4, 7, 8]. Freytag notes that while the inciting moment is necessary, the others are “good but not indispensable accessories.” [8] In the context of games, however, the moment of final suspense holds extra importance, as games allow variable outcomes the player may win or lose [1-4].

2.2 Ludic Structure

Stories create drama in many ways. Suspense, comedy, action and emotional turmoil can all lead to the increased drama climax. Games introduce another means of creating drama, with the nature and difficulty of the challenges faced by the player [1-4]. We call the structure of game challenges the ludic structure.

In some games, challenge alone can create a story. Consider the 2008 Wimbledon tennis match between Gasquet and Murray, in which Murray defeated Gasquet after being two sets to love down. News reports of the match called it an “epic fightback” and described the crowd at some points as “deflated”, and at other times “on their feet, chanting” [9]. The five sets of the match fit well with the five acts of Freytag’s pyramid, despite the fact that the players’ actions were not guided by a narrative structure.

The structure of a tennis match is not a narrative structure, but a ludic structure, capable of building drama. A grand match is played to the best of five sets. If one player is far superior, the match will finish quickly in three sets, but in an even contest, the match lasts longer, and more drama is created. The match is divided into sets and games, which are shorter versions of a similar ludic structure, designed to prolong and exaggerate those points at which the competition is most closely contested.

Lacking a guiding narrative, however, many tennis matches make poor stories. Mostly, this occurs in unbalanced contests, where the ludic structure fails to create drama. Computer games can benefit from the interplay between challenge and story. At some points, the drama can be driven by the challenges, and at other times, drawn forward by the story.

3. FLOW

There has been much interest, among game designers, in the concept of flow, as it is seen as the ultimate state of engagement. Csikszentmihalyi describes flow as the psychological state in which a person becomes completely focused on, and absorbed in, the task at hand [10, 11]. A study of U.S. teens found that games and sports resulted in more frequent experiences of flow than did other leisure activities, like socialising or watching television [10].

3.1 The Channel Model of Flow

Many authors have used the model from Flow: The psychology of optimal experience [11], as a guide for structuring game challenges [2-4, 6, 12]. This model represents flow as a channel between boredom and anxiety [11] (see Figure 2).

This is a useful model for structuring short, puzzle or action based games that keep the player engaged with no narrative component. Each new challenge is slightly harder than the last, matching the player’s developing skills, until the player has completed all the challenges or fails to complete a challenge. Such games are usually built around a single game mechanic, in much the same way that a short story is built around a single event or idea.

For longer, more complex games, however, the flow channel model is less useful to game designers. Increasing difficulty alone cannot hold a player’s interest for tens or hundreds of hours of gameplay that some games now entail. These games are more like a novel than a short story: They involve switching between many competencies, combining various styles of play, emotional investment in the characters, and dramatic structures that both rise and fall in order to keep the player engaged. Designing such games according to the channel model would create games that build to a climax then stop, resulting in unbalanced stories.
3.2 The Wheel Model of Flow

Csikszentmihalyi’s extended model of flow represents a slightly more complex view of attention and engagement [10], with the various states arranged like the spokes of a wheel (see Figure 3). This model provides a richer understanding of how people experience life outside of the brief periods of flow, and gives us a better basis for discussing the interactions between narrative and challenges that build drama in games.

There are two critical differences between the channel and wheel models. The first is that the beginning player, with low skills and low challenge, is in a state of apathy, not flow. This is consistent with Freytag’s analysis, which recognises that the initially apathetic audience requires the inciting moment to become engaged with the story.

The second difference is that the player with high skill and low challenge is in a state of relaxation, not boredom. In Freytag’s pyramid, the drama at the end of the story falls. By the end of a game, the player will have a high level of skill, and a reduction in challenge will allow them to relax and reflect on the game experience, rather than leaving them in a state of boredom.

Some authors [1, 12] have described flow as an ideal state for skill development, proposing that games should attempt to keep players in a state of flow at all times, which fits well with the channel model of flow. With reference to the wheel model, however, Csikszentmihalyi describes flow as a “magnet for learning”, with arousal and control being important states for skill development [10]. Flow is redefined as a reason for improving, rather than a path to improvement, and the importance of states other than flow are recognised.

4. A CASE STUDY OF HALO: COMBAT EVOLVED

We now use the wheel model to analyse the popular first-person shooter Halo: Combat Evolved (hereafter referred to as Halo).

We divide the game into the five acts of Freytag’s pyramid, and discuss the narrative and ludic relevance of each act with reference to the wheel model of flow (see Figure 4, Table 1). The game chapters we have included in each act are given in parentheses at the beginning of each subsection.

For each act, we discuss how Halo develops the story and builds the player’s skills, as well as the main challenges for the game designer when crafting that section of their own games.

<table>
<thead>
<tr>
<th>Act</th>
<th>Narrative Purpose</th>
<th>Ludic Purpose</th>
<th>Design Challenge</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposition</td>
<td>Describes the setting, the protagonist, and the primary conflict. Ends with the inciting moment, which drives the story forward.</td>
<td>Describes the interface and strategic fundamentals. Provides a safe space for learning the most basic skills.</td>
<td>Keep it brief just the basics.</td>
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</tr>
<tr>
<td>Rising Action</td>
<td>Develops the primary conflict, and confounds it with secondary conflicts. Minor obstacles are overcome by the protagonist.</td>
<td>Presents a series of relatively straightforward challenges of increasing difficulty, causing the player to learn and master core skills.</td>
<td>Get the difficulty right (eustress), make the player act.</td>
<td></td>
</tr>
<tr>
<td>Climax</td>
<td>The turning point of the story. The exact nature of the primary conflict crystallises, the antagonist is revealed and the path ahead is made clear.</td>
<td>Presents novel challenges which cause the player to use or combine their core skills in interesting or strategic ways, developing advanced skills.</td>
<td>Create interesting challenges, make the player think.</td>
<td></td>
</tr>
<tr>
<td>Falling Action</td>
<td>Resolves the primary conflict. Leads to a moment of final suspense, in which the outcome is in doubt.</td>
<td>Presents an ultimate challenge or series of challenges.</td>
<td>Evaluate player’s mastery of skills.</td>
<td></td>
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<tr>
<td>Conclusion</td>
<td>Returns the story to a state of normality. Ties up loose ends.</td>
<td>Allows the player to exert mastery over the game, relax and reflect.</td>
<td>Leave the player in the desired mood.</td>
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</tbody>
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4.1 Act 1: Exposition

(The Pillar of Autumn)
The first act, exposition, corresponds closely with the tutorial level of many modern games. The first chapter of Halo is essentially a sandbox tutorial – a safe and structured learning environment. The player learns the interface and some simple strategic fundamentals, while being exposed to basic elements of story such as character and setting. While in a sandbox, the player is in a state of apathy, not flow. They are learning necessary skills, but are not yet challenged. Game designers need to keep this act brief. Trying to teach too many skills within the safety of the tutorial setting will push the player across into the bored state – it's time to ramp up the action!

In Halo, the inciting moment (the ship is attacked by the Covenant, the first of three enemies) begins early in the chapter, and continues to increase the drama throughout. The player becomes worried, as the feel they are now playing "for real" but do not yet have all the necessary skills. However, they continue to receive close guidance from the game. The inciting moment need not be a conflict. An intriguing mystery, for example, might provide the necessary motive force to drive the player and story forward.

4.2 Act 2: Rising Action

(Halo, Truth and reconciliation, The silent cartographer, Assault on the control room)In the second act, rising action, secondary complications occupy the player’s attention. Throughout this act, Halo keeps the focus on short term goals like survival and reconnecting with other soldiers. The player is kept in a state of unrest (worry/anxiety). Beset on all sides by the Covenant, they have no time to relax, but must push on, developing their combat skills as they go. While too much difficulty can reduce enjoyment, or lead to the player giving up in frustration, a little stress can be beneficial. Selye [13] divides stress into eustress (positive, resolvable stress) and distress (negative, overwhelming stress). Rising action is characterised by activity. Whatever it is that the game gets the player to do, they do a lot of it in this act. In a first-person shooter, that means swarms of “baddies” for target practice, along with a few more challenging “mini-bosses”. The main challenge for the game developer during this act is to keep the player active by getting the level of difficulty right, so as to keep them in a state of eustress – on edge, but not overwhelmed.

4.3 Act 3: Climax

(The guilty spark, The library, Two betrayals [initial cutscene])The third act, climax, is the turning point, at which the story momentum changes, and plot uncertainties are resolved. The path ahead, though challenging, is made clear. In Halo, the climax begins with the unleashing of the Flood (the second of three enemies), and culminates in the moment of reversal, when the Monitor betrays the player, and Halo itself is revealed as the ultimate enemy. The player has mastered the core skills, but must now apply them to new enemies and situations. The player’s skills are now well developed, and they have moved into a state of arousal. Anxiety no longer drives the player. Instead, they are drawn towards a state of flow by their curiosity, both in the developing story, and in using their skills in novel situations or combinations. The challenge for the game designer is to keep the player thinking by providing interesting challenges.

4.4 Act 4: Falling Action

(Two betrayals [action], Keyes, The Maw [except final cutscene])While the climax is the peak of narrative intensity, the fourth act, falling action, is the peak of ludic difficulty. In many games, this act is typified by the “boss fight”. The player draws on all their skills to resolve the primary conflict, which has been thrown into sharp focus by the climax. In Halo, the player must disable Halo and escape before it is destroyed (the moment of final suspense). Freytag’s pyramid indicates a decline in the drama in this act. There may be action, but the moment of reversal has outlined the direction for that action to take. For Freytag, this is the most difficult act, since new elements must be introduced to maintain the audience’s interest, but these elements may themselves serve as distractions [8]. For the game designer, maintaining the problem, as the game has reached the region of flow. The player is an expert at playing the game, and is faced with challenges worthy of their expertise.

The game design challenge here is to allow the player to demonstrate their mastery of all the skills the game has taught them. In Halo, the player must exhibit their expertise in moving and jumping, appropriate weapon selection, aiming and firing, use of cover and allies, and vehicle operation.

4.5 Act 5: Conclusion

(The Maw [final cutscene])The fifth and final act, conclusion, brings the story to a close, usually with a return to a (new) state of normality. The conclusion in Halo is provided by the final, brief cutscene. This kind of summary
Conclusion, without gameplay, is regrettably common in games. It is a structure that fits with the channel model of flow, which builds to a peak of challenge and skill, then stops. Leaving the player in the heightened state of flow is undesirable from a narrative perspective, as recognised by Freytag’s Pyramid. Reducing the level of challenge affords the player the opportunity to relax and reflect on the experience they have come through, providing them with a satisfying sense of completion and closure. There are games in which we can see a relaxing conclusion, usually as an option. Some real time strategy games allow the player to play on beyond the point of victory, to experience the satisfaction of the civilisation they have built. Similarly, the Grand Theft Auto series of games lets the player continue playing after completing the main story, allowing them to complete side quests, collect bonuses, and simply enjoy unstructured play. The exact nature of the conclusion varies as much in games as it does in other media. In theatrical tragedy, the conclusion often involves the death of the protagonist, while in fairytales, a sense of security is provided with the final words “happily ever after” and in horror movies, the same sense of security is often created and then undermined with a twist. The challenge for the game designer is to leave the player in the desired mood.

5. CONCLUSION

By combining Csikszentmihalyi’s wheel model of flow with Freytag’s pyramid of narrative structure, we develop a model for through games. Our analysis of Halo: Combat Evolved shows how this model can be applied to an existing, successful game title, and highlights a discrepancy between the model and common game design practice. Many games conclude in a summary manner that may leave players in a state of high drama, which is inconsistent with models of successful storytelling, such as Freytag’s pyramid. Two recommendations emerge from our analysis. The first is to recognise that beginning players may need to be pushed out of their comfort zone into more unsettling psychological states, in order to get them initially engaged with the game. This is a feature of many successful games, including Halo. The second recommendation may be more contentious, as it is not presently common in games. In the concluding act of a game, a reduction in difficulty may be beneficial. The player should be allowed to relax and reflect on the game, resulting in a sense of closure and a more satisfying resolution to the experience of play.

6. REFERENCES