ANALYZING THE GAME NARRATIVE: STRUCTURE AND TECHNIQUE

by

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Abstract

With rapid innovation in computational technologies, storytelling has found a new home in interactive digital media. Among all forms of interactive narrative, story-based digital games are clearly the most prosperous domain thanks to their incredible popularity. Narrative design for such games, however, is often under studied in the current practice of game analysis due to the lack of a mature discourse model specifically for games and interactive narratives. To facilitate a deep understanding of game narratives, powerful analytical instruments are needed to characterize game narratives and describe how narrative works in games.

This research seeks to develop a descriptive framework to characterize and describe interactive and game narratives by applying and extending narrative theory. The framework aims to bring out new insights on interactive storytelling by observing how game narratives are constructed, what narrative techniques are used, and how narrative structure and technique affect the narrative and gameplay experience. By applying this framework to three games, the in-depth analyses systematically unravelled how various narrative principles and techniques operate in games and demonstrated the utility of the framework as an analytical instrument for the observation and understanding of the structure of interactive narratives.

Keywords: Digital Game; Game Analysis; Game Narrative; Interactive Narrative; Interactive Storytelling; Narrative Structure; Narrative Design; Structural Narrative Analysis

To Rilla

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Glossary

Game A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome (Salen and Zimmerman 2004, 80).

Game Plot Is the content of the game narrative, and presents the story in a structured way, through the dynamic patterning of representational materials and interactive events.

Game Story A game story is a series of logically and chronologically related events that are caused or experienced by actors (including player and non-player ones). A game story is a mental image left with players of what happens in the game world.

Game Text Is considered in this writing as a narrative text in which an agent or subject presents to one or more players a "situated story" that reacts procedurally to player actions in the interactive medium of a digital game. A game text includes both narrative and non-narrative content.

Interactive Narrative An interactive narrative is a narrative text produced through the collaboration between a digital interactive storytelling system and its human operator(s).

Interactive Storytelling A term loosely used to refer to the story creation or story telling carried out through the interaction between a computational system and the human operator(s) of the system.

Narrative Is the semiotic representation of a series of events meaningfully connected in a temporal and causal way (Onega and Landa 1996, 3).

Narrative Interaction Is the player choice or action that results in a change of the direction of the plot progression and/or the ending of the plot.

Narrative Text A narrative text is a text in which an agent or subject conveys to an addressee ('tells' the reader) a story in a particular medium, such as language, imagery, sound, buildings, or a combination thereof (Bal 2009, 5).

Operation Is the running procedure of a game text performed by both the game's autonomous mechanisms and the player(s)'s actions. The operation of a game text causes the procedural enactment of the game plot.

Polychrony A term used to describe the indeterminacy of sequential ordering in a narrative. In a polychronic narrative, events can be inexactly ordered (i.e. as in the last three types of ordering mentioned above), or inexactly coded (i.e. being inexactly positioned on the timeline), or both.

Story Is one layer of narrative, as opposed to narrative discourse; A story is a series of logically and chronologically related events that are caused or experienced by actors (a.k.a, "fabula" by Bal) (Bal 2009, 5).

Storyworld Is the world in which the story takes place. The on-screen world is a partial representation of the storyworld, which involves organization and patterning of narrative data using a language native to the narrative medium.

Textual analysis Is a research method that treats the object of study as a text and conducts analysis based on it.

Chapter 1

Introduction

Interactive storytelling has attracted much attention in the past two decades. Despite the diverse expectations from designers, developers and researchers, story-based digital games go a long way towards realizing the ambitions of interactive storytelling and are clearly the most prosperous application domain of all interactive narrative forms. For computer and video games that present a fictional game world, narrative not only exists as an instrument for the sense-making process, but also as part of the substance of a game product with which players can interact. In the latter sense, games can also stand as narrative artifacts — a form of interactive narrative. Hence, to develop an approach to narrative in games is to address a critical aspect of games and as a result, to entrich the methodology of game studies. An approach to game narratives calls for the bridging of narrative theory and video game theory. The potential of such an approach is two-fold. First, by extending and adapting existing narrative theory to the realm of video games, it enriches the set of analytical instruments for game studies. Second, the adaptation and extension can also complement existing transmedial narrative theory by adding story-based digital games to its objects of study.

This dissertation thus seeks to contribute to the methodology of game studies and interactive narrative with a descriptive framework developed as an approach to the understanding and analysis of narrative in games. The framework serves to characterize interactive narratives in video games and more generally. It aims to bring out new insights on interactive storytelling by observing how narrative works in story-based games and interactive narratives in general. In order for the framework to result in effective analysis, this research examines the feasibility of adapting critical, mature narrative frameworks drawn from older media and adopts a systematic approach to game narrative analysis. With the open-ended

"checklist" offered by the proposed framework, a game narrative can be analyzed from a set of aspects including time, space, narrative embedding, focalization, plot, and the structure that makes the story interactive. To introduce the formation of this research, this opening chapter briefly introduces the background, the problem, the proposed method, as well as the resultant framework and its contribution to the studies of game and interactive narrative. The chapter closes with an overview of the dissertation structure.

1.1 Background and Definitions

The past two decades have seen a significant boom in video game industry. Consequently, today's video games can be seen as an exemplar form of interactive narrative that engages millions of players. While games have greatly changed our experience with story and storytelling by leveraging the computational power, making a game story as appealing as in a great novel or film remains a dream for many designers. In pursuit of this dream, it is crucial to locate the boundary between games and stories, even though it is blurry and often debatable. Hence, before stating the research problem, I shall examine the definitions of several key concepts.

Among the genres of "digital narrative," interactive narrative, as Marie-Laure Ryan suggests, is produced through "collaboration between the machine and the user — or, to be more precise, through a manipulation by the machine of human-produced data in response to the user's input" (2009, 43). Indeed, in the fields of digital media and computer science, *interactive storytelling* is a term loosely used to refer to the story creation or story telling carried out through the interaction between a computational system and the human operator(s) of the system. In the context of this research, an interactive narrative is a narrative text produced through the collaboration between a digital interactive storytelling system and its human operator(s).

After comparing eight definitions of game, Katie Salen and Eric Zimmerman come up with their definition: "A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" (2004, 80). For digital games, they add four qualities digital technology brings to games: 1) immediate but narrow interactivity, 2) information manipulation, 3) automated complex systems, and 4) networked communication (87-91). From this definition, we can see that interactive narratives are not necessarily games for oftentimes they do not produce a quantifiable outcome. Conversely, there is the question: are games interactive narratives? This requires us to examine the definition of narrative and narrative text.

Narrative, as defined by Susana Onega and Jos Angel Garca Landa, is "the semiotic representation of a series of events meaningfully connected in a temporal and causal way" (1996, 3). Using a broader concept of "text" that goes beyond the linguistic text, Mieke Bal defines a *narrative text* as "a text in which an agent or subject conveys to an addressee ('tells' the reader) a story in a particular medium, such as language, imagery, sound, buildings, or a combination thereof" (2009, 5). In narratology — the field of systematic study of narrative, the concept of narrative can be distinguished into layers. For example, Bal proposes a three-layer model: text, story (or "discourse" in other theorists' terminology), and fabula (or "story" in others' model), which I will replace with text, plot, and story, respectively, in my following discussion, in an effort to avoid confusion. Many others follow Seymour Chatman's (1978) two-layer model that consists of story and discourse, the latter of which is often replaced with the term "plot" in film narratology (Bordwell 1985). *Story*, as one layer of narrative and conveyed through the narrative discourse, is a series of logically and chronologically related events that are caused or experienced by actors, as defined by Bal. Throughout this dissertation, I will adhere to the above definitions regarding narrative.

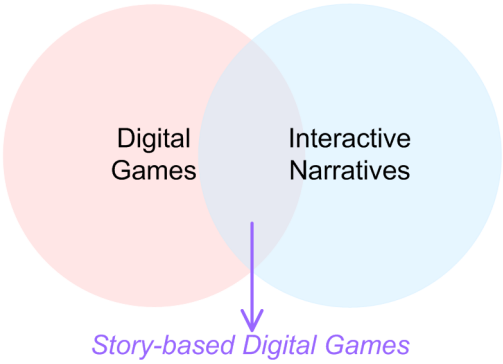

Figure 1.1: The study domain of this research.

Having examined the definitions regarding narrative, we can now reason that as long as a story unfolds to the player during the course of playing a game, the game can be considered a narrative text. By the above definition of interactive narrative, therefore, such games are interactive narratives. The domain of this research lies in the intersection between digital games and interactive narratives, which I refer to as *story-based digital games* (see Figure 1.1). In fact, among the many conceptual lenses that can be used by a game designer to look at a game, narrative is an important one deserving a set of design considerations (Salen and Zimmerman 2004; Schell 2008). Choosing story-based games, rather than non-game interactive narratives, as the objects of the study benefits the research

with better accessibility of primary (e.g., games themselves) and secondary (e.g., previous analyses) resources.

1.2 Research Goal

Whether it is to create an interactive narrative that is appealing yet playful, or to create a game that is exciting yet with attractive story, a lot of effort goes into striking a good balance between narrativity and interactivity. The tension between narrative and interaction, or in other words, the "battle for control between the player and system," poses a major challenge for making successful interactive stories (Mateas and Stern 2005a, 661). "Ludologists" — the group of game scholars who initially focused solely on game mechanics and later became more open — address this tension by advocating a game- or play-centric approach in the studies of games, which more or less leaves game narrative understudied. Humanities scholars — often called narratologists by ludologists — take interpretative approaches to study the textuality of games, which often ignore gameplay mechanisms and involve a lot ideological discussion.

Despite many contributions from both schools, over the years, there is little systematic discussion of *how a game narrative is constructed, what narrative techniques are used, and how narrative effects are integrated into gameplay to influence the player's experience.* These questions are what this research seeks to answer. Narrative design for video games, as Jay Posey puts it, "encompasses not only the story itself but also how the story is communicated to players and how other game features support and immerse the player within the game world" (2008, 55). This requires thorough knowledge of not only how narrative works, but also *how it works with games*.

In reality, narrative design is often under different degrees of neglect in the current practice of game analysis, which often focuses on the visual design and game mechanics. As more and more games feature sophisticated narrative design, powerful analytical instruments are needed in order to develop a deeper understanding of how narrative works in games. The goal of this research is to contribute to the fields of game studies and interactive narrative by proposing a descriptive framework as a method for the analysis of story-based digital games.

1.3 Previous Methods and the Problem

Notwithstanding their popularity, digital games are considered by many to be still in their early formative stages compared with those older media (Skolnick 2008). Because storytelling techniques for such traditional narrative forms as literature and film have been studied extensively, it makes sense to adapt those existing frameworks for interactive narrative and game analysis. One of the most prominent works along this line is Henry Jenkin's (2004) loosely defined four models that characterize narrative in games. Emphasizing the role of narrative space in games, he maps four existing models to the four narrative models for games, which are: amusement parks vs. evocative narratives, performance or spectacle-centred narrative genres vs. enacted narratives, the model of story (or fabula) and plot (or syuzhet) vs. embedded narratives, and urban design theory vs. open-ended emergent narrative. In the following chapter, I will introduce more methods for game analysis.

In the field of digital interactive narrative, classical narrative models are frequently borrowed by computer scientists to create their interactive stories. According to Mark O. Riedl and R. Michael Young (2006), there are two main approaches to generating interactive narratives: autonomous agents equipped with drama management and narrative mediation. In the first approach, characters are autonomous agents that react to the user and environmental changes. Cavazza et al.'s (2002) interactive storytelling system is such an example. To ensure narrative coherence, a drama manager is sometimes introduced to monitor the activities and adjust the plot trajectory. Michael Mateas and Andrew Stern's (2005b) *Façade* is such an example. In the second approach, narrative mediation, the system generates a linear narrative plan and uses its re-planning capability to retain centralized author control over character actions. As Marc Cavazza and David Pizzi (2006) observe, existing approaches to interactive narrative borrow such classical models by Aristotle, Propp, Greimas, Barthes and Bremond. In addition, the bipartite narrative model of story and discourse (Young 2007) and models of improvisational drama and acting theory are popular choices as well (Louchart and Aylett 2004; Seif El-Nasr 2007).

Although the above efforts have been made to apply existing frameworks to the analysis of games or the creation of interactive stories, the collective impact has been limited. In the field of game studies, the current practice can be roughly grouped into two schools: game design analysis and textual analysis, for which I will give some examples in the following chapter. While game design analysis focuses mostly, if not solely, on game mechanics, textual analysis often fails to make the connection between narrative techniques and gameplay experience. In the field of interactive narrative, the rationale of the adaptation of classical

narrative models is often understated and postmortem critiques of the adaptation method are rarely seen, which is largely due to the lack of fully implemented, working systems available for user testing. One of the few exceptions is Seif El-Nasr's (2007) research and development for her interactive narrative piece, *Mirage*, where the adaptation method is described in great detail. Commenting on the general approach used in the interactive narrative research, Sterns states that:

> It is not uncommon for researchers to develop a general architecture for some subsystem of an interactive story architecture, such as a generalized autonomous agent architecture, planner or drama manager. The drawback of this approach is that it is unclear what features of the subsystem will actually be useful and usable when attempting to build a working, playable interactive story. (2008, 5)

What is more, since previous methods employ diverse theoretical perspectives, it is difficult to transfer their findings or approaches not only between researchers and learners but also between individual games or interactive narratives. The key problem at issue is the *lack of a mature discourse model* for the fields of game studies and interactive narrative.[1] This research responds to the problem by establishing a descriptive framework for the purposes of understanding the area, facilitating analyses, and communicating findings. The motivation of this work is similar to that of Salen and Zimmerman's effort to establish a critical discourse for game design, for "a critical vocabulary lets us talk to each other" and "share ideas and knowledge, and in doing so, expands the borders of our emerging field" (2004, 2).

The steps of developing such a framework — a systematic scheme that characterizes interactive narratives are no different from those of forming a classical narratology, as Bal incisively states:

> If characteristics [of a given narrative text] can be defined, if only tentatively, these same characteristics can serve as the point of departure for the next phase: a description of the way in which each narrative text is constructed. Once this is accomplished, we have a description of a narrative system. On the basis of this description, we can then examine the variations that are possible when the *narrative system* is concretized into narrative texts. This last step presupposes that

[1] Stern points out that there is a "crisis of terminology" for videogames, and the term "interactive storytelling" itself is also problematic because as we are allowed to participate more in an interactive story, we are in fact in a process of "interactive storymaking" (2008, 4).

> an infinite number of narrative texts can be described using the finite number of concepts contained within the narrative system. (2009, 1, original italics)

Following the method and procedure Bal describes, this research builds a framework, in the context of interactive media and specifically for characterizing and describing story-based games, through critical adaptation of narrative theory originally created for traditional media. In the development of the framework, special attention is paid to the link between form and function, in hoping to complement the current understanding of narrative and its impact on play in games and interactive stories.

1.4 A Framework for Analyzing Narrative in Games

The original point of departure for this research is narratology as framed by Bal (2009), which is a systematic study of narrative texts originally created for literary narratives but later modified to be compatible with visual narratives. During the process of adaptation, I also consulted the literature in game studies, game design and interactive narrative, in order to find ways to make narratological concepts and theories work for narratives in interactive digital media. As mentioned earlier, one fundamental instrument of narratology is to distinguish the three layers of narrative — text, plot (discourse), and story (fabula). It is pivotal to inherit this distinction in order to make use of some of the well-defined concepts, such as narrative order, speed and frequency, in the narrative analysis of games. In the context of games, *text* is the work or product played by players; *plot* is the mediated and organized story as presented by the game text; *story* (fabula) is the mentally constructed series of events that are linked chronologically and causally. The distinction of text, plot and story in no way implies that narrative can be separated into three entities. In fact, it is only an instrument for discussion that helps organize the topics.

Figure 1.2 gives a visual summary of the major principles underlying the proposed descriptive framework. As we can see, time and space are two groups of principles that permeate all three layers because of their complex roles in structuring the narrative at all layers. On the layer of text are the principles of embedding and narrative interaction, whereas on the layer of plot are the principles of plot structure, focalization, and characters. Within the plot structure group, principles for grouping (story) fabula events cross the layers of both plot and story (fabula). The positioning of principles on the map of the three layers is for organizational purposes only. In an actual narrative, these principles operate in an interwoven fashion where they affect one another.

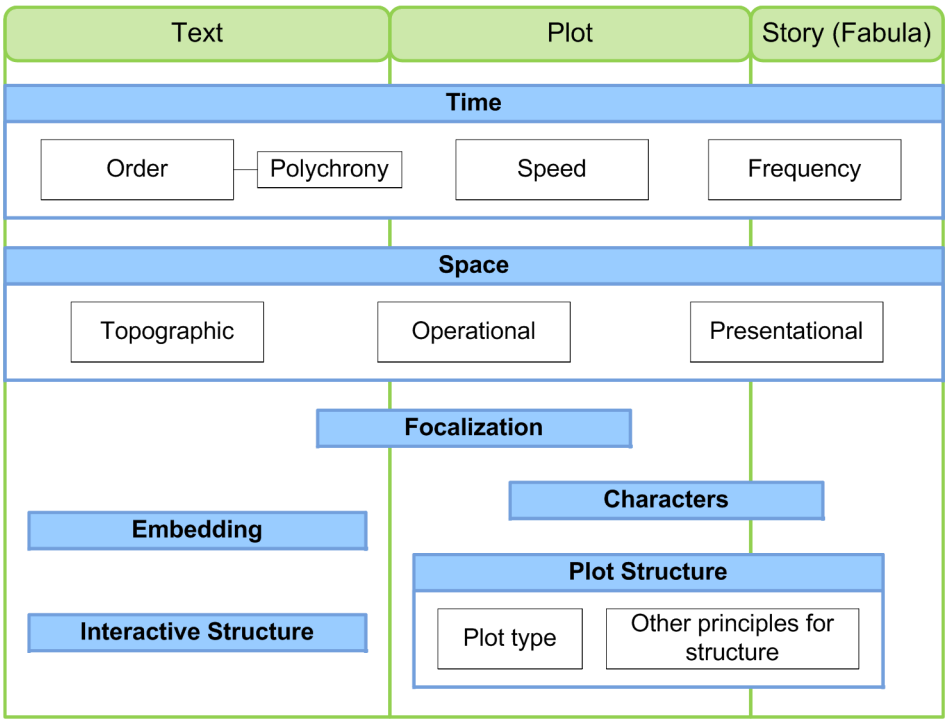

Figure 1.2: Major narrative principles covered by the descriptive framework.

The proposed framework aims to identify, analyze and represent various structural aspects of game narratives. In this dissertation, the framework is presented systematically with references to concrete examples and necessary diagrams to facilitate the explanation. Applying the framework in three critically and commercially successful story-based games, this work presents three in-depth narrative analyses that demonstrate the utility of the framework. The framework successfully enables the analyses to observe a wide range of narrative techniques operating in the games. The analyses are able to reveal systematically how narrative is structured in a variety of aspects. Thanks to the openness of the framework, the findings from the analyses contribute back to some of the catalogues enlisted by the framework, adding to such lists as forms of narrative content and strategies for creating narrative variations. The analyses also enable comparisons that foreground the common pattern existing in the chosen games and innovation in each of them.

Although the framework is shown to perform well as an analytical instrument, it does not come without limitations. *First*, due to the emphasis on pre-defined narrative structure, the power of the framework is limited when it is applied to such emergent narratives as MMORPG and life simulation games. *Second*, the present framework is not able to integrate

the theory of drama.[2] As a result, the current framework is less powerful when addressing issues related to drama and performance, such as dialogues, dramatic conflict, emotion, and other character-based techniques.[3] *Third*, though the framework includes an array of presentational issues in its spatial scheme, it is far from complete as the focus is on those aspects that play a role in structuring and organizing narrative content. Such important aspects as the camera model, visual styles, lighting, mise-en-scéne and staging of the space, and many more deserve separate studies incorporating theories of cinema, theatre, spatial design, and so on.[4]

1.5 The Dissertation Map

To address the research goal, this dissertation embarks on a series of investigations of major narrative aspects in establishing the descriptive framework, followed with a set of case analyses. A map of the dissertation can be illustrated as in Figure 1.3. Before the journey starts, chapter 2 lays out the theoretical foundation and rationale of the selected approach. With the distinction of text, plot, and story, the topics are organized in to the next four chapters as a framework: Time, Space, Composing the Game Text, and Organizing the Game plot. At the end of each of the four chapters, there is a summary table as well as a checklist consisting of the key questions that an analyst should be able to answer. Applying the concepts laid out in the framework, chapter 7 conducts three case analyses and provides a critical comparison. Chapter 8 reflects on the findings and discuss the challenges and usage of the proposed framework. The last chapter concludes the work and points out the directions for future work.

[2]Bal's narratology, the main narrative theory on which this framework is based, adopts the strategic position of the narrative agent as a component of narrative texts. Note that Bal's narrator is not necessarily a human agent. It can be either an agent or a function that "utter the (linguistic or other) signs which constitute the text" (2009, 18). The narrator is not identical to the author, or the implied author, or the explicit narrator that inhabits in a character although it is a version of narrator. Drama, as well as some other forms of live-performance based narrative texts, are considered by many to have no narrator or an unreliable narrator. The issue of narrator is one of the reasons that classical narratology has limitations for describing the narration in drama.

[3]There are some references that can help in this regard. For example, Mateas and Stern (2005b), Seif El-Nasr et al. (2008b), and Aylett et al. (2006) all integrate drama theory into the design of interactive drama. On crafting the emotion for games, David Freeman's book introduces a series of techniques for "emotioneering" that create breadth and depth of the emotion in games and engage players by letting them identify with their avatars (2004).

[4]For these aspects, we can refer to some works dedicated to specific areas in respect to the presentation of interactive narrative space. For example, Neidenthal's (2005) work on illumination, Seif El-Nasr and Horswill's (2004) work on lighting, Bizzocchi's (2007) paper on narrative interface, Jhala and Young's (2010) framework on camera, Carson's (2000) article on staging the space, to name a few.

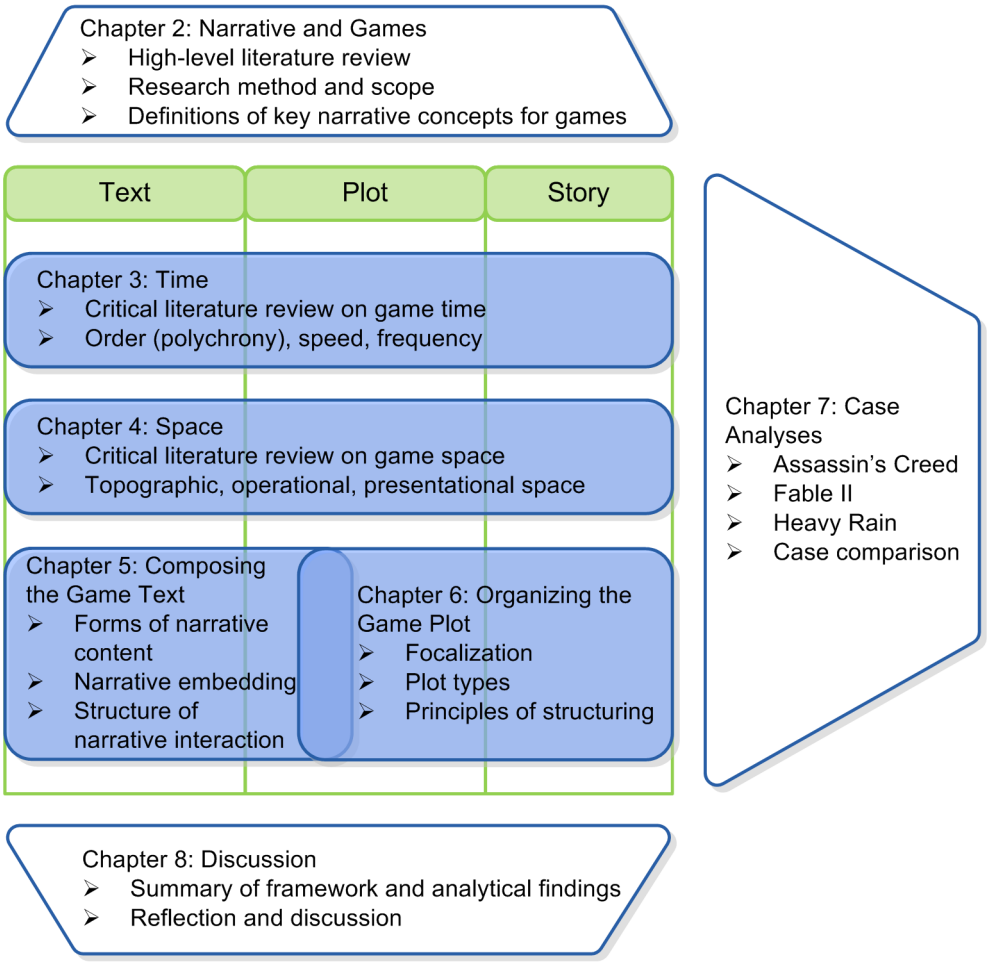

Figure 1.3: A map of the dissertation.

Chapter 2

Narrative and Games

While storytelling techniques for such traditional narrative forms as literature and films have been studied extensively, computer-mediated interactive narrative remains an ambiguous area with many questions unanswered. What we see in state of the art of game studies is simplified, formulaic analyses of game stories. They usually consist of a recounting of the overall story, a description of the main characters, a simple partition of the narrative arc, and a routine comment on the visual design of the environment and the linearity, or player choices, of the story. What is lacking in the current game analysis is an in-depth view on how the game narrative is constructed, what narrative techniques are used, and how narrative effects are integrated into gameplay to influence the player's experience. In applying and extending classical narrative theories into the domain of video games, the analytical approach developed in this research sets out to shed some new light on narrative analysis for games. In other words, critical analyses of how narrative is structured and operated in existing games can facilitate the understanding of narrative design and potentially inspire new ways and techniques in future design.

This chapter lays out the theoretical foundation and sets forth methodological stances for the entire dissertation. I will discuss the current problems of narrative analysis in game studies through a brief review of the existing approaches. I will then set the goal of game narrative analysis for this work as a way to draw out requirements of an effective analytical approach, and describe the methods to reach the goal. As a preparation for later discussion, I will present the key narratological concepts and define the relevant terms that will be used in the context of game narrative.

In this research, narratology is a tool used to aid the process of dissecting game narrative and identify key narrative elements and relations. Narratology, according to Bal, is "the

ensemble of theories of narrative, narrative texts, images, spectacles, events; cultural artifacts that 'tell a story'" and it "helps to understand, analyse, and evaluate narratives" (2009, 1). The term narratology was coined by Tzvetan Todorov in 1969 and it later became "the descriptive field devoted to the systematic study of narrative" (Abbott 2008, 238). In addition, there is a rich body of game studies literature that deepens our understanding of game mechanisms. As the focus is the narrative of games, I will pay special attention to those studies concerned with game narrative analysis and design. It is worth noting that the literature reviewed in this chapter is limited. In fact, rather than consolidating all literature reviews in one chapter, I will review related previous works along with the discussion of different themes. In this way, the discussion can be more coherent and centred on each important topic, and the rationale for my way of approaching them can be explained better within the related research context.

2.1 Roles of Narrative in Games

The past decade has seen the field of video and computer game studies evolve from the first phase, in which it focused on defining games and searching for their essential features, to the second phase, in which it attempts to articulate the qualities of games and form a "coherent discipline" (Perron and Wolf 2009a). While a wide range of approaches have been used in search of the defining features of digital games, narrative, as one of the perspectives for the examination of games, has been a point of heated debate. During this debate, prospects of using interactive media to explore new ways of storytelling, highly influenced by Janet Murray's *Hamlet on the Holodeck* (1997), are challenged by the ludologists (such as Jesper Juul and Markku Eskelinen) who emphasize *play* as the core, defining property of games. The related discussion explores both the similarity and the difference between games and stories. A central issue that emerged in this discussion was the contention or balance between narrative and interaction, which remains one of the key issues of game design (see, for example, Crawford (2003), Mateas and Stern (2005a), and Adams (2010)). Gradually researchers and scholars have come to realize that answering a question like "are games stories?" does not help much in addressing the problem of narrative and interaction. The consensus is that while abstract games do not tell stories at all, many games aspire to create narrative experiences. The focus of game studies has thus been shifting to answer questions like "how do games tell stories?" and "how are games narrative?" (Jenkins 2004; Salen and Zimmerman 2004)

The above questions demand an understanding of the roles narrative plays in games,

without which any analysis of a game narrative cannot proceed. Thus identifying the roles of narrative in games is a critical step in establishing the assumptions of an analytical approach to game narrative. This section examines some of the main views on the roles of narrative in games and the status of narrative in game analyses. Through a critical review, I will draw out the main assumptions that serve as the basis of the approach used in this work.

2.1.1 Recent Views on Narrative in Games

As mentioned above, the question, "do games tell stories," has gradually become less important for game research under the consensus that while some abstract games (e.g., *Tetris*) do not tell stories, many do. However, views on the general roles of narrative in games still vary a lot. This is partly because games vary a lot in their styles, but more importantly, it is due to the diverse backgrounds of the persons who study the game. As there are no clear-cut boundaries between any two sets of views, I will roughly group them and present them along a spectrum where the role of narrative is considered from less important to very important.

2.1.1.1 Narrative and Gameplay

For game designers in the early days, narrative was often regarded as one of the *pre-made* building blocks used to make a game. It was typically considered to exist in such non-interactive forms as cut-scenes, voice-over commentaries, pre-recorded long dialogues and monologues, narrating captions, text blocks, and so forth. Under this view, the gameplay yields to narrative from time to time, in order to let the story progress. Game designers and consultants Rollings and Adams wrote in their book on game design in 2003:

> In this book, we've defined *narrative* to mean the *noninteractive* part of a computer game's story, the part in which you as the designer and author tell the player things without letting him do anything. This definition ignores literary theory and all the academic debate that surrounds modern creative writing, but it serves our purpose: to discuss the nature of storytelling in games and the relationship between interactive and noninteractive elements.
>
> From this definition, you can see that a game's story content can be divided into *interactive* and *noninteractive* parts: the gameplay and the narrative. (113, my italics)

In the rewrite of their book in 2007, the authors subtly changed their definition of narrative as "story events that are narrated — that is, told or shown — by the game to the player" and claimed that "[n]arrative consists of the noninteractive, presentational part of the story" (Adams and Rollings, 118). Yet in the latest edition, the definition of narrative resonates with the narratological concept of narrative:

> The definition of narrative is open to debate, but this book uses a definition that conforms pretty closely to that used by theorists of storytelling. Narrative consists of the text or the discourse produced by the act of narration. In an interactive story, narrative is the part of the story that you, the designer, narrate to your player — as opposed to those actions that the player performs, or those events that the core mechanics create. (Adams 2010, 187-8)

Thanks to the great debate mentioned above, we can see signs that the understanding of narrative in the game design field has started to be influenced by narrative theory. However, as long as the split view remains that narrative and gameplay stand independent of each other, the role of narrative will be limited to the presentation of the non-interactive events of the game. These events introduce the game situation to the player, explain characters and their motivation, and create the cultural and historical context for the game. What is more, this view easily results in the belief that "[t]he more narrative you include, the more the player sits doing nothing, simply observing your story" (Adams 2010, 163). Thus balancing narrative and gameplay is mainly about an inverse distribution of interactive and non-interactive content.

Over the years, however, some game designers have started to realize that pre-generated narrative content is only part of the game story. To address this, game designer and writer Richard Rouse III proposes a useful distinction between the designer's story and the player's story to clarify what we mean by a game's story. The designer's story is equivalent to Adams and Rollings's idea of narrative, whereas the player's story is what players tell after playing the game. Splitting narrative and gameplay somewhat hinders the player-centric design that is promoted by most game designers, including Adams and Rollings themselves. As Rouse suggests, "[t]he ideal for interactive storytelling is to merge the designer's story and the player's story into one, so that players can have a real impact on a story while the story retains its dramatic qualities" (2005, 204). Similarly, Doug Church argues that game story does not necessarily mean "expository, pre-written text"; rather, it refers to any narrative thread "that binds events together and drives the player forward toward completion of the game" (2006, 375). Game designer and writer Jordan Mechner also suggests: "the *cool* way

to tell a story in a video game is to eliminate or reduce the canned cutscenes as much as possible, and instead construct the game so that the most powerful and exciting moments of the story will occur within the gameplay itself" (2007, 111, original italics). Under this contention, the design problem of balancing narrative and gameplay is better replaced with making narrative work with gameplay in order to create an engaging experience for the player.

In proposing a neo-Aristotelian theory of interactive drama, researchers and practitioners Mateas and Stern consider that player agency, the key quality to engage players, is achieved through a "balance between the material and formal constraints" (2005a, 655). The material cause provides the material from which things are created, whereas the formal cause offers a plan or goal towards which the plot is heading. Hence, the material cause is the audience view and the formal cause is the authorial view. They explain,

> 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 the player will experience agency. (654)

The authors give an imbalanced example. When a puzzle-based adventure provides more material affordances than formal affordances, players feel that they have many things to do "without having any sense of why any one action would be preferable to another" (654). This discussion widens the role of narrative in interactive narratives — it not only provides pre-generated content but also gives the gameplay causes at a lower, moment-by-moment level. A look at one of the most recent story-based games, *Heavy Rain*, which will be discussed later in section 7.3, will clearly show that narrative can drive gameplay throughout an entire game. After all, the central question of game narrative design is "how can narrative help with the player's experience?" We cannot answer that question without an understanding of how narrative exists in games.

2.1.1.2 How Narrative Exists in Games

In the view that narrative is opposed to gameplay, its existence in games takes familiar non-interactive forms including video sequences (e.g., cut-scene), graphic sequences, audio sequences (e.g., voice-over, monologue, dialogue), text (e.g., scrolling text) and so on. Adams disqualifies as narrative the dialogue that occurs in an interactive context in response to the player's behaviours. However, as I have argued earlier, in order to make

narrative help with gameplay, an *integrated* view is more appropriate; that is, we need to take into consideration both non-interactive and interactive narrative content. Jenkins, for example, takes such a view. In his seminal article "Game Design as Narrative Architecture," he discusses four ways narrative can exist and function in games. Connecting game space to narrative experience, Jenkins states,

> Environmental storytelling creates the preconditions for an immersive narrative experience in at least one of the four ways: spatial stories can evoke pre-existing narrative associations; they can provide a staging ground where narrative events are enacted; they may embed narrative information within their mise-en-scène; or they provide resources for emergent narratives. (2004, 121)

The first two ways summarize how narrative functions in games. In the first way, narrative provides the backdrop that evokes memories of a pre-existing story. In the second way, narrative acts on two levels. Jenkins suggests that on the global level, its plot creates a framework that defines goals and conflicts and drives the character's movement; on the local level, it provides localized incidents, or "micronarratives," that shape the player's emotional experience. The last two ways concern how narrative exists in games. The two types of narrative content in games mentioned by Jenkins, embedded and emergent narratives, are also used by many game designers to distinguish between narrative elements that are pre-generated and those that are created on-the-fly as a result of player interaction (Salen and Zimmerman 2004). Jenkins' discussion provides a high-level view of the functions and modes of existence of narrative in games. The details of how narrative is structured on the global and local level are still unknown. The dichotomy of embedded and emergent narrative serves as an ontological view on narrative's existence but does not inform much about the design and analysis of game narrative. In addition, the article discusses how different ways of designing the game space can create narratological consequences but the view from the other way around has yet to be discovered. The converse view would concern how *narrative design* affects the player's experience of the game world. In section 5.2, I will come back to the questions raised in this section and analyze how narrative is embedded in games and what forms it takes.

Emphasizing a play-centric approach, Celia Pearce proposes a different set of roles narrative can play in games. She calls these roles "narrative operators" and uses them to describe how narrative "operates" in games. Aside from the first one that exists in every game, the rest can exist in different combinations or not at all:

> *Experiential*: The emergent narrative that develops out of the inherent "conflict" of the game as it is played, as experienced by the players themselves.
>
> *Performative*: The emergent narrative as seen by spectators watching and/or interpreting the game underway.
>
> *Augmentary*: Layers of information, interpretation, backstory, and contextual frameworks around the game that enhance other narrative operators.
>
> *Descriptive*: The retelling of descriptions of game events to third parties, and the culture that emerges out of that.
>
> *Metastory*: A specific narrative "overlay" that creates a context or framework for the game conflict.
>
> *Story System*: A rule-based story system or kit of generic narrative parts that allows the player to create their own narrative content; story systems can exist independent of or in conjunction with a metastory. (2004, 145)

Among the six operators, the first two are especially meaningful since they further divide the emergent narrative into two types. The first is narrative produced by gameplay (i.e. player actions) itself, whereas the latter is narrative rendered to players in response to their actions. These two types roughly correspond to the "player events" and "in-game events" defined by Adams; the former is "actions performed directly by the player" and the latter is "events initiated by the core mechanics of the game" (2010, 159). By definition, *augmentary* narrative content provides mostly the background information of the story, while *descriptive* is not inherent to the game narrative. *Metastory* refers to a "storyline" that follows an archetypical dramatic arc, and *story system* is an operator for players to customize the game. Pearce's categorization is of great value and I will come back to some of these operators in my later discussion.

2.1.2 The Status of Narrative in Game Analysis

In the previous subsection, a brief survey of representative views on the roles of narrative in games gives us some perspectives but raises a few problems in the meanwhile. These theoretical discussions of narrative in games tend to stay on a high level while leaving the low-level details ambiguous about how narrative exists and works in games. As mentioned in the introduction to this chapter, in current game analyses in the field of game studies, the focus is usually on the gameplay and the discussion of narrative often remains on the surface. Game analyses in the field of cultural studies pay much more attention to game

stories and the emotional experience they bring, but usually fail to address the links between narrative design and the gameplay. What is more, the lack of a systematic approach among these analyses makes it difficult to do comparative studies between games since there is no consistent set of terms that can form a descriptive framework to be used by analysts. In this subsection, I select and introduce a few game analysis examples that represent the major trends across the wide field of game studies, with roots in varied disciplines from game design to media studies. From these examples, I will examine the status of narrative in previous game analyses.

Game designer and writer Richard Rouse III's "Game Analysis: Centipede" is an outstanding piece that was originally published in 2001 in his book *Game Design: Theory and Practice* and later included in the book *The Game Design Reader* published in 2006. Rouse's analysis has a clear focus on game design. He starts with a general overview of the common traits among classic arcade games and puts the game *Centipede* into that context. He then focuses on what makes the game excel by discussing aspects including input, interconnectedness (i.e., how different game mechanics work together in a balanced way), and escalating tension (i.e., how the game escalates tension over time with carefully designed pacing). Indeed, these three aspects address the interface design, game mechanics and balance, as well as player experience. We do not see narrative analysis here since *Centipede*, as a classic arcade game, does not tell a story, according to Rouse. In contrast, Rouse's (2005) analysis of *Grand Theft Auto III* selects a different set of aspects to analyze. This time, Rouse's overview touched upon the main reasons of the game's success, and he analyzes the game using subjects that include "believable game-world", "a living city", "actions and consequences" and "storytelling." These aspects describe the evolution of the game series, the design of the game space, game mechanics and meaningful choices for players, as well as storytelling. For storytelling, Rouse discusses pre-generated elements including the cut-scenes and settings, the non-linearity induced by the freedom given to players in terms of how to finish their missions and what side tasks to do. Lastly, he also comments on the moral and cultural issues on the side.

Many game analyses concentrate on one aspect of the game, in an effort to develop some new understanding of the design of this particular aspect. Game researchers Veugen and Quérette (2008) conduct an in-depth analysis of two classic adventure games from the same series, concentrating on the space of the games. Starting with an overview of classic adventure games and a discussion of the spatial modality as the theoretical foundation for their analysis, the two researchers analyze the two games from three aspects: the narrative space, rule space, and the audiovisual representation of space. They round off their analysis

with the conclusion that the audiovisual representation of the game space is inseparable from the gameplay. Despite the fact that classic adventure games generally feature a strong narrative, the researchers focus less on the connection between the representation of game space and the narrative design.

Also focusing on one aspect of a game, i.e. the temporality of *Prince of Persia: The Sands of Time*, critical theorist and game scholar Barry Atkins (2008) analyzes the game from the perspective of the player's experience and explores a series of assumptions of game design rationale in the context of this particular game. Adopting a writing style of textual analysis, Atkins starts with a lengthy introduction of the game control and main game challenges in relations to other games. He then describes the unique in-game device "Dagger of Time" and its effect on the game temporality. After a series of interesting discussions revolving around how player death and control of game time are dealt with in general, Atkins switches his focus to look at narrative games as texts. He draws our attention to the role of narrative in *Prince of Persia: The Sands of Time* — to rationalize the player death through "plot conceit" (247). As a result, the player experiences the "pleasure" of the text during the process of losing and regaining control through the negotiation with the text. It is worth mentioning that Drew Davidson (2008) has done a close reading of the same game from a phenomenological perspective, taking a similar textual approach. Based on his own play experience and analyzing the segments of the game, he explores the relationship between the game's narrative development and game design. This is yet another method for analyzing a game.

Lastly, I would like to cover an analysis of a story-based game, *The Last Express*, that was done by Tom Cross (2009), writer of the high-profile game site Gamasutra.com which is oriented to the game development community. Thanks to the nature of this game, Cross's short analysis focuses largely on storytelling. Writing in a prose-styled, non-academic way and drawing on his own play experience, Cross explores a few aspects that make the game excel, all tied to the design of the open game space on a train, which naturally weaves together time, place and character into the plot, and connects the plot to the player. This analysis is an easy read; however, it is difficult to see how the discussion supports all the claims since it lacks the detailed examples to explain how narrative is constructed.

As discussed previously, the current practice of game analysis varies but it can be roughly grouped into two schools: game design analysis and textual analysis. The first one is still at an early stage and its practice bears many ad-hoc solutions, whereas the latter school has a long tradition in literary and film studies but is new to video games. As for the game narrative analysis, the design school often has a limited understanding of the principles for story construction, while the textual analysis school sometimes falls short on using clear terms to

address techniques to enhance gameplay. Moreover, while there is attention paid to narrative, the status of narrative in game analysis remains low as game scholars tend to strive for comprehensive analysis that covers a lot of ground. For example, David Buckingham writes, "the analysis of computer games needs to address *both* the ludic and the representational dimensions, together with the relationships between them" (Carr et al. 2006, 180, original italics). In their conception, narrative, along with visual design, character and the game world, is part of the representational dimension. In an effort to build a methodology for critical game analysis, Consalvo and Dutton (2006) create a template covering four areas it is suggested that game researchers study: Object Inventory, Interface Study, Interaction Map, and Game Log. In this framework, narrative can only be marginally touched upon in the Interaction Map. This scheme will observe such things as interactions with playable and non-playable characters as well as whether there exists a traditional stereotype like romance.

In summary, narrative has made its appearance in most of the previous game analyses, but has not received enough attention to be treated as the central interest for the study of interactive storytelling in the context of games. Even for those analyses that do have a focus on narrative, the approaches are at times random, as we can see from the examples above.

2.2 Research Method and Scope

When analyzing a piece of artwork, an approach randomly selected for one piece might not be generalizable and usable for another. In order to reach a reasonably systematic approach to analysis, Kristin Thompson (1988) points out that we need to examine our assumptions behind our approach.[5] Before we start our analysis, Thompson explains, we make "assumptions about traits shared by different artworks, about procedures spectators go through in understanding all artworks, and about ways in which artworks related to society" (3). These assumptions need to be capable of being generalized in order to constitute a systematic approach. Thompson's claim for the film analysis approach holds true for game analysis as well. The assumptions, one of which is the roles of narrative, for example, determine the purpose and approach the analyst will take. An analytical approach assuming narrative is merely one element *added* to the design of gameplay will be different from one assuming

[5]Thompson says about film analysis: "What we take to be the "facts" about a film will partly depend on what we assume films to consist of, how we assume people watch films, how we believe films relate to the world as a whole, and what we take the purpose of analysis to be. If we have not thought over our assumptions, our approach may be random and self-contradictory. But if we examine our assumptions, we have at least a chance of creating a reasonably systematic approach to analysis." (1988, 3)

games *are* narrative texts. Thompson also suggests separating "approach" from "method". In her opinion, an approach refers to a set of assumptions, which helps an analyst "to be consistent in studying more than one artwork," whereas a method is a more specific "set of procedures employed in the actual analytical process" (3). I find this reflection on methodology benefits game analysis in that we can separate our theoretical perspective of inquiry (i.e., approach) from the analytical procedure (i.e., method) we follow when analyzing games.

2.2.1 Reflection on Textual Analysis for Game Studies

As one can see from the examples described earlier, while game analyses are mostly done intuitively in the design community, academic game research usually employs approaches and methods that are adopted consciously. Textual analysis prevails among these works albeit with a great variety of theoretical perspectives. Textual analysis is a research method that treats the object of study as a text and conducts analysis based on it. It is useful, as Alan McKee suggests, for "researchers working in cultural studies, media studies, in mass communication, and perhaps even in sociology and philosophy." He describes the process: "When we perform textual analysis on a text, we make an educated guess at some of the most likely interpretations that might be made of that text" (2003, 1).

Because of the versatility of textual analysis, game studies commonly employ it in combination with a specific theoretical lens, be it the ludic, narrative, audiovisual representational, social, psychological, cultural, or gender aspect of the game. This can be seen in a substantial number of influential anthologies on game studies, which more or less involve a process of textual analysis, focusing on how the player perceives and plays a game. For example, *The Video Game Theory Reader* (Wolf and Perron 2003) and *The Video Game Theory Reader 2* (Perron and Wolf 2009b) include a wide range of perspectives on game studies. Apart from critical reflections on methodologies for building a game theory, the two books explore such diverse issues as design, game systems, interface, play, identity, embodiment, sexuality, philosophy, and so forth. Many of these works adopt a form of textual analysis. *Computer Games: Text, Play, Narrative* is another collective contribution to game studies following the same line (Carr et al. 2006). To differentiate their research from others, the authors carry out a series of case studies to explore issues in game analysis. Their approach draws from literary theory, film and media studies, semiotics and social psychology, and other game studies works. The published works in the book are an outcome from a research project entitled "The Textuality of Video Games" done by the authors, whose methodology

indicates a strong root in textual analysis (Carr et al. 2004, 19-30).

According to McKee (2003), the goal of a textual analysis in humanities research is to find out the "likely" interpretation of an audience group. In addition to the description of the text, i.e., the "educated guess" of a likely interpretation, there can be many other assisting methods taken to gather the required information, such as surveys, interviews or content analysis, done with the targeted audience group. Unlike what many researchers may think, textual analysis is *not* opposed to audience research. A procedure combining textual analysis and audience research has been practiced by many game researchers with the aim of understanding how players perceive a game (e.g., Carr et al. (2004), Mallon and Webb (2006)). However, when we set our goal as the understanding of the deeper structure of a game narrative, we can hardly rely on players to inform us how the game narrative is constructed because they are not expected to possess the related knowledge about narrative. What we can be informed about by players is their experiences of a game although it is still up to us, the researchers, to associate such experiences with one or more particular designs. This concern has been addressed by Buckingham, apparently with a narrower understanding of textual analysis that excludes audience research:

> The study of computer games involves revisiting a dilemma that media studies scholars have long (and perhaps quixotically) contended with: if we focus on analysing the structure of texts, do we risk underestimating the social and cultural specifics of the audience, and the degree to which such factors might alter their "reading" of the same material? If, on the other hand, we focus on the audience, and ignore the specifics of the particular text they are engaging with, do we risk misunderstanding the audience's experience? This tension between textual analysis (commonly associated with the humanities) and audience-based research (generally associated with the social sciences) is impossible to ignore in the context of computer games and gaming culture, precisely because the game text is playable: it is only realized through play, and play is a lived, social and culturally situated experience (Carr et al. 2006, 12).

Admitting textual analysis has its limitations, Diane Carr, who did several studies on game textuality, argues that the specifics of the limitations of textual analysis "will depend on the particular model of textuality employed." She considers that both textual analysis and structural analysis are relevant to game studies though the two are usually "conflated" — "[n]either structural nor textual analysis will fully determine meaning, but they are aspects of the cycle through which meaning is produced during play" (2009, 1). By tactically

drawing on a set of theoretical models previously developed for structural analysis, textual analysis, and inter-textuality, Carr demonstrates how to apply a mixed approach in *Resident Evil 4* (2005), addressing the organization, the meaning, and ideological issues of the game, in respect to the three models. Because the models used by Carr reflect on the act of reading and thus are able to treat texts *as read*, they can be adapted to treat games *as played* and help produce a "situated interpretation." In this way, Carr successfully defends the contention that a textual analysis equipped with the right theoretical models *can* avoid the pitfall of focusing only on "the game itself" without considering the players. In addition, Carr's study also emphasizes the distinction between structural analysis and textual analysis, i.e., the former "relates to game design and form, while textual analysis relates to signification and to the game as actualized in play". This is because, based on Barthes' theory, that "textual analysis relates to practice, while structural analysis addresses the schematic that accommodates these practices" (2009, 2); this practice, in the context of game analysis, is play.

The above reflection on previous methodologies for game analysis can be summarized into the following points:

1. Previous academic game analyses largely use a form of textual analysis as the method, with or without player research;

2. The theoretical perspective is crucial to the analysis. Textual-analysis-based game analyses have been accused for focusing solely on the game itself; however, this issue can be addressed either by incorporating qualitative or even quantitative player research, or by employing a theoretical model that can treat games *as played* so to enable a situated interpretation in the context of games;

3. Textual analysis in the general sense refers to the practice of analyzing a text. In humanities research, it usually focuses on meaning of the text and the interpretation by audiences. Structural analysis, on the other hand, refers to the practice of analyzing the structure — the design and the form — of an object. A method combining the two can be used for game analyses, when the selected theoretical model addresses the goal of the analysis.

2.2.2 Strutural Analysis of Game Narrative

The above reflection on textual analysis as a method for game studies raised an issue in respect to answering the question posed in this research. To iterate, the central question

asked in this research is *how narrative exists and works in games*, a question demanding an understanding of how narrative is *structured* in games. These questions fall into the range of game narrative design and form, which is related to the textual structure. The domain of this research can be located on the map of media research as shown in Figure 2.1.

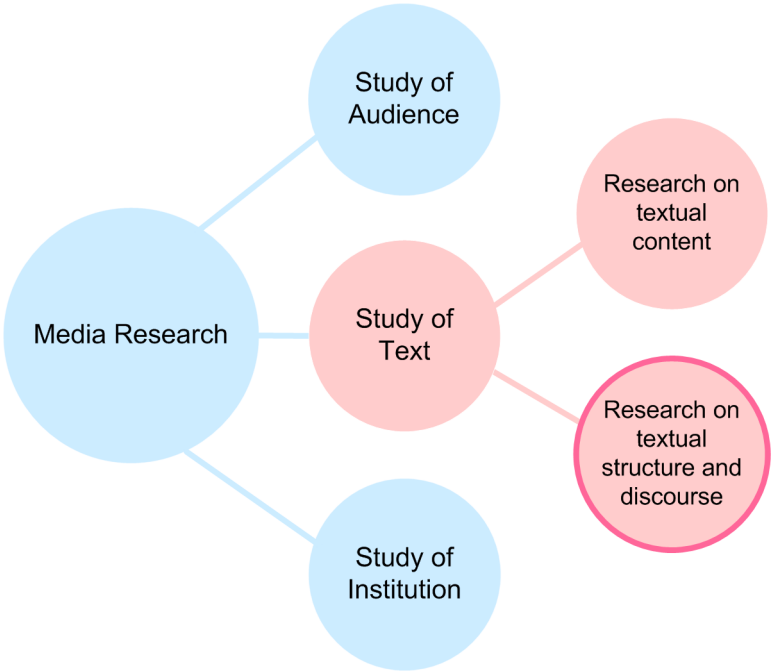

Figure 2.1: Media and communication research domains.

In the bigger picture of media and culture research, this dissertation research falls into the category of "analyzing media and cultural texts." According to Jane Stokes (2003), media and culture research can be divided into three broad areas — analyzing media and cultural texts, researching media institutions and the culture industries, and analyzing audiences. She suggests that common methods for studying media texts include content analysis, semiotics, narrative analysis and typological studies such as genre study. In Ina Bertrand and Peter Hughes's (2005) textbook on media research methods, they use a very similar classification for the media research domain: audience, text, institution. Within the study of text, this research belongs to the subdomain of research on textual structure and discourse (circled in Figure 2.1. Under this classification, structural analysis is one of the methods to gather and analyze textual data. Hence, when a game is treated as a narrative text, the structural analysis will focus on its narrative structure instead of game structure. To distinguish the structural analysis from what Carr means, I shall call it structural narrative analysis.

In the paradigms underlying the research methods for studying media and cultural texts, this work uses a mixed method that intersects with the range of qualitative textual analysis. Structural narrative analysis, a method for analyzing the structure of texts, will be the dominant method used in two situations. It will be used in the general description of aspects of game narrative. Once the general descriptive framework is formed, it will be used in the in-depth case analyses of game narratives. Since games are cultural artifacts that take their shapes under many influences, it can be beneficial to use a multi-method approach to conduct multiple readings to explore different facets of games (Carr et al. 2004). Hence, additional methods shall be employed at different stages of the research when dealing with different sub-topics.

The overall procedure of building up this research work goes through two phases, i.e., from synthesis to analysis. During the synthesis phase, an analytic inductive approach will be used to build a general descriptive framework from information gathered from different research areas. The research will begin by surveying the existing narrative models and arrive at a set of schemes that combine selected qualities that characterize the narrative structure in various ways. The narrative models under investigation include not only those of structural narrative analysis from such traditional areas as literature and film, but also those from interactive narrative studies, game studies and game design. In the analysis phase, the descriptive framework will be applied in analyzing several game narratives, with the purpose of testing the effectiveness and robustness of the framework. Necessary modifications to the framework will be made at the end of this phase. Much of the above methodological discussion in the previous phase is in fact to inform the game analysis occurring in this phase. The two-phase procedure enables the concepts developed in the synthesis phase to be carried into the analysis phase, with the possibility to form iteration by going back to the synthesis results. The connection between the two phases benefits the studies of digital games as both constructed and interpreted. As Gunnar Liestøl argues, an "exchange of conceptual means between the positions in the synthetic-analytic relationship" can help refine our current analytical vocabulary and improve our analytical capabilities (2003, 390).

The objective of this research is to develop a descriptive framework for analyzing game narratives. The application of the analytical schemes provided by the framework should inform us about the underlying narrative structure as well as the use of devices and techniques through manipulating structural characteristics in the narrative design. Since narrative structure is the object of my analysis and it is intrinsic to a game, the analysis must lie in the game itself. As concluded earlier, to avoid the limitation a "text-only" approach may bring, I shall (1) adopt a theoretical model that accommodates the interactive process

of gameplay, i.e., that treats games *as played*; (2) observe how the concepts connect the synthesis and analysis, in order to strengthen the analytical power of the framework. The first principle also implies that I will take the player's perspective when looking at games, as Bal emphasizes, "the aim of textual analysis is not to account for the process of writing, but for the conditions of the process of reception" (2009, 75). The main theoretical model I will draw on is structural narratology. Among the trends in structural narratology, I will pick those that address narrative as a *process*, in order to leave room for developing concepts specific to game narratives.

The goal of developing a descriptive framework for game narrative analysis is to make classical narratological theories available and applicable to digital games and interactive media in general, which in turn aids the process of exploring the new narrative potential brought by interactive storytelling. This framework serves as both a container for important narrative concepts and an analytical tool for studying game narratives. The concepts described in the first phase will represent prominent characteristics and devices that are critical in constructing the narrative. The in-depth case analyses in the second phase of this research will witness the application of these concepts in real examples. The accuracy of the description of the concepts will be tested during the process of analysis. In an integrated view of narrative and gameplay, it is also critical to observe how the design of narrative can influence the player's experience.

2.2.3 Method of Play

"Any theoretical approach to game aesthetics implies a methodology of play," asserts Espen Aarseth (2003). He argues that aside from the theoretical model used by the analysis, the method of playing should also be declared since the analytical results are always affected by the way we play a game. While I tried to maintain a neutral position when playing the games, it is necessary to describe my way of play, for those who want to match my results with theirs. Using the points suggested by Aarseth, my method of play can be summarized in the following list:

1. Play vs. non-play. For the in-depth analyses, I have played the three games, each multiple times, until I am certain of the narrative structure. For *Assassin's Creed*, after finding its structure repetitive, I picked one segment to repeat, trying to trigger the plot variation (see 7.1.6.4). For *Fable II*, I went through twice, trying to use different personality for the player character. For *Heavy Rain*, I played through twice, choosing different difficulty levels, and replayed many of the chapters, some several times, in

order to exhaust all the possibilities.

2. Level of mastery of gameplay. I consider myself a beginner level player. Thus besides my own play, I had an intermediate level player play the three games and while I observed on the side. We have also tried the co-op mode for *Fable II*. We have both used cheats for a few places.

3. Secondary sources of data. I have consulted others' game reviews and analyses after I finished the first play of all games. During the course of establishing the framework, I have consulted academic papers and books, game reviews and analyses in order to find examples with different features.

2.2.4 Scope of Investigation

In this work, I will limit my scope of investigation to story-based games, as the object of my study is game narratives. Juul suggests that most video games (except for abstract games) are made of real rules and fictional worlds, where to play a video game is to "interact with real rules while imagining a fictional world." He points out that "[i]n having fictional worlds, video games deviate from traditional non-electronic games that are mostly abstract, and this is part of the newness of video games" (2005, 1). This fictional world is closely related to the notion of *game world* used in game design, a notion that will be discussed in a later section 2.3.2. In the context of this research, an imaginary game world will be the minimal requirement for the games studied in this work; i.e., abstract games like *Tetris* will certainly be excluded. Adams (2010) points out that not all games have an imaginary game world, such as sport games and abstract games like chess. Sports games take place in real location, whereas abstract games are played purely by rules without the need to imagine a world. Because this holds true for their computerized versions, for the purpose of this study, computerized sport and board games are not included. The restriction also extends to real-time strategy (RTS) games, which are generally built on the concept of board games albeit with more imaginary elements. In a typical RTS game, narrative hardly goes beyond the background story. However, recent RTS games, such as the *StarCraft* series, start to be mixed with other genres and bear more fictional content. I believe the framework developed in this research can be useful in studying the narrative aspect of the design of these games; however, narrative still does not play a central role given the nature of this genre. Text adventures do have an imaginary world, but since they have already been studied extensively and do not have a graphic representation as most video games do,

they will not be in the central area of this study. Lastly, I will *not* cast MMORPGs (massively multiplayer online role-playing games) in my scope of study, as they deserve a separate study that goes beyond the traditional definition of narrative (see my discussion in 2.3.2.1).

Because, in reality, there are no clearly distinguished game types or genres, the boundary of the scope of story-based games studied in this research is inevitably blurry. One popular way of classifying games on a high level, based on narrative characteristics, is the distinction of games with embedded narrative and emergent narrative. Earlier in this chapter I introduced the notion that these two terms denote two modes of existence of narrative in games, but here they are used to represent two structures. According to Salen and Zimmerman, in an embedded narrative structure, "[p]layers can experience a game narrative as a crafted story interactively told: *the characters Jak and Daxter are saving the world*"; in an emergent narrative structure, "[p]layers can engage with narrative as en emergent experience that happens while the game is played: *Jak and Daxter's story arises through the play of the game*" (2004, 383, original italics). Although I oppose this dichotomy being used to distinguish either narrative's existence modes or narrative structures, the two terms are worth mentioning since they are widely used in the game design and development community. Another binary difference between terms is plot-based (or -oriented or -driven) narrative and character-based narrative, roughly corresponding to embedded narrative and emergent narrative. This second distinction is based on the Aristotelian concept of plot, which rules the story progression. Character-based narrative is proposed to oppose the Aristotelian idea that characters are subordinate to plot; namely, characters' goals and actions can be the driving force of an interactive narrative. Emergent narrative, in this context, is proposed to be the interactive narrative structure that allows a story to "emerge directly from the interactions between its protagonists and build itself from the causal relationships between its different elements" (Aylett et al. 2006, 42). Emergent narrative thus finds its best empirical examples in role-playing games, whose narratives are clearly character-based or character-driven. In an integrated view of game narrative, however, the above binary distinctions are too high-level to act as an analytical instrument. They are best seen as representing the wide spectrum of game types. One end is games with a pure embedded-narrative structure, such as linear adventures where players follow a single trajectory from the beginning to the end; the other end is games with a pure emergent-narrative structure, such as MMORPGs where the story mainly arises from players' live actions with no pre-determined trajectories. Most games, in my view, are a combination of the two structures, sitting in between the two ends on the spectrum. In the next section where I discuss the definition of game narrative for the purpose of this study, I will specify that the games studied in this research will at

least have a skeleton story, which has one or more pre-determined endings.

In summary, to give narrative analysis more ground to play, I will focus on digital games with their fictional game worlds also being *story* worlds that are visually represented, interactive and navigable. These games best represent the current trend of modern computer game development and fiercely compete with realistic visual representations, sophisticated game mechanics, as well as engaging stories. Because the ultimate focus of this work is structures and techniques of interactive storytelling, I will, when necessary, mention examples or literature from other interactive narrative forms, such as interactive drama and interactive film.

2.3 Theoretical Foundation and Key Definitions

A look at the recent history of the development of narratology and digital game theory will probably show us that an integration of the two is not a coincidence. Narratology both as a term and as an approach was made popular by such structuralist scholars as Gennet, Bal, Bremond, Prince, and Chatman, in the 1970s and 1980s, under the influence of Todorov and Barthes. It took a new turn under the post-structuralist and post-modernist influences in the 1990s, and at the same time inspired a series of works, peaking at the turn of the century, on narrative and digital media as well as transmedial issues. Some of these works, perhaps the most influential one being Murray's *Hamlet on the Holodeck*, stirred up enthusiasm among humanities scholars in exploring ways of combining narrativity and interactivity, and successfully infiltrated into game research, which had been evolving at the same time. As Perron and Wolf (2009b) point out, although game studies can be traced back to the 1970s, the development of video game theory started in the 1980s and has obtained a sharp boost since the year of 2003. Since then the debate over narratology and ludology had rested, resulting in the formal establishment of game studies as an academic field and an appreciation of the video game as "a new medium, a new art form, and a new popular cultural force." The later research works "all demonstrate that it is possible to apply existing terms, ideas, concepts, and methods to the video game in a useful and interesting manner, while pointing out that new theoretical tools are needed" (4). Among these studies, narratology and related narrative theory have constantly been applied in discussing narrative in games. This can be found in *More than a Game: The Computer Game as Fiction Form* by Atkins (2003), *Computer Games: Text, Narrative and Play* by Carr et al. (2006), *Tomb Raiders and Space Invaders: Videogame Forms and Contexts* by King and Krzywinska (2006), and *Video Game Spaces: Image, Play, and Structure in 3D Worlds* by

Michael Nitsche (2008), to name a few examples.

In this research, concepts and theories mainly derived from structural narratology will be applied in the analysis of game narratives, forming the assumptions of the theoretical lens for this research and serving as the basis of the analytical inquiry. Here I use *narratology* to refer to the body of narrative theory that focuses on the analysis of narrative structure, following a common, classic definition of the term (e.g., O'Neill (1994), Onega and Landa (1996)). Classical narratology had been restricted to structuralist approaches. As mentioned above, post-classical, or post-structuralist, narratology has been inclined to include a wider range of social and cultural perspectives including psychoanalysis, ideological critique, gender studies and so forth; in the meanwhile, the object of study has ranged more widely to include more narrative forms that are beyond literary works. Because my work focuses on the structure of game narratives, I will base my theoretical development on the literature of structuralist narratology and incorporate those works that also take a structuralist approach but deal with a variety of narrative forms, such as film and interactive narrative. In the following I will discuss some of the fundamental narrative concepts and the rationale of their adaptation in the context of digital games. The discussion shall serve as the foundation of later case analyses and form the basis of the analytical approach.

2.3.1 Basic Narratological Instrumental Tools

2.3.1.1 Distinction of Layers of Narrative: Story and Discourse

In this interdisciplinary and transmedial study, I adopt one of the broader definitions of narrative from Susana Onega and Jos Angel Garca Landa: "A narrative is the semiotic representation of a series of events meaningfully connected in a temporal and causal way. Films, plays, comic strips, novels, newsreels, diaries, chronicles and treatises of geological history are all narratives in this wider sense" (1996, 3).[6] As the authors explain, this definition distinguishes at least two layers of analysis of a narrative. One layer concerns the events represented, while the other concerns the structure of representation. This distinction between the *what* and the *how* is one of the grounding premises of narratology.[7] It forms the basis of Seymour Chatman's story/discourse distinction:

[6]This definition of narrative is not the broadest. Abbott, for one example, uses the definition — "the representation of an event or a series of events" — without the temporal and causal conditions. Since the games selected for the purposes of my study generally have "tighter" narratives, I stay with Onega and Landa's definition.

[7]Some game researchers refer to this model as well: Eskelinen (2004), Juul (2005), Zagal and Mateas (2007), to name a few.

> What makes narrative unique among text-types is its "chrono-logic," its doubly temporal logic. Narrative entails movement through time not only "externally" (the duration of the presentation of the novel, film, play) but also "internally" (the duration of the sequence of events that constitute the plot). The first operates in that dimension of narrative called Discourse (or *récit* or *syuzhet*), the second in that called Story (*histoire* or *fabula*). (1990, 9, original italics)

The above description instantly tells us that the main advantage of the two-layer model lies in the analysis of narrative time. Story and discourse essentially involve two sets of time and order, which do not necessarily coincide. The dynamics between the two reveal a lot about narrative design. While this distinction has been applied in numerous individual works, its limitation as an instrumental tool has been constantly reflected since its conception. For some of the identified areas that are relevant to game study — narrative space, for instance, the distinction cannot contribute much to the analysis (Herman 2002).

To tackle the limitations, some theorists created a three-layer model to create room to address the *narrating* of the story, hence the "further distinction between the (inferred) *process* and the (actual) *product* of narrative discourse" by splitting the concept of discourse (O'Neill 1994, 20, original italics). Despite the varied preferences among narrative scholars, for the study of digital games, where gameplay — the interactive process — is the core of a game product, a three-layer model is obviously more suitable for game narrative analysis.[8] Bal's definitions of text, story and fabula are one of the three-layer models frequently adopted by different studies. She defines the three layers as follows:

1. A *text* is a finite and structured whole composed of signs, which can be linguistic, cinematic, or painted.

   (a) A *narrative text* is a text in which an agent or subject conveys to an addressee a story in a particular medium, such as language, imagery, sound, buildings, or a combination thereof.[9]

2. A *story* is the content of that text, and produces particular manifestation, inflection and "colouring" of a fabula.

[8] For a more complete comparison of different models (e.g., two-layer's, three-layer's and four-layer's) and their terms used by different theorists, see O'Neill's *Fictions of Discourse* (1994), page 21.

[9] Here the "agent" or "subject" does not imply a human agent. Bal's narrative agent is "the (linguistic, visual cinematic) subject, a function and not a person, which expresses itself in the language that constitutes the text" (15). This definition makes her theory adaptable to non-literary media such as films, where the camera can act as the narrative agent.

3. A *fabula* is a series of logically and chronologically related events that are caused or experienced by actors. (2009, 5)

Onega and Landa use an example to vividly illustrate Bal's three layers:

> [I]f we take a work such as *Robinson Crusoe*, we will say that the text is the linguistic artifact that we can buy and read, written *de facto* by Defoe and supposedly by Robinson. The *fabula* is whatever happened to Robinson in his travels and on his island. The story is the precise way in which that action is conveyed, the way the fabula is arranged into a specific cognitive structure of information. (1996, 6)

In Bal's most recent update of her narrative theory, "text" refers to narratives in any medium and is identical to "artifact" — the actual *product* of narrative discourse in O'Neill's terms. "Story," although containing the same material as "text" or "fabula," is only distinguished for theoretical purposes. It is the structured story form that can be seen as the result of an arrangement of narrative materials. While the fabula is "a memory trace that remains after the reading is completed" (Bal, 10), the arrangement of fabula is often procedural (and especially so in the case of games), in parallel with audiences' sense making (or playing), which is the inferred process of narrative discourse in O'Neill's terms. In Onega and Landa's summary, "[w]e could say that a story is *a fabula as it is presented in a text*" (8, original emphasis). An oft-cited example to illustrate the difference between story and fabula is the Cinderella story. Various versions in books and films deliver different stories but they are all based on the same fabula consisting of the same series of events.

The structured story is closely related to a commonly used, yet slippery for its polyvalence, term — *plot*. H. Porter Abbott points out that "the distinction between plot and story is an implicit presumption that a story is separate from its rendering" (2008, 40). Note that here the story is the one in Chatman's terms and fabula in Bal's terms. Being so vague in its meaning but so common in everyday English (e.g. "this movie has no plot"), plot is often avoided completely by classical narratologists. However, in both film and game studies, plot is still mentioned frequently and thus worth defining one more time for the purpose of this research. In film studies, plot usually means the narrative discourse, as in the binary story/plot (or fabula/syuzhet) model. I will stick to this definition for now and come back to it shortly. Here plot inherits the Russian Formalist's concept "syuzhet," referring to the arrangement and presentation of story events in the narrative as we have it (Bordwell 1985); plot "re-arranges, expands, contracts, or repeats events of story" (Abbott 2008, 43). It becomes apparent that this definition of plot corresponds to Bal's "story."

2.3.1.2 Storyworld as Mental Model for Narrative Comprehension

I have mentioned earlier that the distinction of layers of narrative is not an all-purpose instrument; for example, it does not help much in the study of space. Following the approach to time, early narratology works have attempted to make inferences from the relationships between *story space* and *discourse space*, but this method did not go too far due to the multiple understandings of what discourse space is. It is unclear whether it is the space on the book pages, the space of the screen, or the space where the act of narrating occurs. In any case, when reading a narrative text, the audience member works on the mental construction of the *storyworld* to comprehend the narrative space. Storyworld is another instrument to understand the narrative discourse. Abbott describes the cognitive process of narrative comprehension: "we're reading a story that follows events in time, but in the process we are acquiring a picture of a mind that transcends the story it tells" (2008, 164). David Herman explains it in a more defining way: "narrative comprehension is a process of (re)constructing storyworlds on the basis of textual cues and the inferences that they make possible" (2002, 6). He considers storyworlds as "mental models of who did what to and with whom, when, where, why, and in what fashion in the world to which recipients relocate-or make a deictic shift-as they work to comprehend a narrative" (9). Compared to the classical distinction between story and discourse, Herman considers the concept of storyworld "better captures what might be called the ecology of narrative interpretation" (13).

For narratives in screen-based media, the audience has more spatial/visual cues to (re)construct the storyworld. Building on the distinction of story and discourse, Edward Branigan bases his dual frames on two levels — on the screen and in the "story world." Hence, the audience "encounters at least two major frames of reference in film: the space and time of a *screen* as well as the space and time of a *story world*" (1996, 236, original italics). Branigan adds that causality has a double interpretation, too. Under this light, "narrative in film is the principle by which data is converted from the frame of the screen into a *diegesis* — a world — that frames a particular *story*, or sequence of actions, in that world; equally, it is the principle by which data is converted from story onto screen" (238, original italics). The relationship of the "story world" and screen can thus inform the audience's cognitive processes in the "assimilation of on-screen data and of equivalent experiences which may not derive directly from screen" (235).

Herman's "storyworld" and Branigan's "story world" are two largely conflated concepts, which are used to aid the understanding of narrative comprehension and the analysis of a

narrative space that is constantly reshaped in time. Moreover, they are crucial to the analysis of the visual representation, which concerns how data is mapped, or converted, from the screen to the storyworld. In addition to these areas, the instrument of storyworld also helps explain the phenomenon of narrative embedding — stories within stories, which will be discussed in section 5.2. For the purpose of this research, I will use the term *storyworld* to generally refer to the world in which the story takes place. The on-screen world is a partial representation of the storyworld, which involves organization and patterning of narrative data using a language native to the narrative medium.

2.3.2 Defining Key Narrative Concepts for Games

2.3.2.1 Story, Plot, Operation

Earlier in this chapter, I have argued that an *integrated view* of game narrative is more appropriate for player-centric design; this view takes into consideration both non-interactive and interactive narrative content as game narrative. I have quoted some designers' words earlier in 2.1.1.1 claiming that the ideal design for game storytelling should treat the whole game as a unified experience, both for narrative and gameplay. Moreover, recent analytical research has started to treat the entire game as a system and their analyses cover both pre-scripted story elements and the player's actions through the interactive gameplay (e.g., Tychsen and Hitchens (2009), Zagal and Mateas (2007)). Onega and Landa's definition of narrative — "the semiotic representation of a series of events meaningfully connected in a temporal and causal way" — still fits for games. Here the "representational" nature of narrative seems to have an implication in the case of digital games; that is, the story must exit *before* its narration or rendering in order for the narrative to *re*present what has happened. While most games have predetermined stories, Fotis Jannidis observes that in MMORPGs, "the actual story itself is not predetermined" because the sequence of actions is "largely dependant on the decisions of the players." He thus considers MMORPGs are not narratives since their fictional worlds cannot be separated from their representations. Consequently, MMORPGs should be marked as "borderline phenomena" (2003, 47). Abbott (2008) holds a similar view believing that life, (non-computer) role-playing games and MMORPGs disqualify as narratives since there is no pre-existing story. In the case of the story-based games studied in this research, the games all have a pre-existing "skeleton" narrative. Designers tell only part of the story in their plot and leave gaps for players to fill in with actions. These narrative gaps are carved out *by design* as an effort create interactivity while maintaining narrative coherency.

For the purposes of this research, games are treated as *narrative texts*, the artifacts that we obtain and play. The most distinct characteristics of game narrative are its procedurality and interactivity. Players are in a way co-telling the final story during the gameplay. When we distinguish different layers of the meaning of game narrative, it is necessary to separate the medium-dependent final product from the reading/playing process so that we can use the latter notion to address the player's interactions. Instead of dealing with the real-time nature of player interactions within the definition of *text*, I will re-examine the other two layers of Bal's model in the context of games. *Story* in Bal's terms is the process of narrative discourse where the content gets arranged. A look at film studies will tell us that film narratologists, such as Bordwell, tend to use *plot* (or syuzhet in earlier studies) to refer to the same notion as Bal's "story," and *story* to refer to Bal's "fabula." Because of the close connection between games and films, I will use *plot* to replace Bal's "story" and *story* to replace her "fabula" in order to avoid confusion and make my analysis more accessible for people working with games. As I redefine plot for games, I find that the procedural, interactive process between games and players is still somewhat left unaddressed in the current model. This process is similar to, yet different from, a film's *narration* — "the process by which the film prompts the viewer to construct the ongoing fabula on the basis of syuzhet organization and stylistic patterning" (Bordwell 2008, 98). The active role that the player plays, as a participant who can alter the course of the story, makes the interactive process need for a dedicated notion, which I will use the term *operation* to address. By now I have selected the following concepts for game narrative:

1. A *game text* can be considered as a *narrative text* in which an agent or subject presents to one or more players a "situated story" that reacts procedurally to player actions in the interactive medium of a digital game. A game text includes both narrative (such as game sequences) and non-narrative content (such as game menus).

   (a) *Operation* is the running procedure of a game text performed by both the game's autonomous mechanisms and the player(s)'s actions. The operation of a game text causes the procedural enactment of the game plot.

2. *Game plot* is the content of the game narrative, and presents the story in a structured way, through the dynamic patterning of representational materials and interactive events. In some design, the game plot can vary from one play to another thanks to different player behaviors. In this case, the game plot becomes a set of all possible plot instances, representing all narrative variations. (Here *plot* corresponds to Bal's

notion of *story*.)

3. A *game story* is a series of logically and chronologically related events that are caused or experienced by actors. A game story is a mental image left with players of what happens in the game world. (Here *story* corresponds to Bal's notion of *fabula*.)

In other words, plot is the structured form of the story, whereas story is the raw form of the series of events in chronological order. To adapt Bal's definitions, an *event* in a game story is the transition of the game from one state to another; it can be non-interactive (e.g., pre-generated sequences), or interactive (e.g., action sequences participated by the player), or a combination of the two. A game story is the chronological series of events during one play. In this sense, a game story is the combined whole of narrative materials during one play of the game in the form of a chronological series of events. A game has potentials to contain more than one variation of story and in this case the game plot can be seen as a *plot set* with the capacity of presenting multiple plots dependent on player interactions. This notion of plot is consistent with Lev Manovich's (2001) conception of a "database narrative." Hence, the one plot, which players experience from a game during one round of play, can be considered as one *instantiation* of the game's plot set. This plot set is accommodated by the game text.

2.3.2.2 Gameworld as Accessible Storyworld

In the game design community, *gameworld* is a frequently used term generally referring to the virtual world created for a game. For example, Adams defines: "A game world is an artificial universe, an imaginary place in which the events of the game occur. When the player enters the magic circle and pretends to be somewhere else, the game world is the place she pretends to be" (2010, 64). In this sense, a gameworld is highly comparable with a storyworld except that the former provides a directly accessible interface to the player. For a reader of a written narrative, the reconstructed storyworld is merely a mental model that contains and visualizes the narrative content. For films, however, the audience's reconstructed storyworld is to a large extent composed of what is visually represented on the screen — they need not visualize the world purely through their mind. For games, this line is even blurrier as the player is participating in the process of constructing, and not just reconstructing, the events in the gameworld. We therefore can say that the storyworld of the game is the gameworld. To design the game space is to design the gameworld. As I will discuss in the chapter on Space, a simple way to look at the composition of a

gameworld is to divide it into on-screen space and off-screen space. Hence a gameworld is both physically (in the sense of accessibility via player-game interaction) on-screen and imaginarily off-screen.

A gameworld possesses an important quality that the storyworld of a traditional narrative does not have — players can navigate the virtual narrative space and interact with objects and characters within a gameworld. The concept of gameworld, as accessible storyworld, is instrumental to narrative comprehension, based on which players can make their moves within the game space.

2.4 Summary

In this chapter, I have laid out the theoretical foundation for game narrative analysis. The chapter began with a critical review of the diverse opinions on the role of narrative in games and textual analysis as a research method for game studies. Following the review, I decided on the theoretical perspective this research will take on and set the goal and scope for the study. Lastly, in preparation of the development of the descriptive framework in the next four chapters, I defined and described a basic set of concepts that will be used throughout this work.

As previously mentioned, the study of game narrative will go through two phases. In the synthesis phase, I will first examine the two most important aspects — time and space — in game narratives, introducing the techniques and devices that use time and space to organize narrative content on all three layers of game narrative. I will then concentrate on the layer of game text, examining how various types of narrative information can be embedded to form hierarchies and how narrative interaction is structured. The last group of aspects to examine is on the layer of plot, including focalization and plot structure. In the analysis phase, I will conduct three game case analyses, applying and testing the analytical framework developed in the first phase. A reflection through case comparison on the analytical results and insights will assess the usefulness of the framework and return some new additions to the framework.

Chapter 3

Time

Like other time-based narrative forms such as film and theatre, games unfold in time. Unlike films that absolutely control the flow of time, however, games yield partial control to players. In playing a game, the player participates in a programmed process and drives the game forward to completion while the game story unfolds over time. Such frequently discussed topics in game analysis as repetition, pacing, dramatic arc, closure, as well as such mechanics as deceleration and the ticking clock (LeBlanc 2006), all fall into the realm of temporality. Games do inherit certain temporal design conventions from older media like film. However, due to the dynamic nature of ludic gameplay, augmented by the power of computation, time in video games also has unique characteristics that facilitate or mediate both the gameplay and the associated narrative.

This chapter[10] examines temporal relationships in games following the most frequently used categories *order, speed,* and *frequency* originally developed by Gérard Genette (1980). The relationships characterized in these three categories mainly dwell in the dynamics between *story time* and *operational time* in games. With respect to order, the chapter describes the existence of "polychrony" in game storytelling — an important device that influences the gaming experience indirectly through reducing the linearity and increasing the replayability. The discussion also brings out time-related gameplay mechanics, which shows that time can play a significant role in both narrative and gameplay. This operationalized use of time marks a fundamental difference between digital games and other narrative media.

[10] A large portion of this chapter appeared in an article published by the International Journal of Computer Games Technology (Wei, Bizzocchi, and Calvert 2010).

3.1 Previous Studies of Game Time

Previous studies of game time have considered similar ideas yet using different perspectives. Eskelinen's early game studies work contrasts game with narrative. He argues that games only have one necessary time scheme, namely, "the movement from the beginning to the winning or some other situation," and "in cases where another time scheme is invented, it is not as important as the first one" (2004, 39). While the dominant temporal relation in traditional narratives is the one between story time and discourse time, the dominant temporal relation in games, according to Eskelinen, lies between *user time* and *event time*. User time is the time taken by the player to perform actions, whereas event time is the period for the "happenings" of the game. However, since user time and event time are durations (or time frames) based on one single time scheme, Genette's temporal categories are simply not effective here; hence Eskelinen's discussion of temporal relations only borrows the terms from narratology without the real spirit.

Different from Eskelinen, Juul tries to distinguish his study from the narratological approach, even though he agrees that the two approaches are comparable to certain extent. Juul (2005) proposes two time schemes for games: *play time* and *fictional time*.[11] Play time is the time taken by a player to play a game and fictional time denotes the time of the events in the game world. Juul then used the term *projection* to describe the link between play time and fictional time; however, projection is the one and only temporal relation Juul looks at in games. Later studies follow the same thread but confuse time scheme with time frames (i.e., different periods within one scheme). For example, extending and modifying Juul's schemes, Hitchens (2006) presents a new model for game time, including playing time, game world time, engine time and game progress time. Later, Tychsen and Hitchens (2009) further extend that model, in the context of multiplayer role playing games, into a seven-layer model, including such new layers as server time, story time and world time (derived from the original "game world time"), and perceived time.

Another proposal of game temporality is part of Zagal and Mateas's (2007) work for the Game Ontology Project. They propose four temporal frames for games: real-world time (events taking place in the physical world), gameworld time (events within the represented gameworld, including events associated with gameplay actions), coordination time (events that coordinate the actions of players and agents), and fictive time (established via the use of socio-cultural labels, such as days and years, to events).

[11] In his previous version of this study, Juul (2004) called fictional time event time, which is coincident with Eskelinen's term.

A closer look at these works in game studies will tell us that these somewhat arbitrary concepts are not clearly defined. Some works create temporal frames based on one time scheme (e.g., Eskelinen's); some other works create double or more time schemes (e.g., Juul's); yet others create a mix (e.g., Hitchens's and Zagal's). When it comes to setting up a temporal model, it is critical to define which time schemes the relations are based on. I therefore believe it is beneficial to return to narrative theory and to start our analysis from the terms clearly defined there and adapt them to games with necessary modifications.

3.2 Story Time and Operational Time

In narrative theory, most of the approaches to time depart from the basic distinction of two temporalities in narrative: *story time* and *discourse time*. As story is the basic sequence of events, story time is considered the chronological time when the events happened. Discourse time, on the other hand, can be understood differently under different contexts. As Teresa Bridgeman (2007) points out, in oral narratives, discourse time can be the time of telling, whereas in written narratives, since we cannot access the act of writing, discourse time can be generally referred to as the time of reading. In some narratives, story and discourse times are simply matched, but in many narratives, these two can be very different. The temporal relationships between the two schemes thus produce many interesting narrative effects. These relationships are best categorized by Genette (1980) as *order, duration* and *frequency*. The categorization has been very popular and adopted by numerous works in narrative analysis; however, they are all based on the assumption that the relation between story time and discourse time can be determined. Studies of many recent narrative texts have seen the indeterminacy of temporality. Herman uses the term "fuzzy temporality" to describe a subtype of temporal relations that involve "temporal sequencing that is strategically inexact, making it difficult or even impossible to assign narrated events a fixed or even fixable position along a timeline in the storyworld" (2002, 212). He uses "polychrony" to cover all types of narration with fuzzy temporality, including both temporal indefiniteness (i.e., events are partially ordered) *and* temporal multiplicity (i.e., events are ordered in multiple sequences).[12] This fourth category thus complements Genette's three categories, forming a coherent set of temporal relations in a narrative. I will use these four

[12]"Polychrony" is related to the notion of "achrony" but with bigger scope. The later notion is originated from Genette's idea of "timelessness" regarding those "unplaceable" events; it is used later by narrative theorists like Bal. However, the notion of achrony does not address the multiple orderings. I will include more details in section 3.6.

categories as the departure point for temporal studies of games.

In playing games, players do more than "reading"; instead, they participate in the events in the story and play a part in the telling of the story, too. While the meaning of story time remains similar, discourse time, becomes more complex for games. From the player's perspective, it should refer to both "reading time" and "acting time." Hence, I use the term *operation* to refer to the running of a game driven by both the player's actions and the game's autonomous mechanisms. A game *story*, on the other hand, is the coherent story (fabula) reconstructed during and/or after the gameplay by the player, which consists of a succession of events in chronological order. Therefore, *narrative time* in games concerns the relationships between two time schemes: *story time* and *operational time*. The operational time is analogous to David Bordwell's (1985) "screen time," which is external to "story time" and "plot time," referring to the actual running time of the film projection. I choose operational time over plot time because the latter can be ambiguous in certain context. For example in a story event, the protagonist needs 1 hour to go from one location to another, but on screen, the player only takes 5 minutes to finish the operation. In theory, the player uses 5 minutes to enact an event in plot, so the plot duration is 5 minutes. However, when we suspend our disbelief and immerse ourselves in the gameworld, we will consider that plot event takes 1 hour since the time is continuously presented, although condensed for the purpose of gameplay efficiency. In this case, when the game uses a constant ratio of such "condensation" of time, we can safely ignore the actual difference and consider that operational time and plot time are one.

The analysis of time, therefore, in games concerns the three temporal categories — order, duration and frequency — based on the relationships between story time and operational time. I will follow some recent narrative theorists (e.g. Bal (2009) and Prince (2003)) and use narrative *speed* to replace duration, which makes it more of a relative notion operating between two time schemes. In addition, I will also describe the existence of fuzzy temporality of games to exhaust all the possible temporalities. Although game storytelling is often accused of being simple and linear, I will show some exceptions to that as well as those unique temporal devices games employ.

3.3 Order

In narrative theory, order concerns the relation between the order of events in the presented narrative (i.e., in discourse time) and the order of their chronological sequence in the story constructed by the reader or viewer (i.e., in story time). Correspondingly, in games, *order* is

the relation between the sequential ordering in operation and that in story. When these two orderings are consistent, we get a linear story. Literary and film narratives often play with the sequential ordering to "draw attention to things, to emphasize, to bring about aesthetic or psychological effects, to show various interpretations of an event, to indicate the subtle difference between expectation and realization, and much else besides" (Bal 2009, 81). Earlier games were often accused of having stories that were too linear, which can limit players' impact on narrative through interactions. However, linear stories and non-linear stories both have their own disadvantages. As Adams (2010) points out, linear stories can have more narrative power and greater emotional impact on players, but the cost is a corresponding loss in player agency. Among the traditional narrative devices to manipulate the order, flashback is sometimes seen in games but flash-forward is quite rare.[13] Branching plotlines is another non-linear technique that is rare in older media but commonplace in games and interactive narratives because they are easily implemented computationally. As the use of branching plotlines gives the entire game operation multiple orderings for different plays, I will discuss it in section 3.6 that concerns fuzzy temporality.

A good example of manipulation of temporal order can be found in *Prince of Persia: The Sands of Time*. The game uses the Prince's voice-over to tell his story to a person, whom we will only know at the end. The whole narration is in past tense even though at the present time the player is playing through the Prince's supposedly past adventure. Only at the end — when story time meets with operational (or plot) time — does the player realize that the entire adventure was narrated in a flashback. This scenario can be illustrated as in Figure 3.1. In the operation (or plot), Sequences A, B, C, D are inserted in between E as a flashback; at the end point E2, operational time finally meets story time (connected by dashed line). A similar case is *Max Payne*, which also presents the entire game in a flashback. As I will introduce in chapter 5, a temporal flashback can serve as an effective framing device.

The *span* of the retroversion is an important characteristic of flashbacks. Apart from the two extreme cases cited above, most flashbacks in games have a shorter span for the purpose of, for example, flashing out a character's memory to introduce some back-story. When the flashback spans over the entire game plot, the player will eventually start feeling that nothing special is happening, which is similar to what Bal observes in literary works (2009). Yet in the game of *Prince of Persia: The Sands of Time*, the voice-over narration

[13] In a 2002 study that analyzed 130 digital games, the result showed that 6% of the investigated games use flashbacks and 2% flash-forwards (Brand, Knight, and Majewski 2003). The usage of these two devices could be higher in games that are more recent.

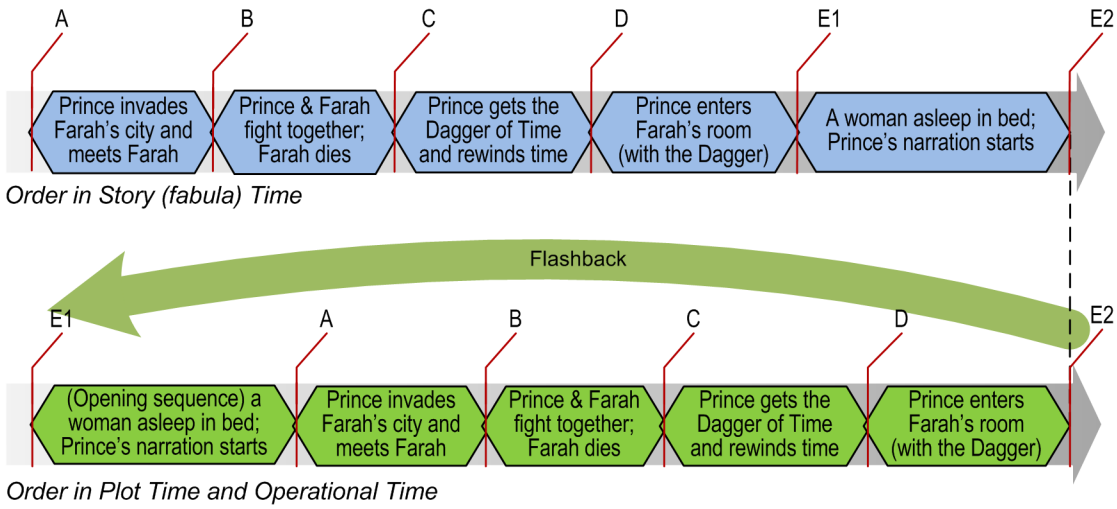

Figure 3.1: *Prince of Persia: The Sands of Time* — the entire game as a flashback.

using past tense is interspersed throughout the entire game reminding players they are still in the flashback, which creates a hypermediated and slightly cynical or even comic effect. Although recently we see more interactive flashbacks in games, flashbacks have been traditionally done in such non-interactive forms as cut-scene, pre-scripted dialogue, or even on-screen text. Juul believes "interactive flashbacks" are problematic because "[t]he player's actions in the past may suddenly render the present impossible" (2005, 148).[14] This might explain why in flashbacks players' interactions are often limited; even if they are not limited, the game may simply reset when players make "illegal" moves that are not designed by the game script.

Aside from creating narrative effects, the sequential order has one distinct use in games that is not found in other narrative forms, i.e., to use order as the answer of a puzzle. Eskelinen (2004) gives *Doom* as an example, where the player must find the right event sequence in order to proceed. Many adventure games (such as *God of War* and *Lara Croft* titles) contain ordering puzzles — where players need to trigger a set of switches in the right order to open a gate. Other narratively inflected puzzle games use this mechanism as well, in particular a number of online puzzle games (e.g., *Samorost*[15]). This practice effectively conjoins the narrative concept of order with the dynamics of ludic play.

[14]Interestingly, this is exactly the case in *Prince of Persia: The Sands of Time*. When the player character accidentally dies, the voice-over narration will say: "Wait, what did I just say? That didn't happen. Let me back up a bit." The player will then be given another chance to try. This method only intensifies the comic effect of the game narration.

[15]http://www.amanita-design.net/samorost-1/

3.4 Speed

In narrative theory, *speed* concerns the relation between the duration of the events that happened in the story and duration of the discourse that tells those events. The narrative speed of a game, correspondingly, is the relation between the duration of the events that happened in the story (i.e., in storyworld time) and the duration of the operation of those events in game play. As speed is a relative concept and there is no absolute means to measure it, based on previous theorists, Bal (2009) summarizes five canonical tempi that can be used as relative measurements: *ellipsis, summary, scene, stretch,* and *pause,* going from fast to slow respectively. The key to distinguish one tempo from another is to compare two time schemes, and it does not matter which two they are (see Figure 3.2). Therefore, if discourse time is replaced with operational time, the five tempi can be applied to measure the narrative speed of games.

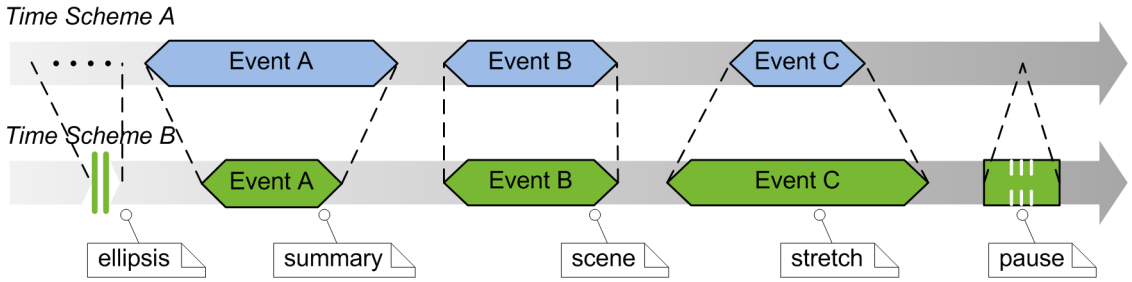

Figure 3.2: Five canonical tempi to describe narrative speed.

The most common tempo in games, especially in action sequences, is the *scene* where events take place in operational time at the same speed as they do in story time. In film, since real people act out the actions in a scene, a perfect "scene" speed can be created; in games, however, where all the actions are computationally presented on the screen, there is not necessarily an absolute "scene" speed. I have mentioned the discrepancy in section 3.2. Here I want to add that the actual speed of game events is also dependent on the gaming platform. Games played on smaller screens tend to feel a lot faster given the same action and hence the difference between the operational speed and storyworld speed is bigger. For example, fighting in *The Legend of Zelda: Phantom Hourglass* on a Nintendo DS feels a lot faster than in the "real-time" storyworld as players fight by tapping the stylus as quickly as they can. In other words, the duration of an action sequence is related to the scale of the game space provided. As long as the sequence takes place within a reasonable range of duration considering the scale of the game, we can consider its speed as scene. In this

sense, scene is the most used speed when a game is in its normal state. Occasionally, we see a game like *Animal Crossing*, where the game is synchronized with real-world time so that the game story has the same seasons, holidays and so on as in the real world. Heather Kelly suggests that this game design "intentionally draws on the passage of time to create both emotional resonance and economic value in the gameworld"; this design also encourages players to visit the game storyworld regularly in order to fully experience different events happening at different times of the day and even the year (2007, 181).

Summary happens when the duration of an event in the operational time is shorter than that in the story time (see Figure 3.2. This tempo is used when designers want a time point in a game to make a major leap without showing the details of the happenings in between. Summary is typically done in on-screen text or voice-over narration. Occasionally we see other creative ways to do summary. In its stylistic storytelling, *Max Payne* uses numerous graphic novel panels with voice-over narration to narrate in summary those events without player actions.

The opposite of summary is *stretch*, when an event takes longer to happen in the operational time than it does in story time. An often-cited example is "bullet time," where the usually very small duration of a bullet's flight is greatly elongated and presented in a slow motion. This effect was made famous by the film *Matrix* and later adopted by the game *Max Payne*. In the game, bullet time goes beyond a representational effect and becomes part of the game mechanics that gives the player an advantage over enemies. When bullet time is triggered by hitting a key on the keyboard (for the PC version), it slows down the operational time so that the player is able to aim (when shooting) and react (when dodging the bullet). Paolo Ruffino comments that the innovative use of bullet time as a game mechanic is "a magnified satisfaction of a yearning that lies behind much computer game playing: the dream of control over time." Yet, it is not just added control, but something more for the player's ludic and aesthetic pleasure; it "transforms fights into quasi-ballets," where "every step of the fight determines and is determined by the steps of the other 'dancers' " (2007, 71).

When games use *ellipsis*, there is a skip of story events in operational time. This tempo is very common in game storytelling. Like in a novel or film, it can be done in screen caption or voice-over showing or saying, for example, "three years later." What is more, the commonplace gameplay device "teleporting" is essentially an ellipsis. When players go to the teleporter, they will be transported instantly to another location and thus the transportation event is skipped.

Lastly, when a story event is paused and the operation is taking care of something else,

a *pause* occurs. This tempo is rarely used in games except in the form of a brief orientation cut-scene (or fly-through, which will be introduced in chapter 4) in some games. For example, in *Prince of Persia: The Sands of Time*, there will be a pause when the prince enters a new environment: a quick cut-scene with a camera pan will occur to show players the whole picture of the space and hint to them where the target is. Similarly in *Assassin's Creed II,* whenever players are about to solve a platforming puzzle in the tomb, a very quick cut-scene will be displayed to show the order of the locations players need to visit in order to pull a trigger before the timer is off. A loading screen is a pause, too. It is purely a system operation but often narrativized by inserting some idling sequences or screen captions. In addition, in most games players can pause the game, adjusting game settings or taking a break. This type of pause makes the game more user-friendly, but is not central to the experience or the analysis of game narrative.

3.5 Frequency

Frequency deals with the relation between the number of times an event "actually" happened in the story and the number of times it is presented in the operation. The most common relationship is a *singular* presentation of an event occurring only once. When an event in a story occurs only once but in operation, it is presented more than once, *repetition* happens. When an event that took place multiple times in the story is only presented in the operation once, *iteration* happens. Iteration is found mostly in verbal narration, where a repetitive series of events can be summarized verbally (e.g., "for three years, he practices his sword skills every day"). Hence, it is not surprising that we see that most iteration occurs in the verbal part of the game narration, such as in voice-overs, dialogues and diaries. Aside from being presented verbally, iterative narration is very hard to realize in a visual medium like a film or a game, although we do not exclude the possibility of using indirect means to implement iterations.[16]

Repetition is very common in games, but it is mostly employed as a game mechanic rather than a narrative device. The most common repetition is to help players overcome challenges. When players fail to complete a task, they get to repeat the task until done. In this type of repetition, events in operation may vary (e.g. each fight is different) but

[16]Marsha Kinder has provided a detailed discussion of iterations in films, where she considers that iteration is not necessarily a temporal notion. There are some indirect ways to present iterative events visually in films, which she dubbed "pseudo-iterative." For example, one way is to foreground the singular protagonist within a crowd in a habitual event to imply the iterative nature (e.g. in the hiring scene *Bicycle Thief*) (1989).

story events remain the same. The range of the segment that can be repeated and the maximal number of repetitions allowed are dependent on the design of the game. This type of repetition helps the player master gaming skills but is less relevant to the narrative experience.

Another type of repetition is at the player's choice. In many games, players are allowed to move back and forth. They may revisit a certain game section and repeat what they have done before. In this case, some games are able to offer variations for the repeated section; for example, the enemies may be spawned in different locations than the previous time. This type of repetition due to revisiting is to add to a player's experience in both gameplay and narrative.

The third type of repetition is the result of a player's ability to reverse time, which was the most distinct feature in *Prince of Persia: The Sands of Time*. In the game, the Dagger of Time is both a gameplay and a narrative device that can be used by players to turn back time to a point of their choice. On the gameplay side, the Dagger of Time allows players to rewind the game and so redo a task that they failed last time. As a result, on the narrative side, the Dagger of Time can turn over the story outcome through cut-scenes. As part of the pre-scripted story, after the non-player character (NPC) Princess Farah has died and the Dagger has been put into the Hourglass, marking the climax of the game, a cut-scene brings the time all the way back to the beginning, as a result of the Dagger returning to the Hourglass where it belongs. The Prince then starts to tell a story to Farah about the past adventure.

Finally, repetition also occurs at a low level, which can be seen in examples such as an NPCs' repetitive motions (e.g., the forever-swiping motions of the street cleaner in *Assassin's Creed II*) or a player character's "grinding" activities in order to access a new feature or gain a new status.

3.6 Polychrony and Narrative Variation

The concept of *fuzzy temporality* was developed by Herman to expand Genette's temporal study that is solely based on the relation between story time and discourse time. When one or more events cannot be assigned to an exact position in a story's timeline, it is no longer meaningful to look at the relation between the two time schemes. Inspired by the concept of "fuzzy logic" that opposes the bivalent logic that has only true and false values, Herman rejects the bivalence of previous temporal studies that simply consider narrative time is either determinable or indeterminable. Citing Margolin's notes, Herman states that a given set of

events can be ordered in four ways. In the *full* ordering, for any two events "it is possible to decide whether one is earlier, later, or contemporaneous with the other." In the *random* ordering, "all mathematically possible arrangements are equally probable." In *alternative* or *multiple* ordering, the probability of one ordering can be higher than that of another. In *partial* ordering, some events can be "uniquely sequenced relative to all others, some only relative to some others, and some relative to none" (2002, 212). Herman goes on to use *polychronic* narration to entail a system, which consists of three values — Earlier, Later, and Indeterminate, covering the entire range of fuzzy temporality. In a polychronic narrative, events can be inexactly *ordered* (i.e. as in the last three types of ordering mentioned above), or inexactly *coded* (i.e. being inexactly positioned on the timeline), or both.

Herman's discussion of fuzzy temporality can shed a light on temporal studies of games. One key strategy to make narrative interactive — i.e., to let players have an impact on the story through interactions — is to generate variations for different readings (i.e. variation in plot) (Montfort 2007). This is also related to what "breaking the linearity" is about in game designers' terms. The most common approach to the creation of a "non-linear" story is to allow varied orderings to occur for each play of the game. To ensure that the game still follows the overarching story, foldback structure — a concept I will discuss again in section 5.3 — is very popular and is used to balance the freedom at a local level and the overarching narrative at a global level. In a foldback story, the entire game narrative is broken into several parts (or chapters) and accommodates multiple plot variations. Within each part, players can go through a different set of events *and/or* in a different order during each play. At the intersections between parts, inevitable events occur. These inevitable events usually follow a fixed order and occur at relatively fixed positions on the overall timeline of the game story. This structure can be seen in such recent examples as *Assassin's Creed* and *Fable II*, where the overarching mission or quest is the same, but players have the freedom to pick the side tasks or quests to complete in their favoured order.

For "linear" games, where there is no narrative variation, because players still interact at a local level, each pre-scripted (and inevitable) story event possesses a different position on the timeline due to individual pacing of the game. Hence, it is perhaps safe to conclude that interactive storytelling is all polychronic due to its more or less fuzzy temporality.

3.7 Summary

This chapter describes temporal relationships in games using three categories: order, speed, frequency. It is worth repeating that all the above temporal relations can be observed

between story time and plot time as well. I chose to compare with operational time for two reasons. First, operational time and plot time are largely conflated in general situation. Second, by comparing with operational time, we can observe more phenomena related to gameplay mechanics. Table 3.1 provides a summary of the discussed temporal devices and their associated narrative effect and gameplay function. With the temporal devices laid out in this chapter, the analysis of game narrative time is able to address the following questions regarding how various temporal experiences are produced:

1. Is the linearity in operational time consistent with that in story time all the time?
2. If not, is any there deviation from the chronological sequential ordering in the game plot and operation?
   (a) If so, how is it done, through flashback, flashforward, or multiple orderings?
   (b) What narrative effect do those devices produce? What gameplay function do those devices perform?
3. How to describe the rhythm of the game?
   (a) Is there a perceivable pattern in the changing of narrative speed? (e.g., think about how regular or frequent the graphic novel panels appear in Max Payne's narration to advance the plot with a tempo of summary.) What does this pattern affect players' experience and gameplay?
   (b) Is there noticeable use of the four narrative tempi other than scene? What functions do they perform in narrative or gameplay?
4. Are events presented singularly, repetitively, or iteratively?
   (a) How many types of repetition exist in the game? Do they have an impact in narrative or gameplay?
5. What are the ways to break the linearity of the game narrative through polychony, in order to create narrative variations?
   (a) Can the player change the order, speed and frequency of events in the plot? How many multiple orderings are possible in the game?
   (b) Does that freedom create narrative impact?
6. Is there any temporal device also a game mechanic?

Table 3.1: Summary of the discussion of temporal devices that affect narrative and gameplay experience.

Temporal devices for game narrative		*Where they are used*	*Effect in narrative*	*Function in gameplay*
Order	Flashback	Dialogue, cut-scene, screen caption, text (e.g., diaries, logs)	Provide information; stylistic/genre storytelling	Game mechanic (e.g. Dagger of Time)
	Polychrony	Appeared in all plot structures of games	Create narrative variation; increase interactivity	Create gameplay variation; increase interactivity
Speed	Scene	Appeared in the normal state	Create realism	Create realism
	Summary, Ellipsis	Cut-scene, voice-over, screen caption; Direct cut, screen caption	Increase storytelling efficiency	Increase gameplay efficiency
	Stretch	Cut-scene, slow motion	Stylistic/genre storytelling	Game mechanic (e.g., Bullet Time)
	Pause	Orientation cut-scene, pause menu	N/A	Orientation; menu option
Frequency	Repetition	Task repetition when died or failed; game replay	Create narrative variation	Ease the challenge; help mastering the skill

Chapter 4

Space

As much as a game unfolds in time, so too does it unfold in space. Narrative space is crucial for the audience to mentally construct the storyworld based on the narrative text delivered to them. The storyworld, where characters exist and events take place, can hardly be formed without spatial information relevant to the narrative. If the spatial information is lacking, the audience often supplies it with their own imagination. Unlike written narratives, visual narratives including films and games tell the story through visual representations that usually have explicit spatial information. Hence, during the creation of a visual narrative, spatial elements deserve much consideration.

This chapter[17] provides a detailed examination of narrative space in games from three views that treat game space on three different ontological layers. These three views describe three different ways of looking at how narrative space exists and functions in digital games. In the first mode, space is considered as static and independent of both plot enactment and screen representation; it is the *topographical* structure of narrative space, which forms the underlying spatial reference of the storyworld. In the second mode, space is a space-time complex that encompasses plot enactment, i.e., the storyworld as revealed through the *operation* of the game. In other words, space is structured through events and movements occurring in the operation. In the third mode, space is the *presentation* of storyworld. The presentational structure determines the visual and auditory manifestations of the gameworld and shapes players' perceptions and thoughts. Although these three modes are differentiated for the purpose of analytical clarity, we need to remember that it is the combination of the three modes working together that make the design and experience of

[17] A large portion of this chapter appeared in an article published by the International Journal of Computer Games Technology (Wei et al. 2010).

a game's narrative space effective and satisfying.

4.1 Previous Studies of Game Space

The state of the art of spatial analysis is less mature than that of temporal analysis. Existing approaches to time are usually systematic and effective, thanks to Genette's influential three temporal categories. The study of space, however, is largely avoided in narrative analysis, especially as an independent category. The existing approaches to space tend to come from very different theoretical backgrounds and they are generally considered underdeveloped (Bal 2009; Abbott 2008; Zoran 1984). This is partially due to the fact that for traditional narratology that mainly deals with written narratives, spatial analysis can hardly avoid the difficult issue of translation, i.e., mapping from linguistic signs to visual signs. Thus the analysis is almost doomed to fail if it cannot discover the patterns in the translation. For visual narratives, in contrast, the issue of space is more important than ever, as space itself becomes an object of representation within the narrative text. Consequently, the present research relies more on approaches to space for films and games, and attempts to discover the principles that can be applied to games.

Game space has probably been explicitly recognized by most researchers and designers in the field. It is obvious that in order to design a game it is necessary to design a space. This strong recognition can be summarized by Aarseth's claim: "The defining element in computer games is spatiality. Computer games are essentially concerned with spatial representation and negotiation; therefore the classification of a computer game can be based on how it represents or, perhaps, implements space" (2007, 44).

Different from written narratives but similar to films, games are often represented in a visual space on a screen (except for some classic text adventure games). Hence the analysis of game space inevitably inherits a lot from the approaches to films. Mark J. P. Wolf (2001), for example, uses the basic dichotomy of on-screen and off-screen spaces to examine the creation of space in games. Based on this division, Wolf is able to identify eleven different spatial structures.[18] For instance, "adjacent spaces displayed one at a time" and "layers of independently moving planes" have very different ways of using the off-screen space and

[18]These eleven types of structure are: 1) No visual space; all text-based; 2) One screen, contained; 3) One screen, contained, with wraparound; 4) Scrolling on one axis; 5) Scrolling on two axes; 6) Adjacent spaces displayed one at a time; 7) Layers of independently moving planes (multiple scrolling backgrounds); 8) Spaces allowing z-axis movement into and out of the frame; 9) Multiple, nonadjacent spaces displayed on-screen simultaneously; 10) Interactive three-dimensional environment; 11) Represented or "mapped" spaces (Wolf 2001).

transforming it to on-screen space depending on the game's needs. Jenkins directly connects game space to narrative experience and suggests four ways that the structuring of game space can facilitate narrative experience. As Jenkins states: "spatial stories can evoke pre-existing narrative associations; they can provide a staging ground where narrative events are enacted; they may embed narrative information within their mise-en-scene; or they provide resources for emergent narratives" (2004, 123). In speaking of how to embed narrative content into a game space, he especially suggests that game designers should study those film narrative techniques found in melodrama and detective genres.

Despite previous efforts, spatial analysis in game studies has not gone much beyond classifying the structures of game space. Nitsche's (2008) book *Video Game Spaces* is one of the few exceptions, providing a comprehensive study of game space framed under structure, presentation and functionality. In his book, discussion under "structure" looks at how textual qualities of games are reshaped by 3D game space; topics under "presentation" focus on the roles of moving images and sound in game space; "functionality" addresses the player's interactive access to the game space. Looking at games from the player's experiential point of view (i.e, that of perception and interaction), Nitsche adopts architectural approaches and recognizes such spatial structures as tracks/rails, labyrinths/mazes, as well as arenas. Evocative narrative elements are organized or placed according to the spatial structure, and the player's experience is driven by the structure as well. This is in line with the notion of environmental storytelling, inspired by theme park design and promoted by Carson (2000) and Jenkins (2004) as one of the core concepts for game design. Attempting to include all possible dimensions, Nitsche's book touches on so many peripheral topics that in a way, it loses its focus when it comes to the ultimate question of how to describe the structural aspects of game *narrative space*.

4.2 Space in Time

As mentioned earlier, the approaches to space in narrative theory are not as consistent as those to narrative time because of the lack of a rigorous model like Genette's. Following the approach to time, early narratology works have attempted to make inferences from the relationships between *story space* and *discourse space*, but this method did not go too far due to the multiple understandings of what is discourse space. It is unclear whether it is the space on the book pages, the space of the screen, or the space where the act of narrating occurs. When extending the analysis from written narratives to film, Chatman points out that discourse space "can be defined as *focus of spatial attention*"; "[i]t is the framed area

to which the implied audience's attention is directed by the discourse" (1978, 102). In this sense, story space and discourse space simply exist on the same plane.

4.2.1 Space as an Aspect of the Reconstructed Storyworld

To comprehend the narrative space, the audience works on the mental construction of the *storyworld*. When playing a game, players understand the space not only by looking but also through navigation and interaction. Therefore, we consider *game narrative space* the space of the *game's storyworld*, where both scripted events and player actions take place. The key characteristic of game space, therefore, is that it is dynamic and can be interacted with. Whereas films can effectively use camera frame to guide the audience's view of the entire space, today's digital games, equipped with more advanced technology like 3D graphics and faster engines, provide expansive visual spaces for players to explore on their own. These spaces are procedurally represented with explicit spatial information conveyed via visual, auditory and haptic cues.

When closely examining the narrative space, many have found that spatial reference can hardly be separated from temporal reference. This is because, as Gabriel Zoran (1984) rightfully points out, space includes both static objects and moving objects, and the movement causes temporal changes of the state of the storyworld; in other words, "[s]pace is one aspect of spacetime (chronotopos)" (314).[19] Abbott is another advocate of replacing the notion of space with the notion of spacetime, or *world*, to stress a spatial-temporal method of arrangement of the story world.[20] Morten Nøjgaard, for yet another example, comments on using a journey as narrative structure that: "A journey, which can of course take place in inner space, is the expression of a strong spatialization of the experience of time and is therefore well suited to expressing the complex of problems associated with our realization of ourselves, which is fundamental to narrative texts" (cf. (Lothe 2000, 50)). These views are also welcomed by Nistche who points out that the mapping of game time onto the game world can only be done with spatial reference thanks to the continuity of space.[21] Therefore, "[s]pace can serve as architectural structure element and temporal

[19]Zoran notes that the Einsteinian term *spacetime* "was introduced into literary criticism by Bakhtin, who uses it to signify the entire complex of space and time together, including physical objects, events, psychology, history, etc." (1984, 318).

[20]Herman uses the term "storyworld," Branigan uses the term "story world," and Abbott uses the term "narrative world." All refer to the same idea of the three-dimensional world in which the story takes place. Zoran argues that "despite the possibility of distinguishing between the space of the text and that of the world, one cannot point to any constant correlation between them" (1984, 310).

[21]The implication here is that time in games can be stopped, reversed, or altered in other ways, which can

conditioning" (2007, 147). In fact, as Nistche reminds us, game level designers consider distances when designing timing elements.

In the literature of spatial analysis using narrative theory that often treats space as the static "setting" of story, Zoran's (1984) study for written narrative stands out by going beyond this narrow understanding and recognizing that the structure of space influences the reconstructed storyworld in more than one way. In order to discover how the spatial structure affects the storyworld, he goes on to study the inherent structure of space and develops a model that distinguishes three levels of spatial structuring. These three levels are *the topographical level* (space as a static entity), *the chronotopic level* (space imposed with events and movements), and *the textual level* (space imposed with verbal signs). This model aptly embraces key aspects of narrative space and "anticipates many of the issues explored by subsequent researchers" (Herman 2002, 405, note no. 3).

There are both parallels and differences between Nitsche's study and Zoran's model. First, they are both created on the premise that understanding space and movement is done through reconstructing the storyworld (i.e. narrative comprehension). Second, the two frameworks overlap in some ways; for example, they both investigate the topographic structures of the space and relations between the textual signs and representations of the space. On the other hand, the most prominent difference between the two works, other than them working with different media, is that Zoran emphasizes the connectedness between space and time so much that he introduces a special level of analysis to track and understand their dynamic relationship. In addition, Zoran's model is solidly built on narrative theory, more clearly defined, and more concentrated on the ways space exists in the reconstructed storyworld. I therefore believe that Zoran's model, though originally created for written narratives, can inform the analysis of narrative space in games. I thus adapt Zoran's model to the interactive context of games and develop three views on game narrative space based on his three levels, which represent three types of inherent structure of space in its three existing modes.

4.2.2 Three Views of Game Narrative Space

The *topographical view,* which is Zoran's original first level, treats space as a static entity with fixed spatial reference and separated from temporal reference. Such terms as "layout," "spatial organization," and "spatial structure" used in game design or game analysis are all related to the topography of game space and thus belong to this view. In this view, maps

cause trouble when we try to denote a specific time point in a game; spatial reference is relatively more stable.

can be drawn with such geographical reference as locations and landmarks, or references based on other ontological principles like treasure chests.

Zoran borrows Bakhtin's notion of chronotope to address the role that time plays in space; hence, at the chronotopic level, space is structured by events and movements, which are all time-referenced. Zoran's level of textural structure investigates how textual (verbal in written narratives) patterns are imposed on the organization of space. In games, where the story is generated on the fly, player actions influence the storyworld through (non-pre-scripted) events and movements, which in turn causes changes in the on-screen and off-screen spaces (including acoustic space). This calls for a modification of the scope of Zoran's two levels and one possible solution is to define an *operational view* and a *presentational view*.

In the *operational view,* the story unfolds (that is to say, it is co-generated by players) over time through events, taking places at one location after another; the space of the story-world is thus revealed through movements. As a result, game operations impose movement and interactive patterns on the structure of space.

In the *presentational view,* the dynamic presentation of the storyworld imposes its patterns of visual, auditory and haptic cues (i.e. the language of game as a medium) on the structure of space. This distinction between the operational and presentational views helps to isolate issues of how players navigate through and interact with the space from those regarding the visual/auditory display and game interface.

Zoran suggests that there are no clear boundaries between his three levels and in the audience's eyes, "they are always perceived together, one through the other" (1984, 316). The three modified views, consequently, are on a spectrum with shifting foci, from the textual (or representational, if we migrate from verbal to visual media) patterns most immediate to the audience, to the reconstructed world as an existence itself, detached from all the activities that can happen within it. In the rest of the chapter, I will discuss in detail the three views modified specifically for game narrative space.

4.3 Topographical Structure

The topographical view treats space as a static entity with fixed spatial reference and separated from temporal reference. The topographical structure can be perceived as a map or any mental conception that features the spatial relations between locations or entities. A map of a story certainly cannot exhaust all the topographical information, so "blanks" are unavoidable. It is often up to the audience whether the picture of the storyworld is clear; when it

is unclear, they will attempt to fill in the blanks with imagination. As Zoran suggests, the mental conception can include not only locations but also the quality of things based on different ontological principles; in this case, "landmarks" and "regions" can be used to mark important locations or areas. Hence, there are all sorts of reader-constructed cognitive maps for reading purposes as well as in-game or player-drawn game maps and sketches aimed at enhancing player performance in different ways. Among all the characteristics relevant to topographical structure, *layout* and *oppositions* are two major considerations for structuring the space.

4.3.1 Topographical Layouts

The study of space has always involved typologies of spatial models based on topographical features. This is important because "[e]ven if players gain access to the space-generation process, some structure has to be provided either from the player or the system" (Nitsche 2008, 171). Indeed, for games, the discussion and classification of spatial models is always related to spatial navigation. For example, Murray (1997) identifies two structures of spatial navigation for interactive narrative: the maze and the rhizome. Nitsche (2008) also proposes several distinct spatial forms: tracks and rails, labyrinths and mazes, and arenas. Since these forms define the spatial logic in their own way, their structures shape paths, edges, and regions, which in turn determine the ways of player navigation.

In the game design field, the layout of the game space is often created as part of the level design. Adams considers a successful layout needs to be "appropriate for the storyline and to achieve the atmosphere and pacing required to keep players engaged in the game world" (2010, 277). Adams gives a list of seven common patterns of layouts that I believe is a practical typology of game spatial layouts. An *open layout* represents the outdoors and gives the player the freedom to wander about. When the player goes indoors or underground, as Adams observes, the layout often switches to a *network* or *combination layout*. Examples of open layout are role-playing games like *Dragon Age*, war games like *Battlefield 1942,* and action adventure games like *Prince of Persia*. The settings mimic their corresponding worlds in real-life and thus have few, if any, visible spatial boundaries. A *linear layout* is not bound to any particular shape, but it does ensure a fixed sequence for the player to experience. This is similar to Nitsche's (2008) concept of *tracks and rails*. A *parallel layout* is a variation of the linear layout. It is like tracks with switches that allow the player to switch from one track to another. A *ring layout* makes the player's path return to the starting point, which is often used by racing games. A *network layout* provides more ways of connecting spaces and

gives the player more freedom compared with a layout with tracks. A *hub-and-spoke* layout starts the player from a hub in the centre. The player can go out of the hub to a space but will have to return to the hub before heading out to another space.

Different layouts provide different qualities for player navigation. For instance, the hub-and-spoke structure is claimed by game designer Steve Gaynor (2009) to be "the most common high-level organizational strategy". He cites the Medical Pavilion hub in *BioShock* as an example of such structure (see Figure 4.2), where "minor spaces are always closer to major spaces than they are to other minor spaces-the player always passes through the hub to get to another spoke." In contrast to a full open layout, the hubs and spokes give the player reorienting spatial references so that the comprehension and thus navigation of the game space become easier. Many games have a combination of various layouts, either at the same level or in more complexly nested combinations across multiple levels.

4.3.2 Spatial Oppositions

In a thoughtful narrative design, spatial oppositions of all sorts can be used to structure the storyworld and thus create the desired narrative and gameplay effect. In her discussion of location as a fabula (story) element, Bal stresses that "[o]ppositions are constructions; it is important not to forget that and 'naturalize' them" (2009, 222). Similarly, Zoran considers that the map of a topographical structure "is based on a series of oppositions" (1984, 316). Spatial oppositions are typically physical, e.g., inside and outside, centre and periphery, city and country, etc. (Bal 2009; Zoran 1984). They can be endowed with meanings or experiences, following, creating, or playing with conventions. In the *Batman: Arkham Asylum*, for example, the space is designed for Batman to exert his physical skills. In some of the larger rooms, the space is designed with two or more vertical levels. When the ground level is full of enemies or danger (e.g., poisonous gas), the upper level (e.g., ledges, beams, platforms), in contrast, is safe and out of enemies' sight (see screenshot in Figure 4.1). Because Batman can grapple to an upper level and make his strikes tactically and stealthily, players can take advantage of this opposition-based spatial convention to strategize their moves.

Other than shaping the gameplay experience, spatial oppositions can also offer a way to group narrative elements and thus simplify complex content for players. In many games, there is a designated gathering place, where the player character goes to meet the mentor or ally and receive instructions about the next step. Other places might be designated for other purposes. The visual design of the opposing locations must be distinct so that players

Figure 4.1: Vertical levels in the space of *Batman: Arkham Asylum*. (Source: Eidos, 2007, image from IGN.com, by permission)

can easily identify the opposition. A good example is the space, Liberty City, of the *Grand Theft Auto* games. It is modelled after real-world cities, where different locations are for different functions and activities, e.g. shady locations in parks and alleys for drug dealing. In this way, narrative is organized through the principle of spatial opposition. The boundary or the transitory place between two opposed locations often functions as a mediator, as Bal (2009) also suggests. A transitory place allows the player to take a break between missions (or levels) or get ready for the next adventure that will take place yet in another location in the gameworld.

4.4 Operational Structure

As defined earlier, *the operational view sees the storyworld revealed through events and movements over time while the story unfolds.* The operational structure is formed by characteristics that shape game spatial operations by regulating and patterning movements. The view of operational structure corresponds with Zoran's level of chronotopic structure, which addresses "what may be defined by an integration of spatial and temporal categories as movement and change" (1984, 316). The chronotopic structure has a significant impact on the plot, which is not just a temporal structure but also includes "routes, movement, directions, volume, simultaneity, etc." (314). In games, since the protagonist is often (en)acted by the player, the shaping of the plot is dependent on both pre-designed plot structure and the ways the player navigates and interacts. When looking at the game retrospectively after one play, the player has gone through only one instantiation of the plot set. This traversing act is in fact the *operation* of the game, a concept defined in section 2.3. This section will explore the spatial qualities that characterize the operational structure of narrative space in games. One of the fundamental characteristics is the mobility of characters and objects,

which is the key factor to identify a change of the state of the plot. Other characteristics characterize movements over the course of the operation.[22]

4.4.1 Mobility of Characters and Objects

At any given moment, characters and objects in a game are in one of the two spatial states: movement or rest. Here the focus is on their general mobility. Some characters or objects move between spaces, while others stay in one space. Hence we can replace the account of mobility with a question like "what is attached to one particular space, what not?"

Those characters attached to one space become the "background" of the space, i.e. part of the context, especially when not interacting with the player. In this case, characters play the same role as other environmental objects. When players interact with these characters, the plot can change locally. The range of a character's mobility and interactivity often determines the significance of the change. Many NPCs are designed to attach to one location or one subspace. They are either enemies or background characters. For "attached-to-space" characters, their qualities can be coordinated with the space. For example, on a difficult game level, an enemy character can be tough and hard to defeat.

Characters that are able to move with greater range from one space to another can play a more significant role in plot development. Hence, they are often the main characters that grow with the plot, along with the player character. In *Prince of Persia,* Princess Farah is such a character that follows the player character, the Prince, all along. In general, the more mobile the characters, the more complex the plot is. Similarly, some objects in games that have a high mobility can play an important role in the game operation and thus the plot development. For example, in *Prince of Persia: The Sands of Time,* the Dagger of Time is such an object with mobility. Once obtained, it follows with the player avatar and performs the magic of time reversal on request. The use of the dagger by the player contributes to the construction of the plot. Lastly, there are also characters and objects that are mobile in smaller ranges performing various functions.

[22]The approach to the operational characteristics is inspired by Zoran. He suggests that synchronic and diachronic relationships are the two main concerns for the level of chronotopic structure. The former detects motion and rest, whereas the latter characterizes the movement through directions, axes, and powers. Here I selectively adapt his suggestions to games and draw in some considerations specific to games as well.

4.4.2 Paths and Axes

The notion of path calls for special attention. As Herman describes, they "imply motion from one place to another and thus dynamic or emergent spatial properties of the sort characteristic of narrative" (2002, 278). Thus the notion leads the comprehension of the space from the topographical level to the space-time level. At the topographical level, *paths* remain as a collective potential of movements; at the operational level, they go from static to dynamic once designated with directions and assigned with powers.[23] A path between locations can be unidirectional or bidirectional; in the later case, the movement is reversible. *Axes* are the principal paths surrounding which major events and actions take place. Axes help organize narrative content and form the operational structure for the space, especially for those plots that are driven by character movements.

Role-play games are great examples of the use of axes in the gameworld. While players must move along the axis in order to progress in the game by pursuing the main quest, they are also allowed to explore the world and make social interactions on side quests that follow paths branching out from the axis. This is often realized in a rhizome structure, which is a "tuber root system in which any point may be connected to any other point" (Murray 1997, 132). The tuber represents the axis, or the path for the main quest, whereas the roots are the paths of other side quests. For example, the role-playing game *Planescape Torment,* as Carr finds, uses such a structure that "sends its multitasking players in rhizomic circles, deviations and side-quests in search of lost memories and fragmented histories" (2006, 63). Such an operational structure featuring one axis is, in a strict sense, still a linear structure. As Jonas Carlquist observes, even given all the player choices, games like *Planescape Torment* are linear games because the player "still has to follow the main plot in a certain way" while pursuing the main quest in a linear order (2002, 37).

The mobility and interactivity of characters and objects, directions for paths, existence of axes, as well as other spatial features work together to form the operational structure for games. They construct the storyworld for the player to navigate and interact. The game mechanics are also embedded within the same structure, which therefore supports both narrative experience and ludic experience. This sharing of the operational structure between narrative and game mechanics allows for the deeper integration of game story within the gameplay.

[23] Zoran (1984) introduced the notion of powers, e.g., will, obstruction, character's intention, etc.; these powers can possibly result in an actual movement within the story world.

4.4.3 Relation between Operational and Topographical Structures

Murray defines the spatial quality as one of the four properties essential to digital environments. What is more, "[t]he computer's spatial quality is created by the interactive process of navigation" (2004, 80). This makes interactive narratives and games different from older media. The stress on spatial navigation also makes the characteristics of the topographical structure tightly connected to the operational structure. The notion of paths, for example, is one characteristic that connects both levels.

Topographical characteristics can also influence the operational structure through patterning. Repetition, for one example, is a typical function that links the topographical structure to the operational structure. A spatial layout designed with repetitive spatial oppositions or other spatial patterns can have multiple effects on the layer of operational structure where the player navigates the gameworld. It helps form the temporal rhythm and sets the pace for the player. In addition, the repetition can facilitate the player's learning process when the skills are designed with patterns associated with opposite spaces.

Topographical layout sets the ground for the formation of the operational structure. I have mentioned above how a rhizome structure, which is essentially a layout, determines the play pattern for RPGs. Now let us look at another example showing how topographical and operational characteristics work together to influence narrative and gameplay experiences. It is the previously mentioned Medical Pavilion level of *BioShock* with a modified hub-and-spoke layout. Figure 4.2 is the in-game map. Figure 4.3 is an abstract diagram drawn for this example. Aside from three physically connected paths (in green in Figure 4.3), there are also three hidden paths (in dashed arrows). They will only show up when the player uses the magic "incinerate plasmid" to explode off the ice that blocks the path. Although the player is free to go any direction, the space of this indoor shooting game is very complex with twists and vertical storeys, which are not shown in the diagram. Using a hub-and-spoke layout has two effects on the game operation. First, it partitions the space so that the player will not be overwhelmed (Gaynor 2009). Second, it gives the player chances to rest and adjust in the Foyer hub area. In this way, the spatial pattern is nicely transferred to temporal rhythm and affects the game operation's space-time as a whole. Unlike the quest structure in RPGs that has one main axis, this level has multiple axes, i.e., the spokes, which intensify the gameplay.

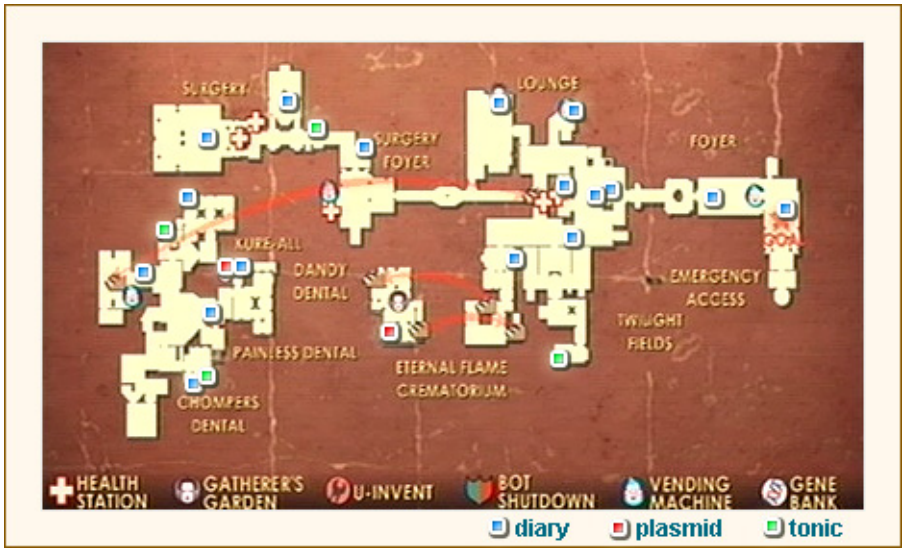

Figure 4.2: In-game map of Medical Pavilion in *BioShock*. (Source: 2K Games, 2007, image from IGN.com, by permission)

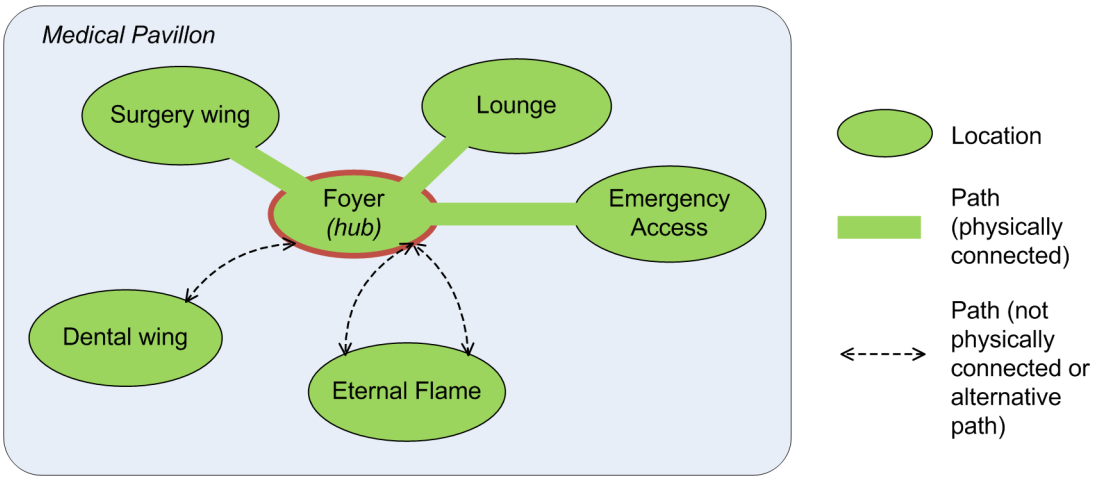

Figure 4.3: An operational view of Medical Pavilion in *BioShock* based on a hub-and-spoke layout.

4.5 Presentational Structure

The presentational structure concerns how the patterns of visual, auditory, textual, haptic and other cues (i.e. the language of game as a medium) are imposed on the dynamic presentation of the storyworld. The notion of presentational structure is mainly derived from Zoran's level of textual structure. As the scope of narrative texts covers visual narratives including films and games, the analysis in the presentational view focuses on the ways and materials through which the gameworld is presented, as well as how the presentation incorporates player actions. The presentational view of game narrative space contains a large variety of aspects ranging from the organization of information to low-level representational techniques. These aspects have considerable commonality with those found in films.

4.5.1 On-screen and Off-screen Spaces

Although the topographical and operational structures can reveal the major spatial reference and movement potential of the gameworld, they are not immediately visible to players. Detailed information on the space needs to be structured during the presentation of the game. The selection of the spatial information to reveal on the screen is probably the first thing at issue when presenting the storyworld. For complex games with a 3D gameworld, the on-screen space is different from the "shot space" of a film though it applies many cinematic techniques. In films, the view is constrained by the laws of optics and physics; in games, the view is computational and dynamic. The game's screen image is depicted by a "virtual camera," which extends far beyond the functionality of an actual camera. For example, a virtual camera can follow fast moving objects to create the "bullet time" effect, which not only manipulates the player's perception of space but also time. Fly-through, originally used in the field of architecture, is yet another virtual cinematic technique to give the player a view of the space ahead of time from a pre-defined point of view, where the camera is "flying" or circling around the space. *Prince of Persia: The Sands of Time* and *Assassin's Creed II* both use this technique extensively. Another different use of on-screen space of a game is to display the screen interface of the game, which will be discussed later.

For games that limit or disallow players to change the camera view, the on-screen space can be seen as a relatively independent space. In this case, it is close to the "shot space" of a film, where the screen composition conventions from film are selectively applied. In the controlled presentational space, the on-screen and off-screen spaces are not necessarily connected. In *God of War*, the camera angle will usually adjust or follow when the player character enters a less visible spot. When the player character enters a new subspace, there

usually is an establishing shot of the space and then the camera closes up. Shot/reverse shot, a common camera convention used for two-person scenes, however, is only selectively employed by *God of War*: it is used in conversations but not in most of the fight scenes. In many combat scenes the on-screen space is enclosed with clear boundaries and thus cut off from off-screen space. In this case, the on-screen and off-screen spaces are not necessarily continuous. Designers need to decide how to transition from one on-screen space to another, which will be discussed in 4.5.3.

4.5.2 Acoustic Space

While visual factors dominate the presentation in many games, in others auditory factors play an equally important role in the construction of the game space. As in film, sound is used to set the mood, create tension, and help to enhance the realism of the gameworld. A successful dynamic design of musical soundtrack that copes with the happenings of the game effectively creates both narrative and gameplay tensions that intensify the player's experience of the game.

Game sound also has functions unique to the medium. For example, sound provides feedback for player interactions (e.g., footsteps made by the player avatar) and hints for players' next moves (e.g., a sound coming from off-screen suggesting the direction of an approaching enemy). Such auditory cues help players perceive the 3D game space and imagine the off-screen space. Grimshaw and Schott maintain that "sound functions as an acoustic ecology" including both the player(s) and the soundscape(s). In their study of such ecology of first-person shooters, they discover that sophisticated use of sound "aids in imaginative immersion through the provision of virtual resonating spaces and paraspaces" (2007, 479). In music/rhythm games like *Rock Band* and *Dance Dance Revolution*, sound goes even further to become part of the core gameplay mechanic.

4.5.3 Spatial Segmentation

In the operational view, game space is structured and presented in a temporal continuum. How spatial information is segmented and how the player gets passed from one segment of space to the next are two questions relevant to both the operational and presentational structures of the space. According to Zagal et al., spatial segmentation "results from the division of the gameworld into different spaces that also partition gameplay" (2008, 182). Although Zagal's original study is based on vintage arcade games, we find the notion applicable to digital games in general. Since digital games have overcome technical barriers

and evolved from earlier 2D platforms to current complicated 3D gameworlds, setting the boundaries becomes an important part of the design strategy to create rich gaming experiences and limit the consumption of runtime system resources. A gameworld is thus divided into distinct subspaces, each of which has different spatial features or even game rules. The question of how to segment the space also triggers the question of how to make the player have a fluid experience navigating through the subspaces. When the subspaces are disconnected topographically, they can be displayed in the form of episodes or scenes cut from one to the next; otherwise, they may be connected and form the entire game space in the structure of a tree or a network in graph theory terms, or, a maze or a rhizome in Murray's (1997) terms. In the latter case, players simply "walk" into the next subspace.

There are four common styles for the transition from one subspace to another that is not directly connected: direct cut, fly-through (or orientation cut-scene), cut-scene, and caption. In *Prince of Persia: The Sands of Time*, for instance, when finishing one session, the player-avatar is often simply brought to a new setting to start a new session; this transition is a direct cut. Sometimes to make up for the possible loss of orientation, the game will play a "fly-through" video sequence to familiarize the player with the new subspace. Cut-scenes are another transitional means prevalent in games where a video sequence is played to introduce background information. Captions are often seen in text heavy games that simply tell players they are to enter a new subspace. Another function of cut-scenes and caption screens is to occupy the player during the game loading time, which is often needed for transitions between spatial segments.

4.5.4 Perspective

"Perspective" exists in any form of narrative. The notion of perspective, or point of view, can refer to two possible layers of meaning. One is the psychological point of view that locates attitudes and emotions; the other is the optical point of view that refers to the visual positioning of the frame. The source of the perspective in both cases can be either subjective (from a particular character) or objective (from an external narrator or a neutral viewer). The psychological and visual layers are often intertwined — a "first-person" visual can reinforce the psychological perspective of the protagonist. The points of view of different sources can structure the storyworld on the presentational layer. In films, camera angle and optical point of view can be used to reinforce either subjective (character-driven) or objective (neutral and observational) psychological perspectives. For games that employ virtual cameras, the player is simply assigned either the protagonist point of view as in

first-person games, or a bird's eye view as in third-person games. It is very hard to find an instance in games where the psychological point of view is separated from the physical one, a case that is common to films. Even when the two perspectives are separated, it is often realized through voice-over narration. In *Prince of Persia: The Sands of Time* and *Max Payne,* for instance, the player controlled protagonist would occasionally talk to the player and comment on what has happened, jumping out of his role as an internal narrator. Perspective is crucial in establishing the narrative situation through focalization, a concept I will introduce in chapter 6.

Unlike film viewers, game players sometimes are given the freedom of shifting their camera view. In *Prince of Persia: The Sands of Time,* the third-person camera view is fully controlled by the player and it can be switched to the player avatar's first-person view. Aside from these two common types of camera view, some games (e.g., *Assassin's Creed* and *Batman: Arkham Asylum*) also have a special vision as an option that offers the player a filtered vision that foregrounds the identity of targeted characters. As Adams (2010) summarizes, the first-person perspective is only used by avatar-based games, where the camera assumes the position of the avatar's eyes. The third-person perspective, most prevalent in 3D action and action-adventure games, has a more flexible camera view. In a normal state, the camera follows the avatar at a distance from a slightly higher angle; during combat, the camera cranes up and tilts down to enable the player see more of the environment, as in the case of *God of War*.

Other than presenting players the view based on their avatars' in-game movement, the camera can also contribute to the game's interactive mechanism by guiding the player's attention to those interactive elements. This is usually done by a direct cut to a zoom-in view of an object or a space, implying what or where the player's next step is to be (e.g. picking up an item or going to that space).

4.5.5 The Screen Interface

For film, the screen is a presentational platform. For games, the screen has a second role-the interface between the game and the player. The screen of a game functions on both the operational layer (supporting navigation and decision-making) and the presentational layer (presenting the game and its space as it is dynamically traversed). This duality corresponds to Manovich's (2001) distinction of the interactive screen as both a control device and a presentation device. This double role can complicate the screen, layering the spatial information with interface information (e.g., control menu, dialogues, character status,

game statistics, help information, etc). The layering of information is realized in a screen layout that takes the form of a windowed view, an overlaid view, or a combination of the two, as observed by Adams (2010). In a windowed view, the main window displays the game world, while interface information is shown in a separate window on the side, the bottom or the top of the main window. Many strategy games and some role-playing games use this layout. This layout can potentially lessen the sense of immersion but it delivers interface information in an easy way. In an overlaid view, the interface information is imposed onto the main view in an opaque or semitransparent fashion. Aside from the two ways Adams observes, there is a third way to enable the screen to assume a double role. For games that strive to provide an immersive environment, they present a relatively clean full screen view displaying the game world but are willing to switch to a menu view at the player's request.

Besides the above use of the screen, there is another technique, split screen, which presents multiple spaces in the same screen. Split screen is not uncommon in modern films. It is typically employed when two or more characters take actions simultaneously; they can be in different places or the same place but viewed from different perspectives. Consequently, split screen is often used in multiplayer games. Wolf's spatial structure type 10 — "multiple, nonadjacent spaces displayed on-screen simultaneously" — refers to this technique (2001, 66). He cites the racing game *High Velocity* as an example where players can see both their own view and the opponent's view on-screen. This helps players strategize their moves although it might distract their attention in the meantime.

4.6 Summary

Game space is an important yet multi-dimensional area to study and analyze. In this chapter, I have attempted to cover as many dimensions as I can with narrative as the central perspective. In order to describe the huge array of characteristics of game space, I adapted Zoran's spatial model and built a framework specifically for game narrative space. The framework consists of three views of the spatial structure. Figure 4.4 illustrates the relationships among the three views. Topographical structure is the foundation of game space; it forms the basis for operation and presentation of the game. Presentational structure determines the ways of (re)presenting the static topographical space and the dynamic operational space based on player inputs. Lastly, operational structure determines the patterns of navigation and the temporal progression of the plot. Table 4.1 highlights the characteristics associated with each view. Despite each having a set of characteristics, the three views

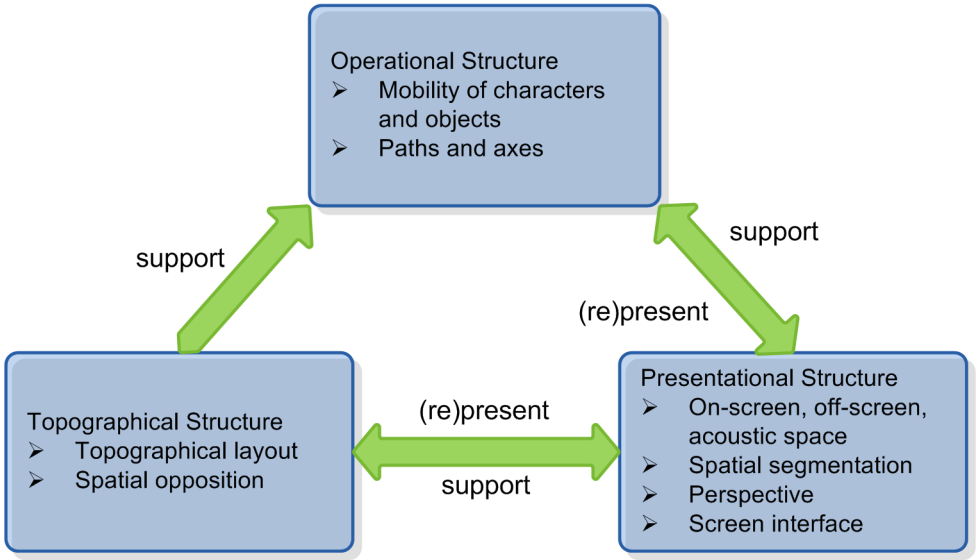

Figure 4.4: Three views of game narrative space.

are interrelated and working together to construct game space.

With the descriptive scheme in hand, game narrative space can be analyzed by answering the following questions:

1. What is the topographical structure of the game space?
   (a) What topographical layout does the game use?
   (b) Is there any spatial opposition in the game space? If yes, what is the implication for narrative and/or gameplay?
2. Are there any axes in the game space?
   (a) How do the paths and/or axes affect the pattern of navigation and the order of events players go through?
3. Are there any mobile and immobile characters and objects? If yes, how do they influence the narrative and gameplay?
4. Is the topographical space of the gameworld continuous? If not, how is the player transported from one location to another?
5. If the topographical space is continuous, is it (re)presented as a continuous space?
   (a) If yes, what are the options of camera control for players?

   (b) If not, how is the player's view limited? Are there any edited sequences?

6. How does the sound work in and with the space?

   (a) Does it intensify the narrative experience?

   (b) Does it perform guidance or other functions in gameplay?

7. What roles does the virtual camera perform? Is there any stylistic use?

8. How is the interface information laid out on the screen? Is there any special use of the screen?

Table 4.1: Summary of the discussion of spatial characteristics that affect narrative and gameplay experience.

Characteristics of game narrative space		*Function in narrative*	*Function in gameplay*
Topographical	Layout	Affect plot structure	Help create navigational pattern
	Spatial opposition	Help group narrative events; Help create conventions (e.g., dangerous space vs. safe space) to affect emotional experience	Help shape navigational experience; Help create conventions to affect decision making
Operational	Character mobility; Object mobility	Help create the storyworld; Help the plot development; Affect the variability of narrative	Ease or intensify gameplay; affect the variability of gameplay
	Paths and axes	Help shape/restrain the plot structure	Help create navigational pattern; Affect the degree of repetition of gameplay
Presentational	On-screen space; Perspective	Stylistic/genre storytelling; Choice of first-person vs. third-person help shape emotional experience	Affect the continuity of game space; Affect player control of view; Camera as a guiding device
	Acoustic space	Set the mood, create tension, and enhance the realism.	Provides feedback and hints for players' next moves; Basic game mechanic (e.g., in rhythm games)
	Spatial segmentation	Help group narrative events	Set the boundaries of gameplay; help create game levels
	Screen interface	Provide information; stylistic/genre storytelling (e.g., split screen)	Facilitate player control for both gameplay and camera view; provide information and instructions

Chapter 5

Composing the Game Text

In chapter 2, I have defined the three layers of the game narrative: text, plot, and story (fabula). Let us recall that when we study the narrative of a game, the game *text*, can be considered as a *narrative text* in which an agent or subject presents a "situated story" that reacts procedurally to player actions in the interactive medium of a digital game. On the layer of text, Bal (2009) has included such characteristics as the identity and status of the narrator, levels of narration, and description — the narrative content that is not contained by the fabula but provides the details of the storyworld. These characteristics also exist in story-based games. The identification of the narrator and level of narration can help determine the principle of narrative embedding — an important means to structure narrative content. There is another important characteristic setting game texts apart from linguistic or film texts, i.e., the interactivity of a game text that allows players to change the narrative flow. This chapter will discuss these characteristics and their related structuring principles for the game text.

5.1 Forms of Narrative Content

At a simple level, a narrative text can be seen to be composed of narrative content and non-narrative content. Narrative content can be further distinguished into the *narration* of the events of the fabula (i.e., the skeleton of the story) and the *description* that supplies details and back-stories. A game as a narrative text, therefore, includes both narrative and non-narrative content.

5.1.1 Game Menus and Non-Narrative Content

While the mise-en-scène, cut-scenes and player-led action sequences are clearly narrative content, it is debatable whether game menus of various kinds are narrative or not. In general, these menus serve the function of providing control options and extra information on the game story. The most obvious non-narrative content of a game is the *main menu*, sometimes called *title menu*, which is the interface for players to set their gaming options, from adjusting the difficulty level, screen colour and contrast, subtitles, to saving and quitting the game. Some content in the HUD (heads-up display) on a game screen is also debatable, such as the experience points or health bar, depending on how loosely we define our narrative. Even when they are narrative content or not, menus and screen information (excluding prompts) are not part of the narration that tells the game story, but the descriptive part of the narrative that provides us with details and back-stories.

The *in-game menu*, sometimes called *pause menu* because it appears when players press the pause button, is not necessarily non-narrative. In some games that pursue realism, the pause menu can be designed, or at least intended, to be part of the game narrative, even though the result is often mixed. In *Batman: Arkham Asylum,* for example, the pause menu includes several sections. In the WayneTech section, players can manage the abilities and upgrades for Batman. In the Riddler's Challenge section, players can choose a challenge set up by the Riddler. In Map and Objectives, players can check and plan their moves. In Character Bios, players can play audio records and view attributes (in texts) of the key characters. As we can see, although the player ability upgrades seem to be external to the story, the other sections can all be seen as some form of narrative description.

Game menus vary a lot in different games. Some games have both levels of menus as mentioned above and some have a combined one. Some menus provide a lot of control options and information access (e.g., *Assassin's Creed II* and *Batman: Arkham Asylum*) and some minimize the content in the menu to make players stay within the game (e.g., *God of War*). Whether a game menu contains narrative content, therefore, must be judged case by case.

5.1.2 Forms of Narrative Content

When players are playing a game (i.e., not checking a menu), they are traversing the game text made up with all forms of narrative content. In the context of this work, I use *forms of narrative content* to refer to the "placeholders" of narrative, including both narration and description. In other words, the forms are the types of narrative constructs or means for

narrative delivery.

Adams lists several such forms of narrative: "A prerendered movie, a cut-scene displayed by the graphics engine, scrolling text that introduces a mission, voice-over commentary that explains the backstory of the game, or even a long monolog by a character" (2010, 162). He draws a line between dialogues in an interactive context and a non-interactive context; that is, when the player is "conversing" (e.g., by typing text or selecting a line) with an NPC, the lines of such a dialogue are not narrative. I have explained in chapter 2 that an integrated view of narrative is chosen for my approach, so I consider that those lines are still narrative.

Through a brief survey of the literature, Barry Ip (2011; 2010) identifies several common techniques for narrative delivery including, using his original terms: back stories (as seen in the opening sequence and game packaging), cut-scenes, texts, prompts, game structures, the portrayal of emotion and/or reactive environments, and narrative structures. Among his set I consider cut-scenes, texts, and prompts as forms of narrative content. In my analysis, text and images on game packaging are not considered part of the game narrative, but opening sequences are. How game and narrative are structured, and how emotion and environments are portrayed, are different issues from what types of narrative constructs that game designers decide to use to deliver narrative content. These narrative constructs can play either an experiential and performative role, or an augmentary role in Pearce's terms mentioned in section 2.1.

Rouse (2005) summarizes four techniques to deliver narrative content *during gameplay*: text, level setting, dialogue, and NPC behaviors. Specifically, text can be placed around the gameworld in the form of signs, notes, graffiti, or books. Level settings "show" the story instead of "tell" it to the player. Dialogues with NPCs can happen during the gameplay non-interactively or interactively (when the player can choose their response to NPCs). Besides lines spoken by NPCs, actions they perform also "show" the story to the player. Rouse also mentions cut-scenes, text, images and audio as four *out-of-game(play)* ways to deliver story.

The list of forms of narrative content should not be a fixed one. Each game has its own selection and possibility to create a new form. Before being exposed to the large collection of story-based games and interactive narratives, a designer can possibly have in mind the list of common forms as preloaded knowledge. Table 5.1 sums up the forms mentioned by the literature cited above. Because I am using an integrated view on game narrative throughout this work, I add "action sequence" to the list. The implication is that player actions in the game counts as part of the game narrative.

Table 5.1: Common forms of narrative content.

Forms of Narrative Content	*Subtype*	*Remarks*
Action sequence		It is the main form of narrative content, co-generated by the player and the game program on the fly.
Cut-scene	Non-interactive	Traditionally used to describe a pre-rendered sequence of cinematic/full-motion video.
	Interactive	Seen more often in recent games. It allows limited interactions by players, such as changing the camera angle and walking around. No choices and actions can be made to alter the course of the happenings within the sequence.
Dialogue sequence		It can be one or multiple lines, addressed to others or self (monologue). The boundary between a dialogue sequence and a cut-scene with dialogue is blurry. Generally we can consider those short sequences in between actions as dialogue sequences.
Text	On-screen text	Text appearing, static or scrolling, on the screen that includes narrative information. Texts of gameplay instructions are usually not considered narrative.
	In-menu text	Text included in a menu option, which tells a back story, or describes a character, object or location.
Voice-over narration		If the voice-over is about gameplay instruction and cannot be determined whose voice it belongs to, we can discard it as narrative content.
Narrative artifact	Text-based or Image-based	These are the in-game objects scattered around the gameworld that “tell” some stories. Examples can be a letter, a diary, a book, a newspaper, a mural, an in-game screen displaying something, etc.
On-screen prompt		During the game operation, on-screen prompts appear on the screen, reacting to a player’s move, displaying relevant narrative information, or instructing the player about the next move. Not all these prompts are narrative content; prompts of pure gameplay instructions, for example, are not narrative.

5.2 Narrative Embedding

Narrative embedding[24] exists not only in almost all kinds of literary texts but also in such non-literary narrative media as films, hypertexts and games. In narrative theory, embedding is a term usually used to describe "the literary device of the 'story within a story', the structure by which a character in a narrative text becomes the narrator of a second narrative text framed by the first one" (Herman, Jahn, and Ryan 2005, 134). For example, if character A tells a story about character B who then tells a story about character C, we get two embedded stories at two different levels from the main story level, where character A resides. This simple example is vividly illustrated by Genette as shown in Figure 5.1 (1980, 85). From the picture, we already see how narrative information is strategically architected into two levels through the narration by two character-bound narrators, with A in the main text and B and C in the embedded texts. In addition, because the story about B is narrated by A, the embedded content, presented through A's perspective, can be subjective as character A's attitude can be communicated indirectly by its narration.

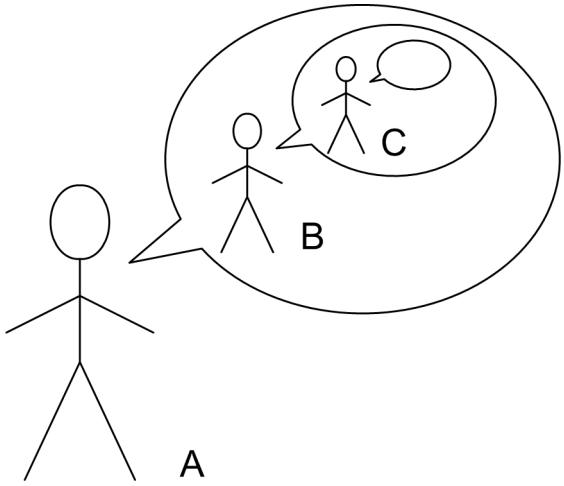

Figure 5.1: Genette's narrative levels.

Narrative embedding is widely used in games. Taking a look at Table 5.1 about forms of narrative content in the previous section, we will find that almost all those forms have potential to contain an embedded story. Dialogues are probably the easiest place to embed a story; namely, one character can tell a back story about another character. Using the principles of embedding to layer up narrative can add complexity and style to a game narrative and make it interesting to experience. Before I proceed to describe the principles of

[24]This section is largely based on my paper published by *Future Play 2010* (Wei 2010).

narrative embedding in detail, it is necessary to distinguish the term "embedded narrative," often used in the fields of game studies and design, from the embedded narrative discussed in this section; otherwise the two conflated concepts can cause considerable confusion in our understanding of narrative embedding.

5.2.1 (Re)Define the Problematic "Embedded Narrative"

In the field of game design, "embedded narrative" is used to refer to those scripted narrative elements that are embedded throughout a game to form the background story; "emergent narrative," as opposed to embedded narrative, is used to refer to non-scripted narratives generated via player actions (Jenkins 2004; Salen and Zimmerman 2004). This view, however, is problematic; the way it cuts clearly between scripted and non-scripted narratives in games is too simple to describe narrative dynamics in games. I have argued in chapter 2 that under an integrated view of game narrative, one needs to look at both pre-generated narrative content and player actions in the game — i.e. both the designer's story and the player's story.

In fact, other than providing the distinction between embedded narrative and emergent narrative, existing works in game studies and game design offer little in-depth discussion on how to embed narrative in games and how embedding can influence the narrative experience. Jenkins is among the few who discuss this issue to some extent. He points out that a story can be seen as a body of information and therefore "a game designer can control the narrational process by distributing the information across a range of spaces and artifacts" (2004, 126). He then suggests that game designers learn from films, such as the detective stories and melodramas, for "a better understanding of how artifacts or spaces can contain affective potential or communicate significant narrative information" (127). While pointing out some directions worth pursuing, Jenkins does not specify the structuring principles for architecting these embedded narratives. If we were to follow his suggestion and look at how film narration works, we would need to turn to the principles developed for older narrative media. Moreover, as the present work seeks insights from narrative theory to inform the study of narrative embedding in games, it is beneficial to return to the narratological origin of the concept of "embedded narrative."

The topic of narrative embedding has been studied in depth in narrative theory. Since Genette defined narrative level for the phenomenon of embedding, Bal and other narratologists have kept refining the concept. To define embedded narrative, one needs to be aware

of the narrative level, a notion used by narrative theorists to identify and distinguish multiple narrating acts (to generate one or more embedded narratives) found within a narrative text. Genette's model of narrative levels based on the distinction of diegetic levels seems to be widely followed (Herman et al. 2005).[25] Ryan (2002) expands the diegesis-based idea and considers that embedded narrative can also be differentiated by ontological boundaries that lead to "a new system of reality without introducing a new speaker" (or narrator). The somewhat vague notion of "embedding" has been finally examined and clarified by William Nelles (1997), who suggests that the shifts of *narrator, narrative level* (or diegetic level) and *reality* can all mark the border between the embedding narrative and the embedded narrative. He then proposes two structurally different types of embedding: *horizontal embedding* and *vertical embedding*. In horizontal embedding, texts are embedded "at the same diegetic level, but narrated by different narrators," one after another. In vertical embedding, texts are embedded at different diegetic levels, either "inserted within or stacked on top of one another" (132). In addition to the horizontal and vertical embedding, Nelles identifies *modal embedding* as the third type to refer to those texts that are embedded in another spatio-temporal universe different from the main narrative, i.e., marked by a shift of reality. A narrative with a dream or fantasy could fall into this category. A modal embedding, as noted by Nelle, could be set up through vertical or horizontal shifts.

Unlike written texts, games as visual interactive narratives present the story not just through "telling," but also through "showing" and "interacting." As games use a set of storytelling devices different from that of traditional narratives, embedding keeps the general concept of "story within a story," but does not have to be realized through a shift of narrator. An obvious example is the less story-heavy platform games like *Super Mario Bros.* and *Little Big Planet,* which have distinct game levels, each with a unique thematic design and set of objects and/or characters. There is certainly no shift of narrator, but each game level can also be considered a framed narrative — a case of modal embedding. At this point, we can see that Nelles's clear yet broad classification system seems sufficient to describe digital games in general.

Based on Nelle's theory, I consider that an *embedded narrative* in a game is a narrative unit — a sequence or an artifact — that tells a mini story (or back story), deviating from the main storyline through a shift of narrator, narrative level, or reality.[26] Under this broader

[25]Diegesis and mimesis are Plato's distinction of two ways to present a story: the former is the telling of a story and the latter is the showing (or acting) of a story. In the example used earlier, character A, B, and C reside on three different diegetic levels as A and B are both narrators in the story.

[26]As for other embedded content — e.g. a quote, a comment, a picture — that does not tell a story, Bal

definition, player actions can be part of an embedded narrative in the form of a sequence. The following subsections will observe and describe different types of narrative embedding in games based on Nelles's typology.

5.2.2 Horizontal Embedding

The narrative of a game is constructed procedurally during the play. Within one play, the player has gone through only one instantiation of the game plot, which is the *main narrative* from the beginning to the end of a game. The main narrative is the outermost frame of the game narrative, i.e., the *containing* narrative of all embedded ones at the ground level in the game's narrative hierarchy. For most games, the narrator of the main narrative is a *dual agent* combining an external narrator (an omniscient agent who is external to the story) with the player. The external narrator presents the pre-generated narrative and the player co-presents through performing actions. In other words, player actions emerge as narrative that fills in the gaps left by the external narrator. Therefore, we can generally assume that what we see and go through in a game is all presented, or narrated, by this dual agent. In rarer cases, a game uses a character-bound, or internal, narrator. This agent can be the player character, such as in *Max Payne,* or an NPC, such as in the *Fable* series. Identifying the narrator of the main narrative is fundamental to detecting a horizontal or vertical embedding. In order to avoid confusion, the following will discuss the embedded narrative in relation to the main narrative (i.e., the embedding narrative), rather than to another embedded narrative.

The defining characteristic of horizontal embedding is that it involves a *shift in narrator* but not narrative level. During a game play, the narration (i.e. the telling of the story) is sometimes handed over to an in-game character or the player character, as an internal narrator. When the narration is handed from one narrator to another on the same narrative level, the embedding pattern is horizontal and as a result we hear the main story and the embedded story *side by side*. At times artifacts "tell" stories, too, often by a different narrator; thus, they are also considered embedded narratives. There are two common forms to embed a story horizontally: flashback sequence and narrative artifact.

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suggests they are better discussed under the realm of intertextuality (2009).

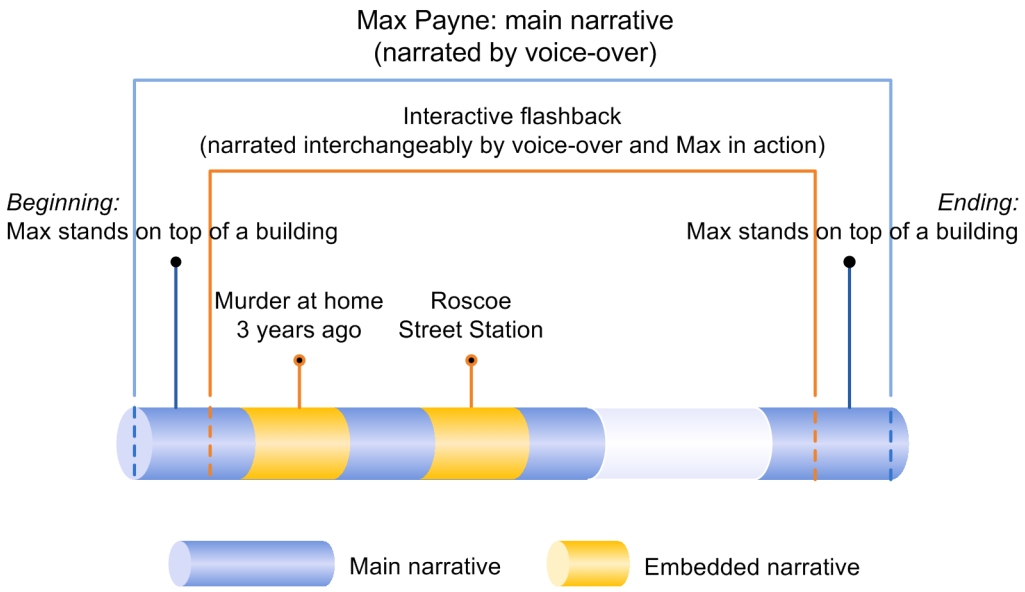

Figure 5.2: Horizontal embedding in *Max Payne*.

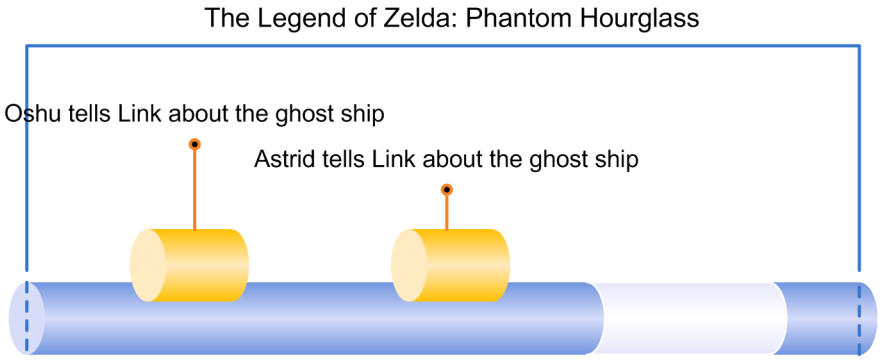

Figure 5.3: Vertical embedding in *The Legend of Zelda: Phantom Hourglass*.

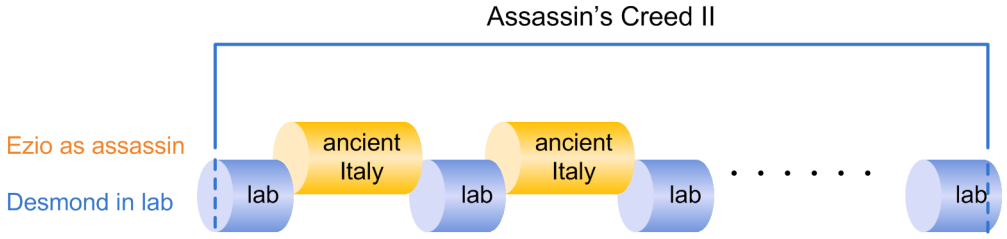

Figure 5.4: Modal embedding in *Assassin's Creed II*.

5.2.2.1 Flashback Sequence

One criterion to categorize embedded narratives is based on their temporal relations to the main narrative because in most cases the time-shift is accompanied with a shift of narrator on the same narrative level (Nelles 1997). These retrospective (flashback) or anticipative (flashforward) narratives are extensions to the main narrative. Although Juul (2004) claims that flashbacks are problematic for games, recent games with relatively complicated storytelling do have flashback sequences as a stylistic choice added to the narrative design. *Max Payne* and *Metal Gear Solid* are two game series famously using over-the-top flashback sequences at the beginning of the games.

In flashbacks, players lose their co-narrating roles, partially (when the sequence is interactive) or fully (when it is not). Consequently the narration is taken over by the player character (as internal narrator) or the external narrator. These sequences set the tone of the story and provide background information for the player. For a sequel game, flashback sequences can also give a hint of what happened in previous games in the series — a design welcomed by new players. Figure 5.2 illustrates the example of *Max Payne*. The entire game, i.e., the main narrative, is presented in a flashback, with Max being the narrator. The narration is then carried interchangeably by Max the voice-over narrating in retrospective and by Max in action played by the player. Hence the orange blocks are mini flashbacks distinguished by the voice-over. They are horizontally embedded in the main narrative and help to highly stylize the game storytelling. Players are at the same time enacting Max's action and listening to his stories.

5.2.2.2 Narrative Artifact

In games that employ environmental storytelling, it is not just the characters that tell stories — objects do so too. A common form that carries a literary tradition is artifacts with texts. Examples can be stone inscriptions, or long captions that often appear at the beginning of a game section and tell a mini story. The narrator of these mini stories is often uncertain, though most likely it is an omniscient external agent different from the one who tells the main story. In this case, these texts are considered as embedded narratives. In games, there are also non-textual artifacts, such as audio tapes (as in *BioShock*) and pictures that tell stories.

5.2.3 Vertical Embedding

According to Nelles's classification, other than the shift of narrator, vertical embedding also requires the shift of narrative level; namely, the "new" narrator takes the narration to a "new" level. Hence in a vertical embedding, there are at least two levels of narration. While horizontal embedding helps arrange the temporal sequence and organize narrative information, vertical embedding creates depth in the storytelling, which caters to the diverse needs of various types of players.

5.2.3.1 Dialogue

In games we frequently see a non-player character starting to tell a story. The narration is then passed on from the dual agent (the external narrator and the player) to the NPC and enters an embedded narrative. For example in The *Legend of Zelda: Phantom Hourglass,* several NPCs tell the player character different stories about the dangerous ghost ship (see Figure 5.3). They help create a fearful mood and expectation of bad happenings. These mini stories are one level up from the main narrative. Similar to what Bal (2009) observes in traditional narrative, these embedded mini stories in games usually serve the functions of *explanation,* by supplying information, or *determination,* by setting up causal relationships for future events. In addition, these dialogues can help in setting the mood and portraying the narrating character.

5.2.3.2 Narrative Artifact

As described above, a story-telling narrative artifact can be considered as a horizontally embedded narrative when it is uncertain who the narrator is. When it is certain, as is often the case with letters and journals, the embedding is vertical as the narration clearly enters into a second level. One such example is the codex pages on the puzzle wall in *Assassin's Creed II,* which have journals on the back written by Altair (the protagonist in the prequel game) documenting his explorations and experiences as well as some assassination-related articles. These journals create connections between the storylines of the first and second game.

5.2.3.3 Non-flashback, Non-interactive Sequence

Whenever the game enters a non-interactive narrative sequence, players lose their co-narrating roles. If it is not a flashback and there is a distinct narrator telling a deviating

story, it qualifies as an embedded narrative. Opening, ending and inter-level sequences telling a separate story are all possible examples.

5.2.3.4 Voice-over Narration

Sometimes voice-over narration as an audio sequence is played unobtrusively along with the gameplay. It is similar to a non-interactive sequence; namely, when it tells a distinct mini story, it qualifies as an embedded narrative. In most circumstances, we can tell who the narrator and narratee (usually the player) are. An interesting exception is *Prince of Persia: The Sands of Time,* where it only becomes clear who the narratee is at the end of the game and players realize that the entire game is a flashback. Within this large container flashback, all pre-generated sequences and player actions are embedded. Mechner (2007), writer of this game, openly admits that using voice-over narration as a framing device and nesting stories within stories is a design choice made with the intent to combine game genres — making a "survival horror" game ostensibly a "swashbuckling acrobatic action-adventure."

5.2.4 Modal Embedding

The key factor that identifies modal embedding is a shift of the reality, or the storyworld. Nelles points out that examples of this kind are found in "dreams, hallucinations, or science-fiction stories of alternate dimensions" (1997, 134), which appear in many literary and film works. In games, modal embedding is also widely applied. In *Assassin's Creed II,* there is a hallucination sequence that happened to Desmond (the player character in modern times), during which he became Altair (the protagonist of the prequel game) and was chasing a target. After he reached the target on top of a tower, it turned out to be Maria, gesturing him to come closer. Altair kissed her and the two made love, after which he leaped off the tower. From there Desmond (controlled by the player) was no longer able to follow. This hallucination sequence implies Maria to be Desmond's distant grandmother and that he and Ezio (the protagonist in ancient times in the current game) both carry the lineage of Altair. It simply serves the purpose of explanation of the larger story and has no contribution to the gameplay and strategic planning. However one interesting thing about this embedded narrative is that players have limited control in the early part of the sequence, where they actually need to use the controller to chase Maria in order to drive the story forward.

Some recent entertainment works have been exploring the philosophical and ontological meanings of "avatar." Examples range from the online virtual reality community *Second Life,* to the recent game *Assassin's Creed II,* to the recent film Avatar. Stories with an "avatar"

theme have a double reality, with one or more characters having a double identity. To make audiences relate more to the story, the reality of the main narrative is usually chosen to be in a more contemporary setting, while the "alternate" reality (the avatar's reality) can be set in the future, in the past, or like in the film *Avatar*, on a different planet. Figure 5.4 illustrates this oscillation between two realities (space-times) in *Assassin's Creed II*.

Games also have another unique type of modal embedding. Early in this chapter I have cited the example of *New Super Mario Bros.*'s level design. Game levels featuring different thematic designs can also be treated as modally embedded narratives. The rules or gameplay mechanics can be different from one game level to another.

5.2.5 Transgressing Boundaries

In narratives of all sorts, narrators and characters do not just sit still within the boundaries of their supposed level. Occasionally we see them cross the boundary, from one embedded narrative to another, or from an embedded narrative to the embedding narrative. This phenomenon can be related to the narratological term *metalepsis,* often referring to the move made by a narrating character from one narrative level to another. Metalepsis is a narrative device that can produce special effects. Nelles summarizes two effects observed by previous scholars: comedy and realism. In the example cited in a footnote in section 3.3 from *Prince of Persia: The Sands of Time,* when the player-controlled Prince falls to his death, the player will hear the Prince's voice saying: "Wait, what did I just say? That didn't happen. Let me back up a bit." At this moment, the narrator, originally dwelling in the player character and thus an internal narrator, crosses the boundary and becomes an external narrator who is not affected by his own death. This humorous tone instantly enlightens the death outcome and encourages the player to try again to make it right.

Another type of transgression that only exists in games involves game modifications and customizations. These functions allow players to modify the game based on their own preferences. In *Grand Auto Theft III,* for example, players can copy their favourite songs into the game file folder so that in the gameworld, they can listen to their songs from the in-game car audio player. Wm. Ruffin Bailey (2006) recognizes this "inviting subversion" as a form of metalepsis. It fuses the game world and real world and through doing so, makes the game feel more real.

5.3 Narrative Interaction

Of all the interactions a player can make with a game, narrative interactions are the major concern of this research. A *narrative interaction* is a player choice or action that results in a change of the direction of the plot progression and/or the ending of the plot. It is narrative interactions that make the storytelling truly interactive. It is worth noting that I choose a narrower definition for the interactive story compared with some other broader definitions. For example, in Adams definition: "An interactive story is a story that the player interacts with by contributing actions to it. A story may be interactive even if the player's actions cannot change the direction of the plot" (2010, 160). The latter case Adams mentions is in fact not considered by Chris Crawford (2003) to be a real interactive story. As this research attempts to set up a framework specifically for interactive narrative, keeping a narrower definition will serve as a good reminder that narrative interactivity is the key characteristic that sets interactive narratives apart from traditional ones.

The structure of interactive narratives is typically classified into several main types: *linear*, *branching*, *foldback* and *emergent*. This classification is quite common in the literature, though with some variations (Crawford 2005; Adams 2010; McIntosh, Cohn, and Grace 2010). In linear narratives (see Figure 5.5), players follow a single trajectory of the plot through a series of fixed plot points; i.e., players cannot change the plot or the ending. This structure is also called a "string of pearls" by Aarseth (2004). In a branching narrative (see Figure 5.6), the plot line branches off to multiple lines so that the narrative can have different endings. The foldback structure is a modified version of the branching structure (see Figure 5.7). It is a more practical solution because it allows diverging plotlines to converge at certain points to reduce the number of branches. Players will periodically find themselves free to choose their trajectory for some time until they reach a fixed plot point. While a branching structure gives players a lot of agency by allowing them to make more choices that can significantly change the plot trajectory or alter the game ending, a foldback structure is adopted by many games since it is easier to implement (Adams 2010). An emergent narrative is usually set in an open game world where, in a given level, players can choose their tasks to do, in their preferred order. This fourth type refers to those games without a prescribed story structure where the story is completely constructed on-the-fly by players.[27] In a strict sense, emergent narrative is not so much a type of structure because,

[27] According to Adams, the term emergent narrative was introduced by Marc LeBlanc as "storytelling produced entirely by player actions and in-game events" (2010) (175). Ruth Alyett, in her research on story generation systems, defines an emergent narrative as "a narrative generated by interaction between characters in the style of improvisational drama, rather than the authored narratives in more widespread use" (Louchart and Aylett

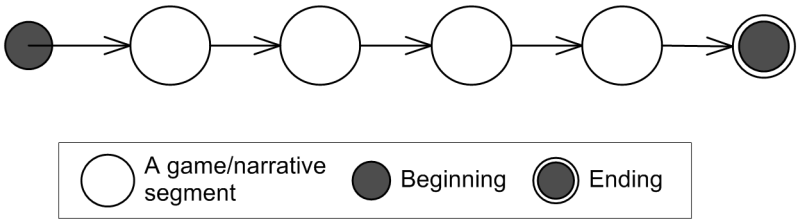

Figure 5.5: Interactive structure — linear ("string of pearls").

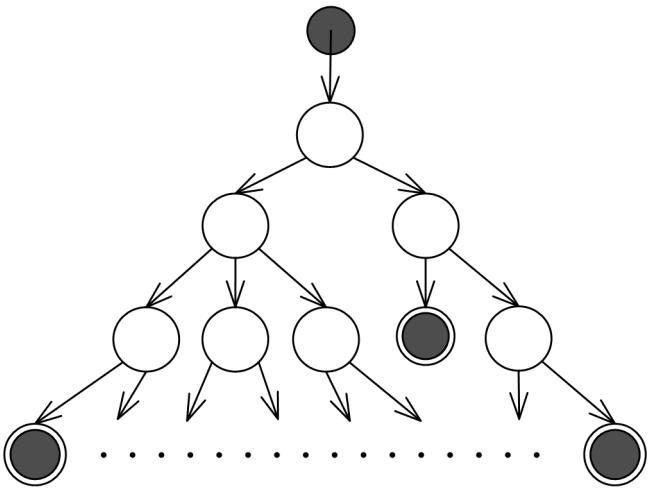

Figure 5.6: Interactive structure — branching.

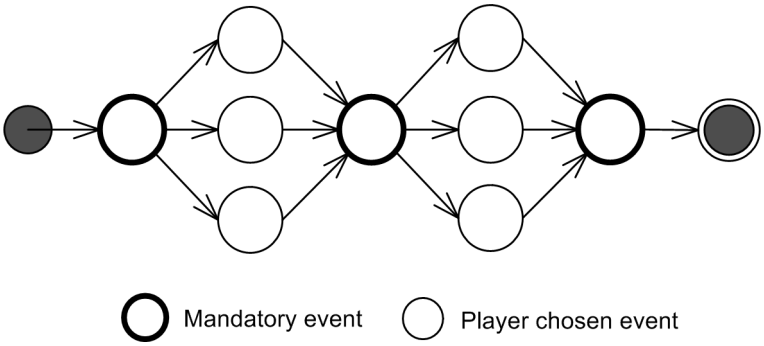

Figure 5.7: Interactive structure — foldback.

as Nicolas Szilas points out, so far there is no clear understanding of the conditions under which narrative emergence can happen. He suggests that "[e]mergence should rather be understood as an empirical approach of the domain, which consists of an experiemental investigation of the conditions of emergence" (2010, 65).

The diagrams here depict the first three structures in typical, flowchart-like graphs. They demonstrate the possibility space of the narrative. In Ryan's words, these structures are the "textual architectures" offered by interactive narratives that are determined by both the story and the discourse (plot) (2006, 100-7). The classification is only provisional for discussion purpose: there are no clear-cut boundaries between the four structures and they can always be combined or nested by one another. A game narrative, for instance, can be a string of pearls on the highest level, with some segments nested with a small foldback narrative. A foldback narrative, for another instance, by its nature has segments with small branching units. In fact, it is hard to find a real-world example of a branching narrative since most of them eventually fold back at some point. Emergent narrative, on the other hand, can always happen at a local level for a brief duration even in a heavily prescribed structure. Because of the blurriness of this classification, it is important to draw out the flowchart for individual cases in order to analyze the actual structure of the narrative at various levels of details.

While the linear structure does not produce variations of story events, the other three types all are. In order to afford narrative interactions, the game text needs to possess narrative variability — the ability to allow players to vary their plot during each play. An examination of the possible techniques to create narrative variability is crucial in describing the pattern of narrative interaction and answering the question "how is the narrative interactive?" The common techniques to create narrative variations are as follows.

1. For one or more sequences, the narrative text provides a fixed number of pre-structured missions (or events) that players must complete; however, there is more than one sequential order for players to go through those missions (or events).

2. For one or more sequences, the narrative text provides more than the required pre-structured missions (or events) for players to choose and access, in a fixed or flexible order.

3. In one or more sequences, the narrative text checks the current state of the narrative

2004, 507). In general, the term emergent narrative is used to emphasize that the narrative is unscripted and generated through player interactions with the game.

that resulted from player choices and actions, and uses logic to determine the next sequence, which is composed in an ad hoc manner using a set of pre-scripted smaller units.

In the actual implementation, the above techniques are often combined. The list does not include the technique that makes environmental changes based on player behaviours — a technique adopted by many games. These changes occur at a local level and create the illusion of narrative variability but in fact do not alter the course or ending of the plot. The first and second techniques, which are relatively easy to implement, are commonly used in most game titles to create, at times, a surprisingly satisfactory interactive narrative experience. I have touched upon the variations of ordering in the discussion of polychrony in section 3.6. The third technique, which poses real challenges, has been researched more by academics than by industry developers. Nevertheless, it is the core technique to create the possibility space for narrative to "emerge." Two key components of the computational implementation of such a technique are the logic model and the sequencing algorithm. The logic model provides the set of logical rules which the sequence algorithm uses to arrange the narrative content. Logic models can be derived from narrative theories, role-playing games, improvisational drama, and so on.[28] The sequencing algorithm can use a planner for character-based models, and/or a drama manager for plot-based models. A planner plans characters' next moves based on their goals and character traits and a drama manager provides the global plot control.[29]

5.4 Summary

This chapter contains a set of topics regarding the composition of the game text. It begins with an inspection of the existing forms of narrative content, or means of narrative delivery, used by games. With the collection of the choices for the forms, narrative information can be architected in the game text with principles of embedding. These principles are principles of horizontal, vertical, and modal embedding. In order to explain the embedding principles, I have investigated the situation of narration in games, which includes the identification of the narrator and narrative levels. In the last part of the chapter, I summarized the common classification of interactive structures for games. The interactive structures offered

[28] For a survey of the models used by interactive narrative systems, readers can consult Lourchart and Aylen's (2004) and Cavazza and Pizzi's (2006) reviews.

[29] For a detailed explanation of these two approaches, see Riedl and Young (2006).

by the game text are fundamental to the creation of interactive narrative. In conclusion, the analysis of textual structures of a game can answer the following questions:

1. What forms of narrative content does the game use?
   (a) Is the game menu part of the narrative?
2. Who is the narrator in the main narrative?
3. Are there any embedded narratives? If so, in what forms and which way (horizontal, vertical, or modal) are they embedded?
   (a) Who is the narrator in each of those embedded narratives?
   (b) Is there any special effect on narrative or gameplay made by the embedded narratives?
4. Does the narrator transgress its boundary sometimes? If so, what effect does it produce?
5. What is the structure of the narrative interaction in the game?
6. What technique does the game use to create narrative variation?
7. If a computational technique is used to make narrative "emerge," what logical model is it based upon, and what sequencing algorithm does it use?
   (a) What characteristics or patterns can describe how the game text produces "emergent narrative"?

Chapter 6

Organizing the Game Plot

Plot is the middle of the three layers of narrative, distinguished from text and story (fabula). A game plot is the content of the game narrative. It presents the story in a structured way, through the dynamic patterning of representational materials and interactive events. Bal states that "[i]f one regards, the text primarily as the product of the use of a medium, and the fabula primarily as the product of imagination, the story could be regarded as the result of an ordering" (2009, 75). By replacing Bal's term "story" with the term "plot," I attempt to incorporate into the narrative discussion of games more theories on plot, especially those often used in film narratology that have a great influence on game storytelling. Here "plot" is one side of the dichotomy of story and plot, which is largely conflated with Bal's "story" (the "ordered story" instead of the raw fabula) and Chatman's "discourse" (how the story is told). The central issue in the discussion of the game plot is the arrangement of fabula materials; namely, how does the plot arrange fabula content in the narrative text to achieve the desired focus and effect? This arrangement is realized through sophisticated use of time, space, characters, and focalization, in adjunction to a variety of principles for grouping fabula events. Among these aspects, time and space cover issues that cross all three narrative layers and hence are discussed separately in chapter 3 and chapter 4. Consequently, in this chapter on plot, I will discuss the rest of the aspects and observe the roles they play in the structuring of the game plot.

6.1 Characters

Characters are the participants of a storyworld. To discuss issues related to participants using different lenses, Bal has made an important distinction. Participants on the layer

of the plot are *characters* with human characteristics and so they are complex semantic units. Participants on the layer of the story (fabula) are *actors* that do not necessarily have human characteristics and perform as structural roles. With this distinction, we now know that when looking at character design in a game, we are talking about *characters*, and when looking at "roles" and "functions" of participants as carriers of events, we are actually talking about *actors*. Through characterization, i.e., the process of turning actors into characters, authors/designers can not only make the narrative attractive and rich but also convey the ideologies and values of their own through the portrayal of characters.

A glance at the sections on characters in game design books will perhaps give us such impression that although the discussion is all over the place, the central question for game character design is how to create compelling and believable characters (Adams 2010; Schell 2008). In providing solutions for this problem, much research has studied character traits in relation to personality models and associated visual design. These studies, however, are not of a structural nature and do not provide many insights on how to construct a character along the narrative discourse or how a character is part of a narrative structure. As Jesse Schell (2008) points out, game plots and characters tend to be less complex and deep than those in novels and films, so it is a viable strategy to look at methods in other media and consider how to adapt them to the creation of game characters.

Consequently, in an effort to enforce the basic understanding of characters, the rest of this section will focus on introducing basic principles from narratology for the construction of characters, instead of delving into details of individual design aspects that are very much medium dependent. I have discussed how characters help to structure the narrative in the chapter on Space (subsection 4.4.1), and will discuss it again in the section on structuring principles later in this chapter.

As usual, my discussion on character construction is mainly adapted from Bal's work. I have also consulted the discussion of character by Margolin (2007) and game design guidelines by Adams (2010). In the construction of the image of a character, four principles, or methods, are at work.

1. *Repetition*. Only when the characteristics of a character are presented repeatedly can the audience or players form an impression of it. Analogous to the importance of redundancy to game narrative suggested by Jenkins, Hollywood's "law of three" is applicable to the building of a character as well. The description of NPCs and player avatars can be done through their appearance and manners or in cut-scenes. Player characters in first-person games (i.e., without full-figured avatars) can be described

through dialogues by other characters or voice-over narrations, as well as other textual aids (e.g., journals or information in the menu). These descriptions can be repeated in order to stress certain traits of a character.

2. *Accumulation*. Each character has an array of characteristics, which cannot all be described at one time. Hence, the information about these characteristics needs to be developed over time. The process of accumulation allows players or audiences to connect the separately presented data about a character and make meaning out it.

3. *Relation to other characters*. These relations are often depicted by presenting similarities or contrasts between characters. Players can thus identify their allies and enemies. Games possess a unique relation — the one between the player and the avatar. When the avatar can be designed by the player, designers need to leave room for characterization to the player. Adams suggests that in such games, instead of creating the avatar for the player, a game designer should "provide necessary tools to allow players to create avatars for themselves" (2010, 129).

4. *Transformation*. In a plot, characters are usually undergoing a series of changes, some of which even transform their most prominent characteristic. The identification of such prominent characteristic under change is important to both designers and players. In many plot archetypes, such as in the "Hero's Journey," the stages of these transformations are closely linked to stages of the plot progression. In many RPGs, character transformation is realized through the changes of the character's "level," which marks its social status, abilities and possessions. In the process of transformation, as Margolin reminds us, a certain "continuity" needs to be maintained in order for the audience to recognize the character. This is probably why in the *Assassin's Creed* series, although the identity of player avatar splits between Desmond and the ancient assassin, the facial structure looks the same for the two characters.

The above principles concern how to construct a character *within* the plot. Whether a character is appealing and credible is also dependent on the player's prior knowledge. The "frame of reference" for the player varies; it can range from a historical figure to a familiar character originally in a fantasy novel, to an archetypical character belonging to certain narrative genre (Bal 2009). Designers are free to use these frames of reference to create some degree of predictability for the characters, which is important to form the player agency with characters.

6.2 Focalization

I have introduced the concepts of narrator and embedding in the previous chapter and the creation of characters in this chapter. It is now appropriate to introduce focalization, an important concept that connects narration and characters in the organization of the plot. According to Bal, focalization is "the relationship between the 'vision,' the agent that sees, and that which is seen" (2009, 149). She gives a concise linguistic example: "A says B sees what C is doing." Here the narrator A, who speaks, is clearly different from the character-bound (or internal) focalizer B, who sees. B and C, as the subject and object of focalization, can possibly be on the same (embedded) narrative level, as they apparently coexist in the same space. A, on the other hand, appears to exist on the embedding (or the framing) narrative level, which is seen through an external focalizer who is outside the story. Thus, Peter Verstraten concludes that while external focalization is always present in films, "internal focalization may be present at the same time but is never completely independent; it is always embedded in the external vision" (2009, 40-1). From the above short example, we can see how focalization can help present the plot in intriguing ways.

Oftentimes in the plot, the storyworld of a third-person narrative is seen through the eyes of a character. This character then becomes the perceiving "centre" of the narrative. When it comes to film narrative, focalization can be at times difficult to analyze thanks to the use of the camera. Celestino Deleyto (1996) gives an in-depth examination of focalization in film. In films, he says, the focalizer always takes the position of the camera. When the camera position matches the eyeline of a character, this character becomes the internal focalizer and the shot becomes subjective. Generally the position of the focalizer changes when the camera moves or an editing device intervenes. However, Deleyto cites an exception — the split screen — where the external focalizer occupies several positions at the same time. In analyzing the subjectivity of the focalization, Deleyto points out that aside from the eyeline match, other "clues to subjectivity may be given in the dialogue, voice-over narration, movement of the camera or, most characteristically, when another character looks straight at the camera (and straight at the spectator) as he addresses the character whose vision we are supposed to share" (224). He also suggests that in the cases of dreams, fantasies and flashbacks, external focalization may disappear.

Focalization in games has a lot in common with that in films thanks to the use of the virtual camera. In most third-person games, the focalizer seems to be external most of the time. The player can see the avatar in the gameworld from the position of an "external" camera. However, the "shots" by the virtual camera are subjective because the player has

the constant control of the avatar's movement. When the virtual camera follows the movement of the avatar, the player shares a subjective view of the gameworld. In this sense, the focalization seems to be as subjective as the internal focalization in first-person games, where the focalizer is the player, as an in-game character, at all times. In fact, first-person or not, many games allow the player to change the camera angle and others follow the player's movement with their virtual camera. In both cases, the camera movement, a subjective device suggested by Deleyto, enforces the subjectivity of player perception of game scenes. The "double identity" of the player — the game character and the game player — determines the problematic nature of the focalizer of games, which is both internal and external. Different from Nitsche, who considers that in general games use an external focalizer because the camera is external, I prefer to call the game focalizer the "player focalizer" as it is both external and internal. The term player focalizer marks the fundamental difference in focalization between games and films.

In rarer cases, such as in dreams, fantasies and flashbacks, the object of focalization becomes distorted to reflect the player focalizer's mental state. They are also places for characterization and stylized presentation of the plot. Nitsche (2008) analyzed several such examples, one of which being the dream/drug sequences of *Max Payne,* where Max's internal (mental) perception of the surroundings, under the drug effect, is projected onto the screen, bloody and distorted. The "special effect" sequences of dreams, hallucinations and flashback cut-scenes in a game take away the external focalization and switch into an entire internal one, projected from a character's perspective.

In the end, Nitsche concludes that the focalizer functions as both the "directing designer" and the "interacting player." The focalizer, he continues, "operates as a narrative guide through the game universe" and "has the power to increase a game's drama without forcing it into a linear cage" (2008, 154). While the "special effect" sequences use devices to strengthen the subjectivity as they do in films, in normal sequences the virtual camera manipulates the focalization and is the unique device that sets games apart from films. There are two main functions a virtual camera can perform in assisting the gameplay:

1. *Following.* In the general case, the camera follows the player movement and presents the scenes in real time accordingly.

2. *Guiding and focusing.* To aid the player in navigation, the camera can temporarily leave the player's "eyes," "fly" to the target location (sometimes an interactive object) of the space and "comes back" to the player. This guiding sequence takes away the internal portion of the focalization and shows the player where he or she should move

next. As I mentioned in chapter 4 on Space, *Prince of Persia: The Sands of Time uses this* "fly-through" technique extensively to guide its players.

6.3 Plot Types

It is a common practice for developers to base their games and interactive narratives on some canonical plot types. The role of plot type in constructing interactive narratives is called "metastory" in Pearce's terms as mentioned in section 2.1. Since some plot types have gone through generations of abstraction and refinement, they become well-defined descriptive, abstract models that are easily adopted by developers of interactive narratives. In this section, I will enumerate a few plot models that are frequently used. In searching for a way to present the models in groups, I find Ryan's classification very helpful. Studying the plot types for interactive narratives, Ryan (2008) classifies the choices into three types: the epic plot, the dramatic plot, and the epistemic plot. According to Ryan, the epic plot and dramatic plot were recognized by Aristotle based on their modes of representation — diegesis (verbal narration) and mimesis (imitation of action) respectively. The epistemic plot emerged more recently and is driven by the desire to know, with the mystery story being an example. I will use this classification for my discussion.

6.3.1 The Epic Plot

The epic plot features a solitary hero and focuses on physical actions. The human relations and character motivations are relatively simple in epic narratives. The epic plot is probably the most popular type for game designers. We see it in the majority of role-playing games, many shooters and adventure games. What follows is an introduction to two models of the epic plot.

Fairy tales are a good example of the epic plot and have been studied extensively by Vladimir Propp. Taking a formalist approach, Propp studied 100 fairy tales and found the pattern of this narrative genre. He considered the functions of the dramatis personae as the basic components of the fairy tales. Such a function can be understood as "an act of a character, defined from the point of view of its significance for the course of the action" (1968, 21). He summarized his observations briefly into the following points:

1. Functions of characters serve as stable, constant elements in a tale, independent of how and by whom they are fulfilled.

2. The number of functions known to the fairy tale is limited.

3. The sequence of functions is always identical.

4. All fairy tales are of one type in regard to their structure. (21-3)

For the last point, Louchart and Aylett (2004) consider that fairy tales are all based on the quest type of adventure stories. Ryan summarizes the Proppian plot as: "a villain causes harm to a family, typically by kidnapping a princess; the hero is dispatched to repair the situation; after a certain number of tests he fulfills his mission by defeating the villain with the help of a donor, and he is rewarded for his actions with the hand of the princess" (2008, 7). Propp's formalist approach to analyzing and modeling Russian folklore has opened up numerous studies in diverse fields and has become an interest among creators of interactive narrative systems, such as Teatrix created by Machado et al. (2001).

While Propp's model has been explored a lot by academics in computing for its suitability for use in interactive storytelling systems, Joseph Campbell's (1949) plot model has been used more often by game designers. Also studying folklore, Campbell identified a pattern that he called the "Hero's Journey," where the hero departs the "ordinary" world for another supernatural one and makes his/her way back. Plots following this pattern contain archetypal characters that help or hinder the hero in various ways. Christopher Vogler reworked Campbell's book for screenwriters and summarized 12 stages for a "Hero's Journey" plot. These stages are:

1. The ordinary world,

2. The call to adventure,

3. The refusal of the call,

4. The meeting with the mentor,

5. Crossing the first threshold,

6. Tests, allies, and enemies,

7. The approach to the innermost cave,

8. The ordeal,

9. The reward,

10. The road back,
11. The resurrection, and
12. The return with the reward. (cf. (Rollings and Adams 2003, 58))

The "Hero's Journey" is very frequently used in game narratives and quoted by most of game design books. Peter Molyneux, the creative director of the Fable series, for example, openly states that they have based their game story on the "Hero's Journey" model (Watson 2010).

6.3.2 The Dramatic Plot

According to Ryan, the dramatic plot focuses on "evolving networks of human relations" (2008, 7). The action in a dramatic plot is more mental than physical, mixed with a lot dialogues between characters. A dramatic plot is often presented in a three-act structure, which typically follow a rising action, a climax and a falling action, forming the dramatic arc. The generalized arc of a dramatic plot is best visualized in the "Freytag's triangle" (shown in Figure 6.1). The triangle was originally created by Freytag for tragedy drama, a rework of Aristotle's model (Prince 2003).

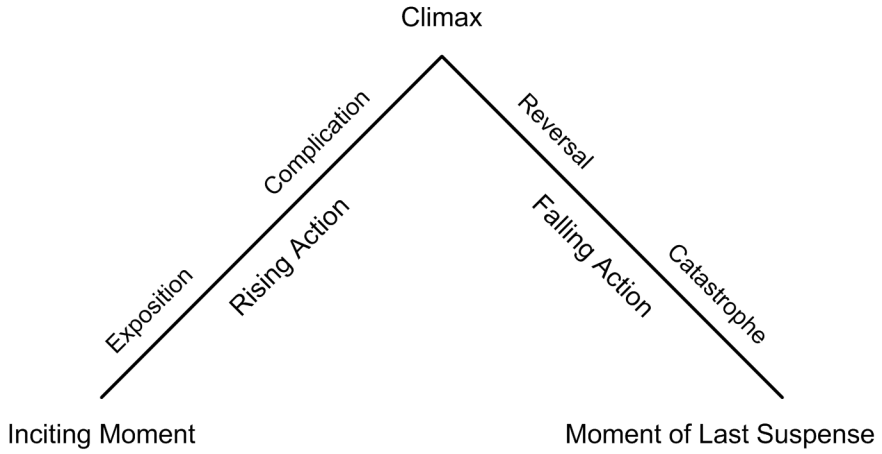

Figure 6.1: Freytag's triangle of tragedy.

A film is often segmented into distinct acts that are analogous to dramatic acts. In the American film industry, three-act and four-act structures are most commonly used (Thompson 2003).[30] The general goal of an act-based structure is to plot out a dramatic arc, a

[30]Starting from the late 1970s, a three-act structure was introduced to screenwriting for Hollywood. The

trajectory left by plot progression. In a film with a four-part model, for example, the climax part often starts at the ¾ of the film (2003). The dramatic arc seems to "achieve its effects without the audience's conscious awareness" and works naturally, no matter what principle the plot uses to organize story (fabula) events (Bordwell 2008, 109). Many plots carefully sequence and time the story events so that the narrative arc is formed by dramatic tension.

In his analysis of *Prince of Persia: The Sands of Time*, Davidson (2008) relates the game plot to the gameplay by mapping the three acts of classical dramatic arc onto the three stages of interactivity: involvement, immersion, and investment. With time invested in the gameplay increasing, as Davidson finds out, the level of interactive engagement tends to drop after long and tiring fighting sequences; it is the climaxing action in the plot that keeps players immersed and motivates them to complete the game. This insight calls for attention not only on the plot arc, but also on the arc of gameplay engagement. To create a satisfying experience, the game needs to maintain a balance between the two.

In interactive storytelling systems, designers and developers use planning algorithms to sequence events based on their tension levels in order to ensure a strong dramatic and emotional tension arc. In the interactive drama *Façade*, the plot is divided into two levels of units. On a high level, the drama manager sequences a bag of dramatic *beats* based on the causal relation between major events. *Façade*'s beats are crafted based on traditional dramatic writing — where the dramatic beats represent the smallest units of dramatic action. On a low level, each beat contains a bag of *joint dialog behaviors* (jdb); in response to player interactions, the beat dynamically selects and sequences a subset of jdbs. The system keeps track of the tension value for each beat and selects the next unused beat with the right tension value as well as other preconditions to ensure an author-specified tension arc (Mateas and Stern 2005b). Another interactive narrative based on the dramatic plot is Magy Seif El-Nasr's (2004) interactive story *Mirage,* which has a narrative structure similar to *Façade* but was extended with user modeling and user behavior analysis. As a result, her character-based approach strengthens the link between character development and plot development by analyzing user behaviour before adjusting the narrative goals and presenting the next scene.

While some interactive narratives like *Façade* maintain a high level of authorial control over the plot, other systems focus more on player characters' goals and actions while still

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three acts are the setup, confrontation, and resolution, in a proportion of ¼ - ½ - ¼. Thompson found that a four-part model prevails in classical Hollywood films. In this model, the plot experiences four phases: the setup, the complicating action, the development and the climax, with roughly equivalent durations.

maintaining a tension arc. Barros and Musse (2008) created a prototype interactive storytelling system called Fabulator, which is based on the "riddle" master plot. Their tension arcs model assumes the tension will rise when the player acquires more knowledge to move closer to the truth. The plot climaxes when the player is just one clue away from solving the riddle and ends when the riddle is solved. In order to shape the tension arc to the desired level, the system dynamically adjusts the level of difficulty through participation by NPCs (e.g., helping or not helping the player character). To cater more to the player's preference, Thue et al. (2007) propose a player modelling approach via their interactive storytelling system PaSSAGE. Their system creates the player model by automatically learning the style of play preferred by the player. It then uses the model dynamically to select the events and deliver an adapted story. To ensure the dramatic arc, events in their system are grouped into phases of Campbell's "Hero's Journey" structure so that at runtime the system will select an event from the right phase.

Using algorithm-based techniques, the structure of an epic or epistemic plot can potentially be synchronized with a dramatic arc and create considerable emotional impact. However, because the dramatic plot usually has tighter authorial control, it is a difficult issue to create space for players to act differently. This might be why fewer game plots are purely dramatic.

6.3.3 The Epistemic Plot

The trademark of the epistemic plot, according to Ryan, is "the superposition of two stories: one constituted by the events that took place in the past, and the other by the investigation that leads to their discovery" (2008, 7). The epistemic plot challenges its audience by hiding the truth before the plot gives it out; hence, audiences participate in a mentally active process of sorting clues. In such a plot, the narrative tension is formed by the force of revealing the information and the force of withholding them (or revealing the wrong one).

Similar to the epic plot, the epistemic plot is used in a variety of game genres, however often integrated with a dramatic line of plot. For example, in the *Max Payne* series, a third-person shooter, the protagonist Max is a police detective trying to break into the circle of Russian Mafia and solve his murder cases. Although packed with actions, the game plot involves both a line of detective story and a dramatic line portraying his personal relationships.

6.4 Other Principles of Structure

The most common way of ordering in games is based on missions thanks to the quest structure. While most plots are constructed by a sequence of events that follow a temporal order and causal logic, other sequencing orders are possible. In previous chapters discussing Time and Space, I have mentioned that both temporal and spatial orders can be used to structure the narrative. For example, instead of following a chronological order, the plot can arrange events into flashbacks, such as in Max Payne. For most epic plots, the hero embarks on a journey that traverses the space; hence, the plot presents events based on one location after another. The location-based plot is frequently seen in games, from action adventures (e.g. the *Legend of Zelda* series), to RPGs (e.g., the *Fable* series), to shooters (e.g., *BioShock*).

The plot can also order the events based on the characters involved. Bal suggests that the plot can segment fabula events into phases; for example, actor A is the subject from event 1 through 6, and actor B is the subject from event 7 through 15, etc. This is can be seen in many games as well; namely, each plot segment "assigns" one or more NPCs to follow the player character. For detective stories, for example, the plot often follows events grouped by each suspect. For "Hero's Journey" stories, the part of recruiting allies can be based on events related to each ally the hero encounters. There are other less common principles that can be found in games. No matter which ordering principle is chosen, it is always working together with other devices in the construction of the plot.

6.5 Summary

If text is the material artifact and story is the "raw" sequence of events that happened in a game, plot can be seen as the *organized experience* of the game. In this chapter, I covered aspects pertinent to the organization of a game plot: characters, focalization, plot types and other principles of structure. Because focalization in games is mainly realized through the use of the virtual camera, it is a principle of organizing the plot but actualized on the layer of game text. Other principles of plot structure are closely related to fabula because one of the cores of these principles is the selection of fabula events. It is through selection and ordering that plot arranges its content and presents to the player. To investigate a game plot, we can use the following questions as our checklist:

1. How are the characters constructed in the game plot?

   (a) Do they have any personalities and traits that make them credible?

2. Is the focalization internal or external in the game?

   (a) In each situation, who is the focalizer and what is focalized?

   (b) Is the "vision" subjective?

   (c) For mixed situations, is there a pattern of changing the focalizer?

3. What type does the game plot belong to?

   (a) If it is an epic type of plot, what are the distinct stages of the plot? Are there any archetypical characters performing certain roles?

   (b) If it is a dramatic plot, does it follow a three-act structure?

   (c) If it is an mystery plot, are there multiple plot lines?

4. Does the plot follow a dramatic tension arc or other type of tension arc?

   (a) How does the game computationally control the arc?

5. What are the roles of time and space in structuring the plot?

   (a) Is there flashback used as a framing device?

   (b) Does the visual perspective (in the presentational structure of the space) provide clues to subjectivity?

6. Are there other principles for structuring the plot?

Chapter 7

Case Analyses

In this chapter, I will analyze the narrative structure of three games as test cases for the descriptive framework developed in the previous chapters. These three cases are action-adventure game *Assassin's Creed* (2007), action role-playing game *Fable II* (2008) and adventure game *Heavy Rain* (2010). The analyses of these selected games provide the first step towards validating the feasibility of using the descriptive framework to frame and guide game narrative analysis.

Earlier in chapter 2, I have limited my scope of investigation to those story-based games with a graphically represented gameworld that is also an interactive and navigable storyworld. In the wide range of game genres, narrative is commonly considered a critical design aspect in role-playing games and adventure games, the latter of which including action-adventures (Adams 2010; Ip 2011). Research has shown that in these genres narrative factors play a significant role in players' gaming experiences (Mallon and Webb 2005). This is not to say that other genres do not feature strong stories. In fact, the increasing amount of story content in modern action games (e.g., *BioShock*) and strategy games (e.g., *StarCraft*) makes these games worth in-depth narrative analysis. On the other hand, my initial attempt has to start with a small number of representative cases despite the large inventory of story-based games. I thus made my first selection from the adventure, action-adventure and role-playing genres for the purpose of applying as many aspects as possible of the framework. These genres are highly populated with what Aarseth considers typical "narrative games" — "with highly idiosyncratic ways of winning, in which the environment has been reduced to a scenic path of difficult conquerable obstacles." While Aarseth thinks these games are "most problematic and difficult to dismiss from an antinarrativist point of view," they will make the strongest cases for this study (2004, 365). Three cases

are thus chosen from those genres for their rich narrative design and ability to showcase state-of-the-art technology as well as commercially and critically successful game design. The three games are made by different studios, run across varied gaming platforms, and contain diverse themes.

7.1 Assassin's Creed

> Jerusalem, 1191 AD.
> The Third Crusade is tearing the Holy Land apart. You are an elite Assassin sent to stop the hostilities by suppressing the powers on both the Crusader and Saracen sides. But as you carry out your missions, a conspiracy begins to unfold. You find yourself tangled up in a conflict that threatens not only the Holy Land, but the entire world.
> *"Nothing is true, everything is permitted"*

As one can infer from the above game "scenario" from its official website [31], *Assassin's Creed* is a third-person action-adventure game set in a real-world historical background. The game was released by Ubisoft, first in November 2007 for Xbox 360 and Play Station 3, and later in April 2008 for PC. News cited in April 2009 reported that the game had sold 8 million copies worldwide according to Ubisoft's own data.[32] It had won multiple game awards and received generally positive reviews with an overall game ranking around 80% on GameRankings and 81% on Metacritic.[33] The game's website promotes the "key features" of the game as the following:

> Experience the power of a feared Assassin. Your actions can throw your immediate environment into chaos; and your existence will shape events in this pivotal moment during the Third Crusade.
> **Be an Assassin:** Plan your attacks, strike without mercy, and fight your way to escape.
> **Realistic and responsive environments:** Every action has its consequences. Crowds react to your moves, and will either help or hinder you on your quests.
> **Action with Total Freedom:** Eliminate your targets wherever, whenever, and however. Do whatever it takes to achieve your objectives.

[31] http://assassinscreed.us.ubi.com/assassins-creed-1/

[32] http://www.gamasutra.com/view/news/23232/

[33] GameRankings.com is a site that aggregates review scores from both offline and online sources and provides an average rating for each game. The score is different between game platforms, from 78.94% of PS3 to 82.24% of Xbox 360. Metacritic.com is another site that compiles reviews and gives each product a "metascore" based on a weighted average from the reviews. Player votes are not counted by both sites.

The above game info provided by Ubisoft's official site gives us a good impression of the *what* and the *how* of the game. The story of *Assassin's Creed* is set in the historical context of the Holy Land during the Third Crusade where Altair, the player character and a member of the clan of Hassshashin, is given the adventurous task to "take out" nine key persons who were architecting the Crusade. These nine characters are all based on actual historical figures that disappeared in the year of 1191, but the assassination of them in the game story is fictional. As he follows the assassination quest, Altair gradually uncovers a conspiracy, which also has implications for the present day. The connection with modern days is presented in a framing narrative that features a sci-fi theme, which I will discuss later.

The game info also highlights distinct characteristics of the gameplay of *Assassin's Creed*. Players take "social stealth" as the general gameplay mode and yet enjoy the freedom of choosing their specific ways to achieve the goals. The highly responsive environment includes intelligent crowds and interactive (i.e. "climbable") building structures. Indeed, the successful design of a "living" environment with stunning visual details constitutes the most recognized attraction of *Assassin's Creed* and makes the gameplay enjoyable and interesting at the local level. At the global level, however, the game is presented in a repetitive structure, which has been critiqued as the main pitfall that to a considerable degree undermines the game's charm. These mixed views demand a deeper analysis of the game. Hence, in my analysis of *Assassin's Creed,* I will not only demonstrate how the game is structured from a narrative point of view, but also uncover why the game brings such a mixed, or even divided, experience to players.

In their multi-cultural reading of *Assassin's Creed*, Seif El-Nasr et al. emphasize the unusual subjectivity of the play of this game. As the game is embodied with a strong cultural-historical background, the four authors with different cultural origins identify different experiences of the game. They describe the background of the game:

> The year 1191 is a time of conflict, a time of war between Crusaders and Saracens. The reference to this time period evokes many emotions among the Middle-Eastern community. Interestingly, the story of the game is centered on the myth of the Assassins rather than the obvious conflict between the Crusaders and Saracens. While the story of the Assassins cult is not well-known among all Middle-Easterners, it is known to some. Thus, for people who know this story, the chosen back-story interestingly taps into another conflict a conflict between different Muslim divisions. While this may provide several motivations

> for playing the game, it also implies that the meaning of the game and the play experience is different depending on who plays the game, how much of the story and conflict is known, and whose side they are on. (2008a, 3)

As a non-middle-easterner, I am bound to experience different agency during my play. While my analysis focuses on the narrative structure, there are aspects that my analysis might be biased, especially when observing the narrative tension and dramatic conflict, as well as determining the nature of focalization. This is also a perfect example to alert analysts that even structural analysis cannot be detached from ideological baggage.

7.1.1 The Game Structure

In explaining the structure of video games in play, Adams (2010) claims that the *gameplay modes* and *shell menus* as well as the relationships among them together constitute the game. Specifically, Adams states that a gameplay mode "consists of the particular subset of a game's total gameplay that is available at any one time in the game, plus the user interface that presents that subset of the gameplay to the player" (40). A shell menu is a "menu of options implemented by game software outside the game world" and "chiefly used for loading and saving games and customizing the user interface" (647). During play, a game goes through a series of gameplay mode changes since a game can be in only one mode at a time. The trigger of the changes can be either one to the gameplay, or one to the user interface that consists of the camera model and the interaction model. Although we can break down a game segment, which can be as short as a few minutes, into several gameplay modes (e.g. Adams identifies six modes within a 45 second play of an American football game), for the purpose of narrative analysis, we are more concerned about the high-level composition. Thus, if we collapse the segments that display a similar high-level pattern of gameplay mode changes, we get the game structure of *Assassin's Creed* shown in Figure 7.1.

In detail, the game of *Assassin's Creed* is made up by seven segments, or "memory blocks." The pattern of gameplay mode changes during play can only be shown in a temporal sequence. While low-level gameplay mode changes can happen in very short frames (sometimes on a second-by-second basis), on a high level, the changes can be generalized in the way shown in the diagram. In each of the Memory Blocks, except for the first and last, the player character needs to go through a cycle of four major gameplay modes: investigation, get to the place, assassination, and escape and briefing. Within each cycle, the player is expected to assassinate one target. In some Memory Blocks, there could be

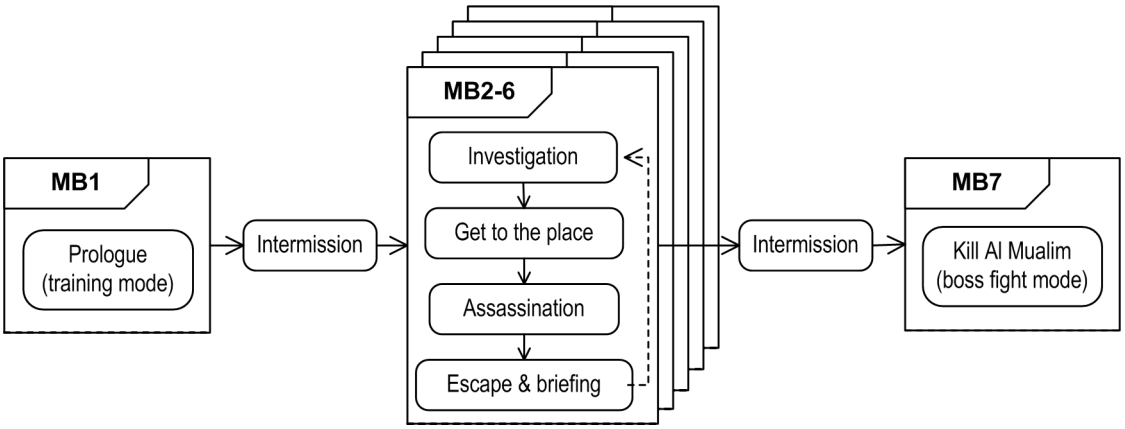

Figure 7.1: Game structure of *Assassin's Creed*.

more than one cycle. For example, Memory Block 3 and 5 each has two cycles, whereas 4 contains 3 cycles. From the diagram we can see an obvious repetitive pattern of gameplay mode changes existing in the middle five Memory Blocks. This repetitive pattern in turn makes the game structure repetitive, too. It bores players to some degree and thus creates a negative impact on the gameplay experience. In the following analysis of *Assassin's Creed,* I will shift the focus onto the structures of the game from a narrative point of view and observe in detail how the player's experience is affected by the structures. I will approach the game from the narrative layer closest to players — the text, and then move on to the plot; following this, I will observe how time and space function in structuring the narrative.

7.1.2 Forms of Narrative Content

The narrative content of *Assassin's Creed* is presented by the game text in a number of forms.

- **Action sequences** are the main form used to present narrative content. They are mainly constructed by player actions including moving, fighting and other interactions such as pickpocketing, with necessary pre-rendered mini sequences interpolated for the purposes of presenting conversations and cinematic effects.

- **Cut-scenes** take the second position in the narrative composition in terms of the volume (or duration), which are those long pre-rendered sequences presented without the need for player intervention. As in other games, cut-scenes present backstory, information, as well as instructions. For example, Altair's briefing sessions with Al Mualim are the main points for revealing the story; his conversations with the Bureau

officer in each city are meant to get crucial information on the target of assassination. Conversations happening in these cut-scenes often embed mini stories about other characters. This vertical embedding at a micro level is another way to organize narrative information.

- **Voice-over and on-screen text instructions** inform players of gameplay techniques and status. Voice-over instructions are used while the game is in its loading mode and serve as an efficient pastime for players. On-screen text instructions are prompted at certain points to tell players what to do. Who speaks or writes those instructions is unknown.

- **The map menu** includes city maps, a health indicator and hints on what next task is.

- **The database in the memory pause menu** allows the player to view a text summary of the content of each Memory Strand, which stands for a task, mandatory or optional, within a Memory Block. From the memory log, players can access the information collected through completed investigation, e.g., content of a stolen letter. This database subtly expresses the main theme of the game plot by conflating the double notion of database. On the layer of game plot, this database is Desmond's memory storage. On the layer of game text, this database is an index of narrative content that players can access in a non-linear fashion, which is in line with Manovich's (2001) idea of "database narrative" that serves as one structure of interactive narrative.

- **The Animus Control Panel** is another menu showing all memory blocks with strands, which are initially marked by long dumbbell-shaped lines in transparent color. Once a strand is completed, the line will be shown in solid white. From the color players can see what they have accomplished. During a replay, players can choose to access a filled one to redo the task, instead of having to replay the whole Memory Block. The three menus provide links to one another.

The design and distribution of different forms of narrative content are both targeted at a fluid gaming and narrative experience for the player. Most of the story disclosure is done orally so that players do not need to stop and read busy texts on screen. In the meanwhile, by packing other story details into the menu, the game still offers the reading option to those story lovers. The fluid design can also be seen elsewhere. In almost all cut-scenes, the player can either walk about, or switch camera angle, or both, instead of passively waiting. Voice-over during the game's loading time effectively occupies the player's attention; despite

Altair standing in an empty background, he can still walk around and even practice his fighting moves.

Under the fluid design, non-narrative content is minimized in this game. As we can see, most of the content on the menus can be seen as part of the game narrative. Since memory is the theme holding everything together, one can always argue accessing the menu info is accessing Desmond's memory. Moreover, while the game is busy loading, Altair is standing in the "memory corridor" receiving voice-over instructions. Nevertheless, inevitably there is still non-narrative content, such as the game setting options on the menu.

7.1.3 Modal Embedding: Double Reality

At the global level, *Assassin's Creed* clearly demonstrates a structure of modal embedding. The key to identifying modal embedding is the shift of the *reality* or *storyworld*. In the game, the player character experiences a double reality within two storyworlds: one as Desmond in the present day, the other as Altair in 1191 AD in the background of the Third Crusade. Desmond is kidnapped and taken to the Abstergo Laboratory as a subject of an experiment for the purpose of retrieving a piece of memory about his ancestor, Altair. When put onto the experimental bed, a device called Animus, Desmond enters the ancient world and relives the life of Altair. From the pause menu, which is also the Animus' interface, players can always jump back to the lab from the ancient world, which means that we can consider the modern-day narrative as the framing narrative. In this sense, Altair's story seems to be vertically embedded within Desmond's story. Yet we do not go into and out of Altair's story just once. During a typical operation where players follow the game's prearranged flow, the plot progression oscillates between the two storyworlds, with Animus being the interface, or gateway, for Desmond to traverse back and forth. The embedding structure is illustrated in Figure 7.2.

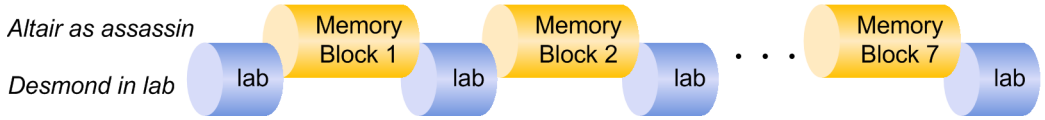

Figure 7.2: Modal embedding structure of *Assassin's Creed*.

The game's double setting, though seeming odd, can arguably make the story more appealing. If we, as players, were thrown into the role of Altair wandering around the Holy Land during the high Middle Ages, we might hardly be able to suspend our disbelief against the fact that we are an ancient assassin. The vertical-modal embedding structure

has several other functions. The double structure complicates the plot to a certain extent by providing two lines of narrative. Like in classical Hollywood films, two plotlines help create suspense: when one line is developing, the other line must be suspended as each line has its own goal, obstacles and climax. This gives the game plot the flexibility to accommodate future developments in sequels. In fact, *Assassin's Creed* was planned out as the first game of a trilogy. The second instalment was released in 2009 and features the same double plotline structure, with the ancient line replaced with new character and setting. By keeping the modern-day plot line and Desmond the main character, the sequel manages to retain familiarity of story for the returning players, while introducing the new main character, Ezio, with a new set of traits as well as a new storyworld. Both instalments end with the player left with a cliffhanger in the modern-day plot line after climaxing in the ancient-world plot line. Hence, we would not be surprised to see a similar structure and a resolution for Desmond in the third instalment, which is yet to come.

The double plotline also mixes the seemingly opposing historical and sci-fi genres in an organic way, which can potentially attract a wider range of players. Thematically, the double setting also helps explain accidental deaths due to a failed combat. Many games try to address the "die and revive" problem with different sense-making solutions. In *Assassin's Creed,* player-controlled Altair will not die for real: when he is killed in the ancient storyworld, the memory of Desmond is simply desynchronized and consequently he gets to "relive" the memory, which means players get to replay the failed task.

7.1.4 Structure for Narrative Interaction

Now let us take a look at the feature that differentiates the game narrative from that of a non-interactive narrative — the interactive structure. There are some places that the player can choose what to do first and after. For example, the player can finish Memory Block 3 in two different orders and Memory Block 4 in six different orders. This makes the game a variation of the foldback structure, except that the events in each possible play (i.e. plot instance) are still the same — the only change is the order. This seeming non-linearity on the macro level is superficial and the order chosen by players does not really have an impact on the plot progression. On the micro level, i.e., within an assassination sequence, the non-linearity goes deeper as not only the order but also the tasks can be different.

Figure 7.3 illustrates the structure of an assassination sequence. In each sequence, which can be regarded as a plot unit, which I will discuss in the next section, the player is introduced to a new character (i.e., the target) and a new location (i.e., a district of a

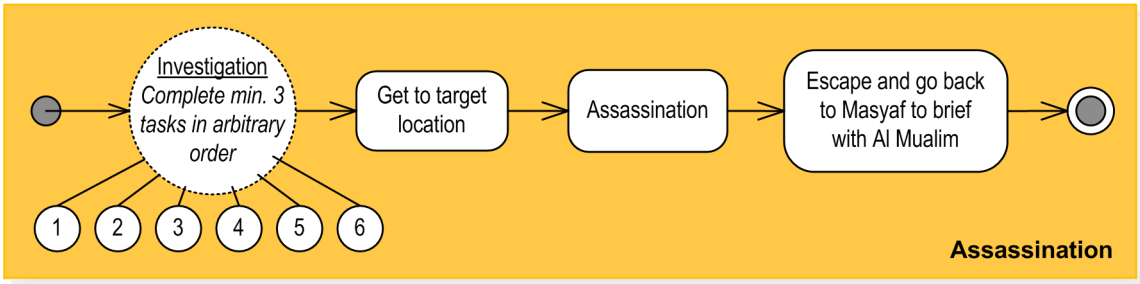

Figure 7.3: An assassination sequence in *Assassin's Creed*.

city that has not been visited). As we can see from the diagram, the sequence consists of four steps following a fixed order in between. The first step is the most distinct one and the complicating and development phase in the plot, within which players get certain freedom to pick at least three *investigation tasks* (out of six) which they want to do and to do them in any order they want.[34] The game starts with three types of investigation tasks: "eavesdropping," "pickpocketing," and "interrogation." Later it adds "talking to informants" as the fourth investigation task. In addition, there are two *side tasks*: "scaling the viewpoints" and "saving citizens." The former side task can help reveal the map of the area as well as potential investigation tasks marked on it and the latter increases Altair's reputation so that in later fights there will be vigilantes helping him out. Nevertheless, apart from the game's operational logic that the final assassination task can only be unlocked after three investigations are done, what Altair has done has no other obvious impact on the overall progression of the plot.

7.1.5 The Plot Structure

A plot can be structured based on varied principles. In most cases, it is constructed by a series of events that follows a temporal order or causal logic. Before uncovering the principle of plot construction in use, we need to find a way to segment the plot in order to reveal the structure. Because narrative experience is only part of the overall gaming experience, designers need to coordinate the narrative content with the gameplay modes. Hence, in segmenting a game plot, we cannot avoid looking at how gameplay itself is segmented, which is oftentimes based on game levels.[35]

[34]The exception is Memory Block 2's assassination of Tamir. Since this is the first assassination sequence, it is relatively easier in that players only need to pick a minimum of two, instead of three, tasks for investigation. Three is required for all the rest of the assassination sequences.

[35]Adams (2010) says that a level "ordinarily refers to a portion of a video game, usually with its own victory condition, that the player must complete before moving on to the next portion. Levels are often, but not always,

Among the three plot types I introduced in Chapter 6, *Assassin's Creed* is not quite any one of them but close to the epic plot, featuring a solitary hero pursuing quests. However, it lacks the important stages that characterize the hero's motivation and push a typical epic plot forward. There is no accumulation in the construction of Altair; instead, the plot throws him right into action. The entire game is artificially broken into seven memory blocks. The goal of the player is to carry out nine assassinations before reaching the climax. Each assassination takes place in a different location and in a continuous sequence, which makes it seem more like a game level than a memory block does. Like classical narratives, the plot of *Assassin's Creed* organizes its story (fabula) events in a chronological order, which can be illustrated in the event flow in Figure 7.5. The nine assassination sequences are the main plot segments. Within each of these sequences, the plot progresses as a mini arc roughly made up of a complicating action and development, i.e. investigations and getting to the target location, and climax, i.e. assassination and escape (see Figure 7.3). These mini arcs helps increase the complexity of the plot, if subdividing the Freytag's triangle. Mark Stephen Meadows' (2003) illustrates a subdivided triangle for complicated plots, shaped like Figure 7.4. At the global level of *Assassin's Creed*, however, other than the first and last Memory Block that can be regarded as the setup and the climax, the middle five blocks containing nine assassinations seem to be dramatically flat (see Figure 7.6).

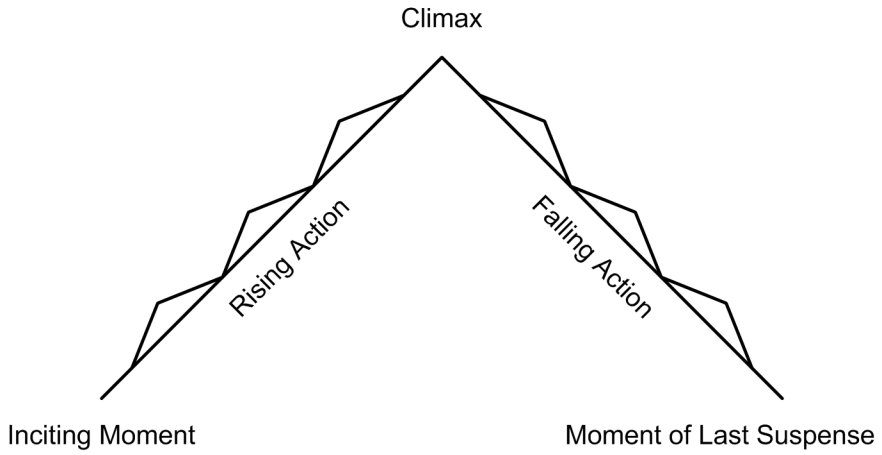

Figure 7.4: A subdivided Freytag's triangle with multiple plots (illustrated after Meadows).

In describing tools for creating dramatic game dynamics, LeBlanc points out that "[a]ll drama originates from conflict" and dramatic tension emerges from the conflict (2006, 444).

completed in a prescribed sequence. In storytelling terms, levels may be thought of as chapters; in war games, they are missions; in fighting games, they are individual bouts; in simulations, they are scenarios. Used with a qualifier, however, the word may take on a different meaning." (642)

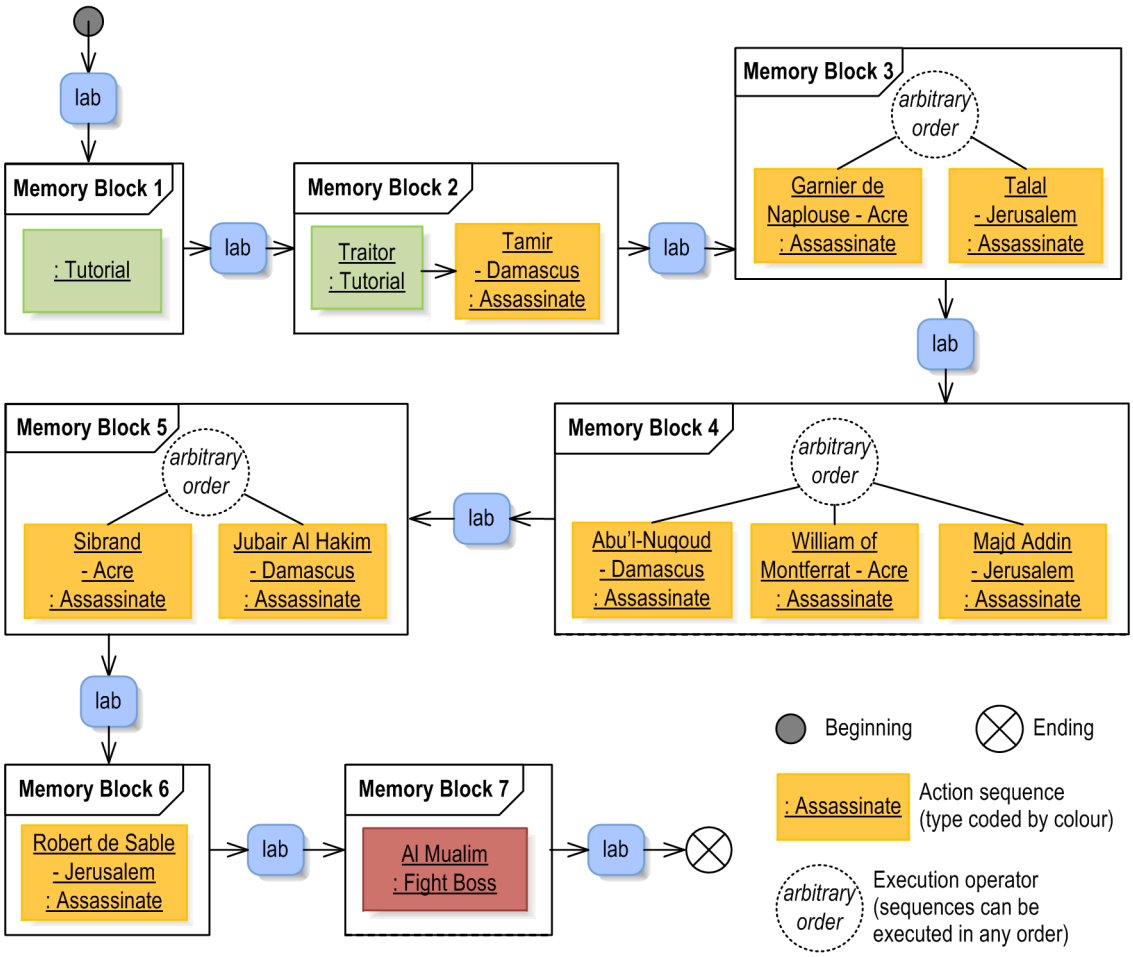

Figure 7.5: Plot of *Assassin's Creed*.

In narrative, the conflict is created by the dynamics between the pushing force (e.g., hero's quest) and delaying force (e.g., suspense). In gameplay, the conflict comes from the contest in the game (LeBlanc 2006). In *Assassin's Creed,* revealing Al Mualim's conspiracy bit by bit through the targets' last words does not help much in building up the arc because none of them intensify the conflict or change Altair's original plan. The climactic action (the red block in Figure 7.5) is virtually *added* to the plan. On the other hand, the gameplay does get more difficult as levels go by, but not to an extent great enough to push the players' emotional level higher. On the contrary, players tend to feel they are repeating the same thing over and over. This can be seen in the plot diagram, which has many orange blocks that represent the assassination sequences with same pattern of gameplay. Thanks to the cliffhanger mentioned previously, the game lacks a proper closure to round up the climax; after Altair wins the last fight, the plot turns back to Desmond, abandoned and trapped in

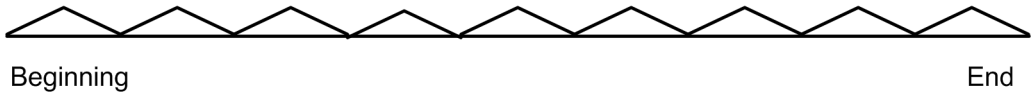

Figure 7.6: The plot arc of *Assassin's Creed*.

the lab without a single clue.

In summary, the plot of *Assassins Creed* is constructed by a series of events in chronological order. Though the plot fails to form a clear arc at the macro level due to the repetitive structure of the middle five memory blocks, it is better structured at the micro level. Each assassination sequence follows a consistent arc for both plot and game progression. The dramatic tension is built up through a development phase during investigation and reaches a peak in the assassination action (see Figure 7.3). The designers might have tried to create a sense of rhythm artificially by segmenting the game into seven sections, i.e., memory blocks. While the difficulty level goes up, the length of the memory block gets longer and peaks at Memory Block 4 and then gets shorter again, creating a perfect symmetry among the seven blocks. Nevertheless, being self-contained and relatively independent of each other, the assassination sequences are the actual game levels in a strict sense. The artificial grouping of nine assassination missions into seven blocks changes the pacing of the gameplay, but it does not help build the dramatic arc as discussed above.

7.1.6 Temporal Analysis

While describing the interactive structure, I have already touched upon some of the temporal aspects such as the different order of events in different plays (i.e., plot instances). In the framework that I described in previous chapters, temporal analysis is grounded in the relation between plot and story in order to observe how plot fashions story events. Time in *Assassin's Creed* is generally straightforward; hence, the plot time and the story time are mostly consistent. However, the double plotlines created via embedding can complicate the comprehension of time on occasion. I will describe the details below.

7.1.6.1 Order

At the highest level, the order of *Assassin's Creed's* plot takes the form of a *zigzag* in between the two plotlines.[36] Within both plotlines, events follow the chronological order except

[36]In discussing varied ordering principles for interactive narrative, Montfort defines *zigzag* as: "Events or temporal sections from period 1 (the "now") are interleaved with those from period 2 (the "once" as they are

that within each memory block there is polychrony. As mentioned before, the order from memory block 1 to 7 is fixed but the order of assassinations within one block can vary. Moreover, the order and the number of tasks to do within one assassination sequence are determined by the player, too. Figure 7.7 shows the variations of order at two levels. The nodes with a dotted frame are those segments containing events happening in a non-predetermined order. For example, in Memory Block 5, the player can choose where to go first, Acre or Damascus. Within Acre and Damascus, things can be done in different order, too. The diagram only shows the details of Damascus: the sequence follows four stages marked by four nodes from left to right. In the first stage, which is the investigation, the player can pick a minimum number of three investigation tasks to do, in any order. After this, the sequence is linear following the remaining three stages: get to the location, assassination, and escape back to Al Mualim. Note that this diagram is a variation of the diagrams in Figure 7.5 and Figure 7.3, but focuses on order.

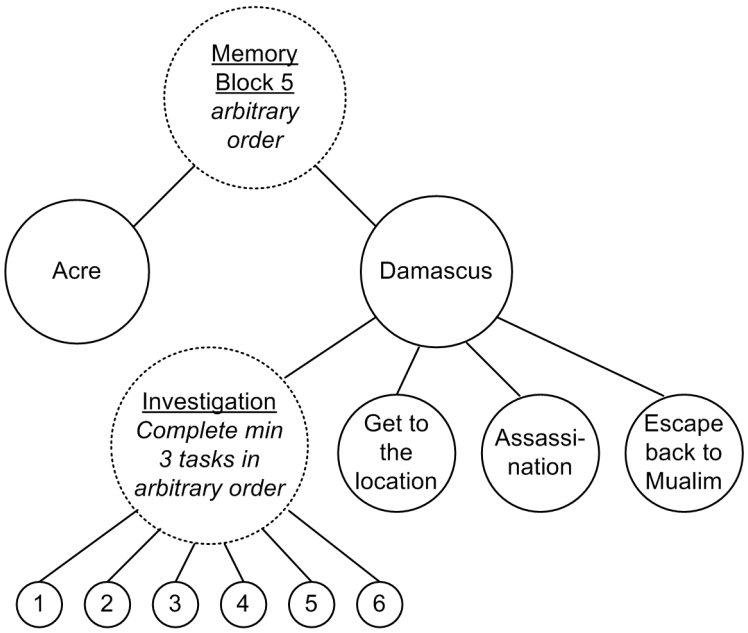

Figure 7.7: Order in *Assassin's Creed*.

In the moment-by-moment operation of the game, flashbacks (retroversion) appear here and there, mainly in the dialogues in cut-scenes but flash-forwards (anticipation) seem to be non-existent. The most prominent example is the eavesdropping activities. Altair needs to sit on a bench nearby and overhear the conversation between two NPCs in order to get

narrated in order" (2007, 89). In our case, the "now" period is actually the "future" period since lab events happen in 2012, but this does not make our perception of time any different.

clues about the situation. In one of the eavesdroppings in Memory Block 2, for instance, two assassins are talking about a man named Masun who had let the Templars into the town; he exchanges letters with someone from the fortress and the letters are carried by the basket weaver. This information immediately tells Altair that the letter is important and he needs to find the basket weaver, which leads to the next pickpocketing task. This is a typical short-duration flashback, lasting a few minutes, that is embedded in the game text. The main function is to provide information and hints for the player.

7.1.6.2 Duration and Speed

In the game, the duration of an event in plot corresponds to the operation duration of that event; of course, the latter is designed to be shorter as usual to make the play more efficient. What makes the game's timeline somewhat complex is the double setting of the narrative. The entire series of events in the ancient time span roughly two months, from July (just after the Crusader victory in the siege of Acre) to early September (right before the battle of Arsuf); however, the events in the modern days span over 7 days, with each memory block done in one day. To illustrate the situation, I drew a segment of the game in Figure 7.8. In the operation of the game, players play through seven sessions, with intermissions in between. One session will typically need 1 to 3 hours of play. The corresponding session in the plot lasts almost a whole day for Desmond, since, at the end of each Animus session, he is always going to bed and then wakes up the next morning continuing with the next Animus session. When on Animus, Desmond enters the ancient world and acts as Altair carrying on assassination missions. He finishes different amounts of the mission on each day on Animus; hence, in the ancient world, his series of actions and events can range from several hours to several days, without a clear indication of the timeline.

In terms of speed, in the normal state, the game operates in a *scene* tempo, in which players feel things happen at the same speed as in real world, i.e., the storyworld. Players can use the game controller to speed up Altair's walking and running pace, just as they would in the real world. *Ellipsis* is mostly used to eliminate the time the player character spends on moving long distance and resting. For example, after finishing an assassination mission, Altair will take a nap at the Assassin's Bureau: when he walks out of the room, there is a direct cut to the next scene showing him standing up and looking recharged. This use of ellipsis is mainly for players' convenience — assassins do need rest, but the player does not need to wait. The dominant use of scene and minimal use of ellipsis are a result of the trademark fluid design of *Assassin's Creed*. To my knowledge, the other tempi, including

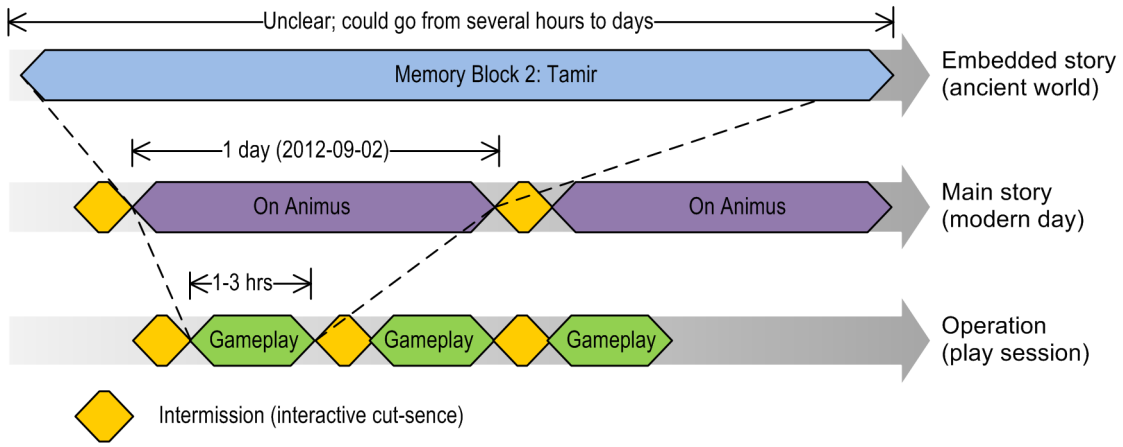

Figure 7.8: Narrative duration in *Assassin's Creed*.

summary and *stretch*, are rarely seen. *Pause* is not embedded within the storytelling, but can be reached using the menu control. Players can pause by switching to the menu screen in order to review the game state and game world, or to put the game on standby while they do other things. Pause will also happen when the game is loading. During this type of pause, the screen will display Altair standing in a "memory corridor" waiting, sometimes accompanied with voice-over instructions.

7.1.6.3 Frequency

The story events of *Assassin's Creed* tend to be presented *singularly*. However, repetitions — single event being presented multiple times — are not rare. The first type of repetition is typical in games; namely, repetition after the death of the player character. When the player character dies due to a failed fight, the fight will be replayed so the player can repeat until successful. Another form of repetition is related to NPC behaviour in the game. Those NPCs who are bound to a specific location — i.e. characters without mobility — tend to repeat what they do and say. Whenever the player character gets close to a "save citizen" venue, where several guards are troubling a citizen, a soundscape of their conversation will be played. If the player character leaves the venue and comes back later, he hears the same conversation. This repetition will only stop after the player character saves the citizen by killing those guards. This second type of repetition reflects poor design for the stationary characters. This weakness is shared by many games, decreasing realism and undermining Murray's (1997) aesthetic of "immersion" provided by interactive narrative. In fact, none of the above uses of repetition adds to the quality of the game's storytelling.

Repetitions exist not only in the game at a local level, as mentioned above, but also at a global level. Repetition is seen in replays of the game. Once a memory block is completed, it becomes replayable. Thanks to the game's capacity of narrative variation, one play of a particular sequence can be different from another in terms of the selection of activities to do and the order of doing them.

7.1.6.4 Narrative Variation

I have mentioned above that within the same memory block, players can select different tasks and follow a different sequential order during each replay. The ability to accommodate the player-chosen order is an important temporal design feature. In Murray's aesthetic framework, this transformative capacity of the game's design increases a player's sense of agency (1997): Players sense the impact their choices have on the narrative variation and the subsequent development of deeper meaning.

Let us take a look at how variation can be created within one assassination sequence following the narrative logic. Here I use the Damascus Poor District as the example. As a general rule in *Assassin's Creed,* before the player visits a new subspace, that area on the menu map remains concealed (i.e. black) until the player climbs to the top of a tower and "scans" the area from the vantage point. This scan, or "scaling the viewpoint," is generally the first thing to do in a space. After the scaling, the corresponding area is revealed on the map and the player can then become active in that area. In this level, the main objective is to assassinate the black market merchant Tamir. Before entering Damascus, the player character has to save a citizen close to the city gate. After the entrance, another "mandatory" task before the assassination is to gather information from the leader of Damascus Assassins at the Assassin's Bureau. The player character will then be able to assassinate Tamir after finishing at least two investigation activities (pickpocketing, eavesdropping, or interrogation). After the assassination, he must return to the Bureau for a briefing in order to finish this game level. To summarize, there are only four events sequenced in a fixed order but they are not exactly positioned on the timeline (see green markers in Figure 7.9). The inexact positioning is necessary to make room for player freedom. Figure 7.9 illustrates the sequence of one possible play. Aside from the four mandatory tasks, the order of other tasks is determined by the player.

In my analysis, I tried to use a non-typical way to finish this sequence to see its logical impact on the narrative.[37] My trial reveals that the design of *Assassin's Creed* is successful

[37]In all versions of the game's walkthrough, it is suggested that players visit the Bureau first in order to get

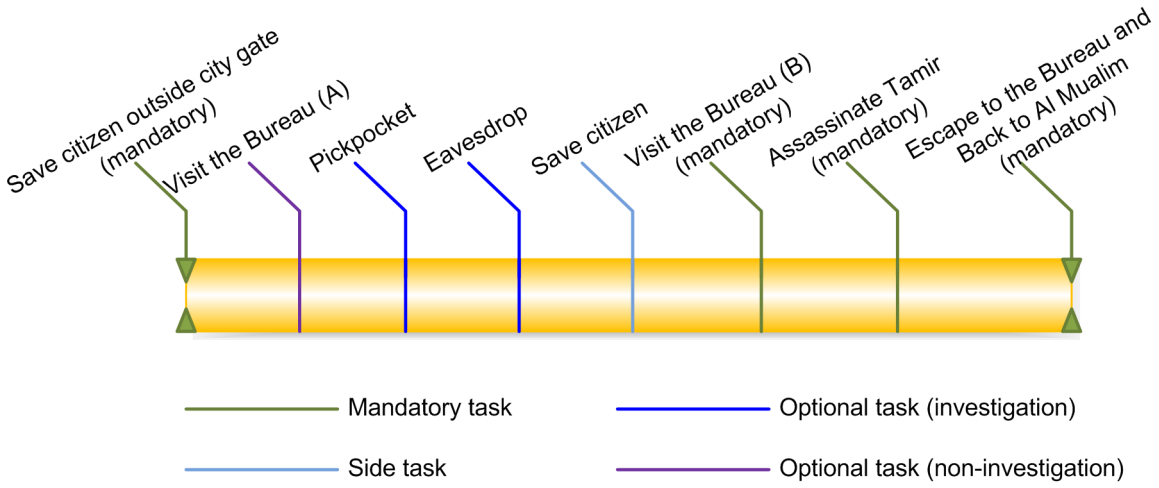

Figure 7.9: Damascus Poor District operational timeline: Sequence A.

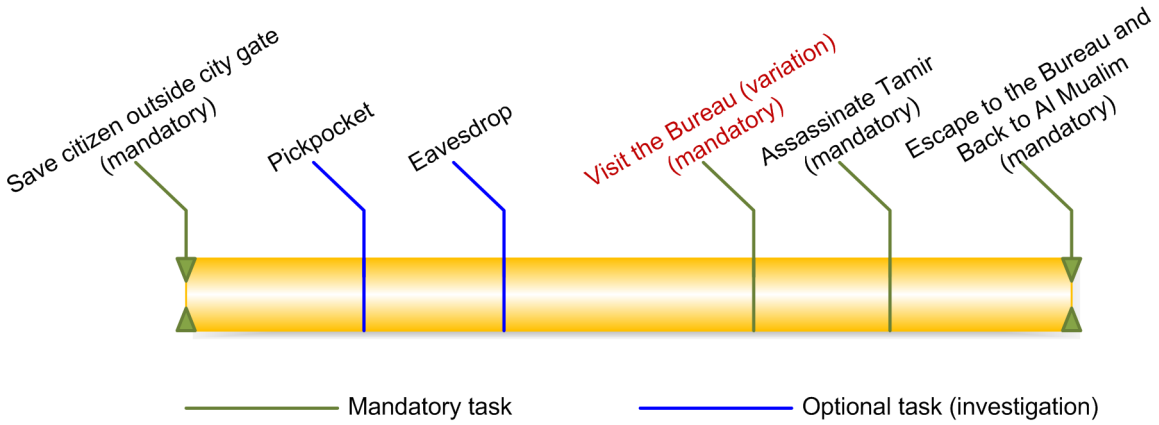

Figure 7.10: Damascus Poor District operational timeline: Sequence B.

in creating variations corresponding to alternative play at the local level. The local logic, as shown in conversations, is altered based on the order and tasks players do. The sequence is shown in Figure 7.10, which I call Sequence B, to distinguish from the typical Sequence A in Figure 7.9. This time I did an eavesdropping and the pickpocketing before seeing the Bureau leader. In Sequence A (Figure 7.9), during the first visit, the Bureau leader reveals some information on Tamir and suggests a number of locations in the Souk area where Altair can begin his investigation; during the second visit, he praises Altair's capability and gives permission (i.e. gives the feather marker) to Altair to assassinate Tamir. In Sequence B, since both investigations have already revealed much information about Tamir, the conversation combines the two dialogues in Sequence A and alters to accommodate

some information about the locations of investigation tasks.

what Altair has done in this sequence.

By giving players greater control over the ordering and selection of their activities, the interactivity of the game narrative is considerably enhanced. One can easily raise a question here: does the random ordering affect the narrative logic beyond the micro level? I performed multiple plays and concluded that the plot progression was not influenced by different orders and tasks I chose. At the macro level, even when the player can alter the order of assassinating different targets within one Memory Block, there is no narrative impact observed. The limitation of narrative variations to a micro level, unfortunately, undermines the transformation power of the game as an interactive narrative.

7.1.7 Spatial Analysis

Assassin's Creed is an open world, or sandbox, game, where the design strives to maximize players' freedom within the game space. The gameworld was modelled after the geography of the actual middle-east cities around the Holy Land in the 12th century. The architectural design and visual details are based on historical documents and thus look very realistic. Spatial design and visual quality is the one prominent feature of the game that is acclaimed by almost all reviews. Below is a closer look at the space in this game from three views: topographical, operational and presentational.

7.1.7.1 Topographical View

The top-level map of Altair's activity range consists of three cities — Damascus, Acre and Jerusalem and a town, Masyaf, with the open area Kingdom in the middle as the hub. To go from any city to another, Altair has to take a road passing through Kingdom. This topographical structure is obviously a hub-and-spoke layout (see Figure 7.11). Using this layout for *Assassin's Creed* seems a natural choice since it is a structure capable of containing four cities in the open world that are linked organically. Among the four places, Masyaf is the assassins' base fortress. The other three cities are the places Altair carries out his missions. Each city contains three districts: the poor, the middle, and the rich. The nine targets are evenly distributed into the total nine districts. In this way, the designers force the player to pay an equal number of visits to the major places in the game. The benefit of the hub-and-spoke structure is to balance the travel distances; however, this benefit is undermined by the designer's choice to use Masyaf not as the hub but as one end of a spoke. I will come back to this discussion in the next subsection.

The topography layout is different at the local level. Since *Assassin's Creed* emphasizes

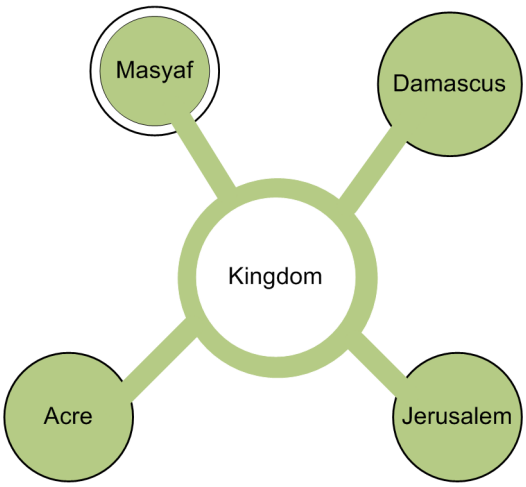

Figure 7.11: A high-level topographical view of *Assassin's Creed*'s space.

a realistic setting for players to explore, the maps of the cities were made after the real setting of those populated, historical cities, with mosques, markets, alleys, and various types of courtyards. Locations are very well connected, which means more than one path can lead one from one location to another. Thus we can consider within the city, the space is a *network* layout, with a clear boundary for the districts and an evenly distributed density across the area.

Spatial opposition is used to help players identify the four places. The town Masyaf is located on a mountain area and scattered with sparse village structures,[38] whereas the three cities are populated with larger-scaled structures, dense market places, as well as more people. Among the three cities, varied color themes are applied to highlight the characteristics of each place.[39] The tone of Damascus is warm, yellowish, and dusty, reflecting the dry climate of the city; Acre is in a blue tone, reminding us of its seafront location; Jerusalem is in a greenish tone, implying more humid weather. This realistic delineation of the storyworld affects players' emotion in a subtle way. As Seif El-Nasr et al. (2008a) suggest, players tend to feel positive and perform better in a setting with warm illumination than in one with cool illumination.

[38]In the CGSociety's interview with Ubisoft concept team, Raphael Lacoste, the Art Director of Assassin's Creed, said about Masyaf: "As much as possible, we got rid of the flat ground and created a dynamic landscape with sloping, high architecture suspended or rocks The idea was also to create interesting contrasts in the immersions and feelings." (http://features.cgsociety.org/story_custom.php?story_id=4292)

[39]In the same interview, David Levy, the Lead Concept Artist, said: "Using color themes was a great way to create a hierarchy between the various levels the player would visit, but also to decide on the visual balance between characters and environments."

As I mentioned earlier in chapter 4, spatial oppositions can create conventions for narrative and gameplay. Let us take a look at the map of Masyaf town (Figure 7.12) in *Assassin's Creed*. The upper part represents the mountain fortress and the lower part the village. Aside from being geographically separated, these two spaces also contrast with respect to population and infrastructure density. Naturally, in the village players will raise their alert level when surrounded by villagers as well as soldiers. In contrast, the mountain fortress serves as a *home region* where the player just gets instructions and training. The passage between the mountain fortress and the village is the *transitory place,* i.e, the gateway, for the player avatar to step into the other part of the game world, either reporting to his master or going to carry out his missions. On this passage, the player often gets instructions from a NPC. It is worth noting that this type of opposition is reused in *Assassin's Creed II*, between the Monteriggioni villa, serving as the home region, and other cities, although on a much larger geographical scale.

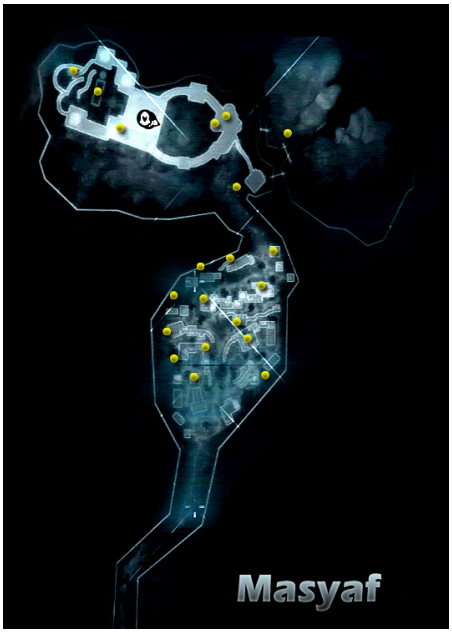

Figure 7.12: Masyaf town in *Assassin's Creed*. (Source: Ubisoft, 2007. Image from IGN.com, by permission)

Another use of spatial opposition is the design of a *vertical space.* In the three cities, Altair can climb up and jump around rooftops to get to places. The rooftop level is open and relatively safe since it is lightly guarded compared with the ground level. The rooftop-level space thus facilitates stealth in the gameplay. In the ground-level space, on the other hand, players need to be careful about their actions as there are more guards and civilians

around them. Players thus can take advantage of this opposition-based spatial convention to adjust their own pacing and actions. The two-level vertical structure offers the possibility for the player to take shortcuts by jumping around between roofs, which makes parkour one of the game's most distinct gameplay features.[40]

The network layout within each level (i.e., a city) and the two-level vertical design directly impose its pattern onto the game space's operational structure by shaping the navigation pattern: the former makes possible non-linear play by offering multiple options for navigation routes, while the latter gives players control of the pacing and level of exposure.

7.1.7.2 Operational View

Since *Assassin's Creed's* topographical space is in a hub-and-spoke layout, it is a structure balanced in the distances between places and lacks axes on the overall map. I have mentioned earlier that there is negative impact from placing Masyaf, the assassin's "eagle nest," at the end of one spoke instead of at the hub. This impact will only be seen during the dynamic game operation. If we refer to the plot structure diagrams (Figure 7.5 and Figure 7.3), we can see Altair needs to do a lot of back and forth travel on the path between Masyaf and Kingdom, much more than on other paths (see Figure 7.13). This repetition is partially relieved by the added menu selection that sometimes allows the player to select the destination and be teleported to the gateway to a city, but it remains a problem for many parts of the game.

In this game, the player character's quests, i.e., plot events, are bound to locations at both global and local levels (see Figure 7.13 and Figure 7.14). Since there is no axis in the spatial layout that centralizes actions and happenings, players have full freedom of navigation without explicit guidance. Figure 7.14 shows an example of the operational structure of a subspace in the game. There are three devices providing subdued directions to players. The first one is the map menu, which players can switch to and lookup the task symbols marked on the map along with text information. However, players need to scale the relevant viewpoint in order to reveal the task symbols on the map.[41] The second

[40]The term parkour is originated from a French physical discipline where participants overcome obstacles and run along a route. The word is used in games nowadays with the general meaning of free running.

[41]This makes one relate to a game design concept called "fog of war," where the focus area is revealed but other areas on the map are covered; examples can be found in strategy game *Civilization* and role-playing game *World of Warcraft*. The viewpoint-scaling endeavour helps players self-orient by giving a sense of which area has been visited and which has not. With the viewpoints being evenly spread out, the player is prevented from getting lost in a labyrinth-like space and from neglecting a new area that potentially has a mandatory task to do.

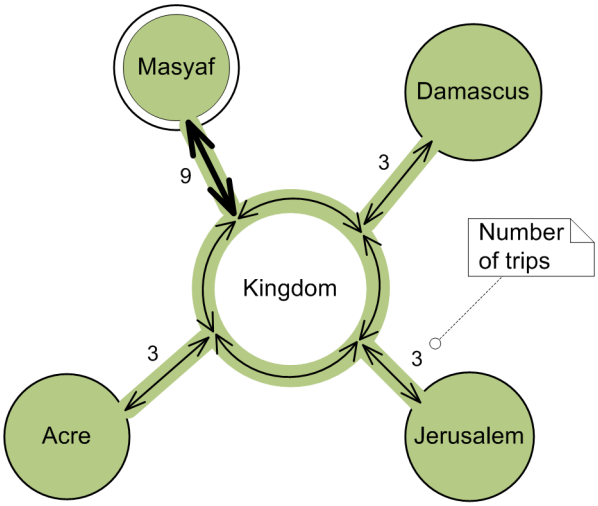

Figure 7.13: A high-level operational view of *Assassin's Creed*'s space with travel paths.

is the Bureau leader who offers information through dialogues. The on-screen GPS mini-map always shows the location of the Bureau office. The third is the dynamic on-screen text prompt, which will appear when Altair is nearby a task location. Both the first and second devices belong to the layer of presentational space but are used to facilitate the game operation. All the information is about locations of the tasks, which are evenly scattered around the city district. A player who closely follows map hints and always chooses tasks based on proximity will push the plot more quickly than a player who likes to explore the environment and completes tasks in a random way. The topographical and operational structures together determine the role that space plays in establishing the rhythm of the plot progression. In a network layout where minimum guidance is given, the rhythm of the plot is largely dependent on players themselves.

When events are bound to locations, it means most characters are "immobile". In fact, Altair is the only character who can move between places. Most characters are bound to one location, with two exceptions that are vigilantes and scholars. Vigilantes seem to appear wherever the protagonist is in trouble, providing he is in good credit (gained by saving citizens). Scholars cruise the city following a fixed route, where Altair can blend into them at any time and stay stealth. The immobility of characters and associated actions could potentially make the game dull and lead to poor replayability because after the first time visiting a place, the player will see exactly the same characters and actions during a revisit until the characters are killed or the associated actions are taken, as we have discussed earlier in temporal analysis.

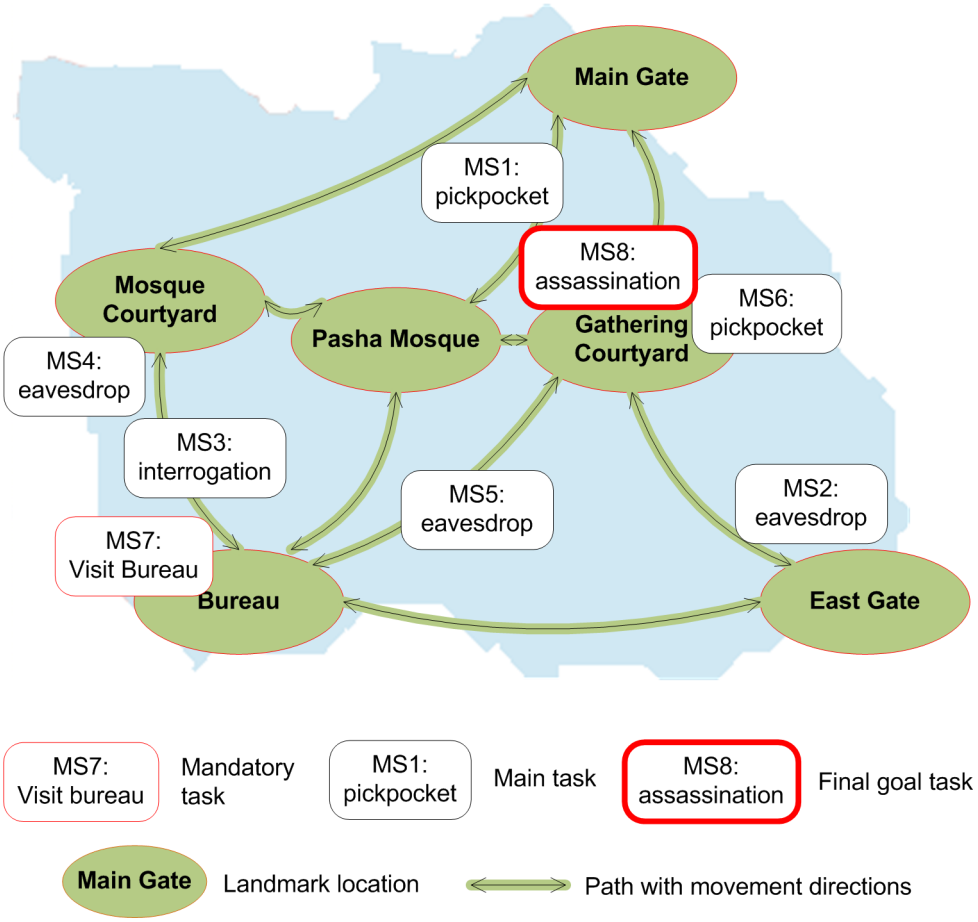

Figure 7.14: Damascus Poor District: a low-level operational view.

However, the large and richly designed space makes up for this weakness in several ways. First, by performing a more-than-required number of tasks, the player can choose to do different things or visit different places for each play. Second, the rich and beautifully rendered environment entices the player to explore and discover new scenery. Third, the network layout provides a number of paths between any two locations, which makes the navigation more interesting and less repetitive. The space of *Assassin's Creed* functions not only as a frame of actions, but also as a thematized object that players can interact with. This aspect of the functionality of space is addressed by the presentational structure.

7.1.7.3 Presentational View

The presentational structure of a game concerns how visual and auditory cues are patterned to present the storyworld dynamically. *Assassin's Creed* is very cinematic in its visual style.

The game uses a typical player-focalizer in the subjective focalization. Having a third-person physical perspective, the player has full control of the camera angles, plus an "eagle vision" that highlights NPCs of interest. On the other hand, the player assumes a first-person psychological perspective for Altair the assassin most of the time. Thanks to the full camera control, the off-screen space and on-screen space together form a fluid 3D storyworld. I have mentioned above that space here is thematized as an object to presentation. Under this design concept, all building structures in the space are climbable for Altair. The environment becomes alive and consequently the storyworld feels as realistic as it can.

The sound design of *Assassin's Creed* is outstanding. The ambient music creates a mood evocative of the ancient middle-eastern culture. As part of the interactive environment, the soundtrack reacts to what the player does in real time. If the player avatar kills a guard, the NPCs around him will scream and shout out their feelings about him. When the player character is exposed to the city guards, an ambient alert alarm will sound; in the meanwhile, the accompanied background music will change into faster rhythm when the player character is chased by the guards. This dynamic design effectively intensifies the player's narrative, emotional, and gameplay experiences.

As previously discussed, plot events are bound to locations. Hence, for the event-driven game plot, each district of a city can be seen as a game level that has its own quest, color scheme and spatial structure. This distinction reinforces the segmentation of game sessions. Employing a "fog of war" strategy, each visit to a city will unlock a district corresponding to the assassination target. Hence, during the first visit, Altair can only move within one district, which is blocked off from the other two districts by two transparent walls. During second visit, he can visit two districts, whereas in the third visit, he can go around entire city. *Within* one district, however, there is no visible segmentation. The space is continuous, which results in a fluid representation. The camera follows the protagonist traversing the space and presents the space accordingly. The fluidity is stressed so much that even in some of the cut-scenes (e.g. at the Bureau and in the lab), the player can keep adjusting his camera view and walking about, while participating in a pre-scripted conversation. On two types of occasions, before and after an assassination occurs, the cut-scenes about the targets are conventionally played as non-interactive film sequences with stylized camera angles. These cut-scenes are the main expositions of the targets providing character traits and their subjective information. There is one covert control added to these cut-scenes; that is, when, periodically, the image on the screen has glitches, players can switch the camera shot to a close-up for a little while by pressing any one of the buttons on the controller.

The screen layout of this game uses overlays to present gaming info on the four corners

Figure 7.15: The play screen and map menu of *Assassin's Creed*. (Source: Ubisoft, 2007. Image from IGN.com, by permission)

of the screen (left in Figure 7.15). At any time, players can switch to an alternative menu screen showing the city map (right in Figure 7.15). The play screen presents the game space. Top left is the health bar and alert level indicator; top right is the movement control reminder, showing the functions of buttons; bottom right lies the mini GPS indicating the direction and distance to the target; bottom left indicates the current selection of the weapon. In the alternative map menu screen, players can set a marker on the map interface, which in turn will show up in the GPS on the play screen. *Assassin's Creed's* interface design creates interesting, somewhat explicit links between the three levels of the space. It provides players a topographical view in the form of a town map. The map screen has marks for the locations of tasks, providing an overall operational view of the space and hints about appropriate movement and navigation. These links are a result of converging design efforts at all three levels: topographical, operational, and presentational.

7.1.8 Summary

In this section I have analyzed the structure of *Assassin's Creed* from four aspects: composition of game text, plot structure, time, and space. Table 7.1 and Table 7.2 are a summary of the techniques detected in the game analysis and their associated effects, both positive and negative (or controversial).

At this point, if we take a look at the following three critiques of Assassin's Creed. The first two reviews are from popular game sites and the third one from an academic journal:

> *Assassin's Creed* will stay with you long after you finish it. Here is one of the most unique gameworlds ever created: beautiful, memorable, and alive... it's a fun and exciting action game with a ton of stuff to do and places to explore,

> rounded out with silky-smooth controls and a complex story that will slowly grab you the more you play. (GameSpot review) (Van Ord 2007)

> *Assassin's Creed* could easily have been one of the best games of 2007. . . But developer Ubisoft Montreal took some missteps along the way and squandered the immense potential of its pseudo-stealth action title. A bad story, repetitive gameplay elements, and poor AI lead to the downfall of one of the more promising games in recent memory. (IGN review) (Goldstein 2007)

> *Assassin's Creed* is, paradoxically, both unique and clichéd. The game creates an intensive experience by forcing players to make quick decisions based on the ever-changing reactions of the crowds and the affordances of the environment. In addition, the game features some of the most stunning visuals ever seen in a video game. . . Unfortunately, the game designers opted for a clichéd plot and an overly rigid structure that overshadows many of these attractions. (Hung 2008)

A cross-reference lookup at Table 7.1 and Table 7.2 can provide some explanation for both the acclaim and criticism the game has received. A glance at the different aspects tells us that the strength of the game lies in the spatial design, which is strongly praised by game critics. Another glance at the macro/micro level column tells us that the micro design of the game is stronger than the macro design. Since macro design is about the structure, we can infer that the game does have some high-level structural problems that are mainly related to plot structure. In other words, while *Assassin's Creed* succeeds in its low-level design of the gameworld and unique gameplay modes (e.g., climbing building, social stealth, etc.), its plot structure is repetitive and fails to create a clear dramatic arc. As a result, while the innovative fluid design of gameplay and environment attracts millions of players, the flawed structure becomes the most criticized and regrettable characteristic of the game.

Table 7.1: Summary of narrative techniques used in *Assassin's Creed* (1/2).

Aspects	*Techniques*	*Level*		*Positive*	*Negative/Controversial*	*Cure*
		Macro	*Micro*			
Text composition	Modal embedding	✓		Creating story depth; Getting ready for sequels by retaining the framing story	Complicating the story by mixing sci-fi and historical action genres	
	Narrative database	✓	✓	Providing access to the index of all tasks within each game level, for review and for replay		
Plot structure	Segmentation by blocks	✓		Adjusting pacing of gameplay; Each block has the same structure of play sequence, which eases the gameplay	Conflict with dramatic arc: narrative tension and gameplay intensity don't peak at the same time; Having same structure for all nine assassination sequences, the gameplay gets tedious later	
	Double plotline	✓		Creating suspension; Getting ready for sequels by retaining one plotline	A disappointing ending because it is difficult to coordinate the dramatic arcs between two lines: while the ancient plotline has gone through an arc, the modern-day plotline hasn't reached any climax at all	
Time	Non-predetermined order	✓	✓	Creating non-linear play; Creating narrative variations	Different orders don't really have an impact on the plot development; Narrative variation only happens at the micro level within a limited range	
	Scene and ellipsis		✓	Conventional design by using the scene tempo most of the time; Using ellipsis to eliminate players' waiting time	Due to the complicated double settings, the duration of events can be unclear especially in the ancient world	Desmond can find clues of time on Lucy's computer

Table 7.2: Summary of narrative techniques used in *Assassin's Creed* (2/2).

Aspects	*Techniques*	*Level*		*Positive*	*Negative/Controversial*	*Cure*
		Macro	*Micro*			
	Repetition	✓	✓	Conventional design of repeating a task when killed; Repetition as a result of replay gives players the choice of playing differently	NPC's behaviour is repetitive	There are some NPCs that display emergent behaviours, such as the vigilantes.
Space	Hub-and-spoke layout	✓		Balanced travel distances between cities; Facilitating non-linear play	The base city Masyaf is not the hub, causing the travel routes unbalanced	Teleporting option
	Network layout		✓	Facilitating non-linear play	Lack of axis making it difficult to recognize space	Creating viewpoints for players to take a bird-eye view of the city; Map menu and on-screen GPS help players comprehend space
	Characters attached to locations		✓		Repetitive scenes; Can act as secondary landmarks	There are some NPCs display emergent behaviours, such as the vigilantes and scholars
	Climbable buildings		✓	Interactive environment making gameplay more interesting; Providing the rooftop level as a second option for players to use the space		
	Gradual revealing of space (fog of war)	✓		Increasing level of difficulty over the time		
	Total camera control		✓	Creating a continuous space; Easing the gameplay; Making cut-scenes less restricted		

At the end of this analysis, I would like to mention how Ubisoft responded to the critiques the game received in the design of the sequel — *Assassin's Creed II,* which was released in November 2009, exactly one year after the release of the first game. It is praised by IGN editors, this time around, as a "sequel that triumphs over the original in every possible way," surprising the fans, pleasantly, within an extremely short period of time (Clayman 2007). Table 7.3 summarizes the most noticeable improvements made in the second game.

From the above simple comparison between the two games, we see the major change is the principle of plot construction. *Assassin's Creed II* adopts a "Hero's Journey" plot, to some extent, and invests a lot of effort developing the protagonist Ezio. Because the characterization spent more time on the "accumulation" of the description, Ezio has more depth than Altair and is easier for players to relate to. Learning to grow up and carry on his father's missions, Ezio transforms over time as the game goes further. This gives players more narrative motivation to move the plot forward. Another noticeable change is that the sequel dropped the low-level non-linearity all at once and went for a linear plot. What is interesting is that this strategy was well received and rarely complained about. The reason may be that the non-linear options offered in the original game did not create noticeable narrative impact and might even have disoriented some players. *Assassin's Creed II* thus focuses on telling a more coherent and compelling linear story with largely enhanced gameplay mechanics and a new economy system that added a lot of fun to the play.

Table 7.3: Major improvement made in the narrative design of *Assassin's Creed II*.

Aspects	*Techniques*	*Assassin's Creed*	*Assassin's Creed II*	*Remarks*
Text composition	Modal embedding	✓	✓	This is the ground structure of the AC trilogy. Using the same framing narrative, each installment features its own embedded storyline while keeping the same main storyline.
	Narrative database	✓	✓	AC II has a more advanced one that contains background info of characters and cities.
Plot structure	Segmentation	By memory blocks, interspersed with lab scenes	By memory sequences; the player character can stay in the ancient world unless incidents happen.	AC II's design makes the gameplay even more fluid. The plot progresses along with Ezio's journey. The total number (over 100) of tasks to do was greatly increased.
	Construction principle	Based on the chronological sequence of events.	Based on the "hero's journey" structure.	"Hero's Journey" plot helps create dramatic arc and better characterization that make the narrative experience more satisfactory.
Time	Non-predetermined order	Creating non-linear play and narrative variations, but there is minimal impact on the plot development	The plot progression is linear. There are no variations.	The non-linear plot didn't strike much among players as it didn't have any impact on the narrative trajectory. In AC II, this feature is dropped for all. However, there are more variations in terms of the ways, rather than the order, of doing things. And the variety of weapons, usable NPCs, and devices is much greater than the original game.
Space	Topographical layout	Hub-and-spoke at global level; network at local level	Network at local level	AC II features a real world open space. Although lacking axes, the in-game instructions are enough to lead players forward.
	Mobile characters	Rare.	New mobile characters: uncle Mario who will fight together with Ezio and Leonardo who moves between cities.	While most NPCs are still attached to locations, there are more types of them that display emergent behaviours, such as the courtesans, thieves, and mercenaries for Ezio to hire to distract enemies. These designs all make the game more dynamic.
	Climbable buildings	✓	✓	In AC II, the climbing is more advanced with some new maneuvers, e.g., swimming.

7.2 Fable II

> Fable II is the true sequel to the wildly successful original that sold more than 3 million copies, offering even more choices and building on the core gameplay theme of "Fable," where a player's every decision continually defines whom they become. "Fable II" is an action role-playing game (RPG) that truly allows players to live the life they choose in an unimaginably open world environment.
> Set 500 years after the original, "Fable II" will provide gamers with an epic story and innovative real-time gameplay, including a massive amount of freedom and choice to explore a vast collection of dungeons, catacombs and caves in the world of Albion.

Fable II is an action role-playing game (RPG), described as above on its official website. It is the sequel to the original *Fable* (2004) that pioneered various ways of offering a wide range of player choices in an interactive gameworld. The game was developed by Lionhead Studios, a subsidiary of Microsoft based in UK, and released only for Xbox platform in October 2008. The game has sold 2.6 million copies as of March 2009[42] and 3.5 million as of March 2010.[43] The game was well received by critics, having an aggregated critic score of 89 out of 100 on Metacritic.com and 88.27% on GameRankings.com. The main features the developer boasts on the official website are:

- Choices and consequences. Expanding on the features of the original *Fable*, the game enables all player choices to have a consequence on the environment. The game also offers an advanced customization feature that allows players to choose their gender, marital status, children, as well as their life styles.
- The richly rendered open world of Albion. The interactive storyworld allows players to explore and roam around. In addition, the world is also evolving with time and changing in response to player choices.
- Easy fights with a wide range of weapon selection.
- A Hero's best friend — the dog, an interactive character that responds to players' actions, guides and protects the player character.
- Co-op mode. The game possesses a new feature that allows players to play in co-op mode so that they can co-explore the world with their friends.

[42] http://xbox360.ign.com/articles/961/961814p1.html, cited by IGN.com according to a post on Fable II community site.

[43] http://www.joystiq.com/2010/03/11/fable-2-sold-3-5-million-copies-lionhead-needs-5-million-for/

The stories of the *Fable* series take place in the fictional ancient land of *Albion*. *Fable II* starts with Hero of Bowerstone, simply called "the Hero" by the voice-over narrator Theresa, in his or her childhood living in poverty with an older sister named Rose. In order to distinguish "the Hero" in this game from the general reference to the hero in a "Hero's Journey" story, I will instead use Sparrow, the Hero's nickname given by Rose, in the rest of the writing. (Before starting the game itself, the player must choose the gender of Sparrow — this remains fixed for the remainder of the game.) With the encouragement of Theresa, a mysterious fortune-teller, Sparrow and Rose manage to buy a magic music box that is supposed to grant wishes. After Rose makes a wish to live in a castle, a few guards take them to the Fairfax Castle to meet Lord Lucien. However, it turns out that Lucien is looking for three specific Heroes. Having discovered that Sparrow and Rose are not any of the three Heroes, Lucien shoots Rose and Sparrow; Rose dies and Sparrow falls out of a window. Sparrow survives the fall and is looked after by Theresa and the Dog. Ten years later, Theresa sends Sparrow to the old Heroes' Guild and lets him or her gain new abilities. She then tells Sparrow that Lucien is rebuilding the Tattered Spire in order to fulfill his evil wish to rule the world. Sparrow then embarks on a journey to recruit three other Heroes so that together they can bring Lucien down.

Fable II inherited its title from *Fable*, an Xbox classic released 4 years prior. The game emphasizes the core of a role-playing game by allowing players to live life in their own way while playing their roles in the storyworld. Player choices have all sorts of perceivable consequences. The choices affect the appearance and reputation of the player character, which in turn determines NPCs' reactions. The choices also cause the changes in the environment. If a player gets rid of all the bandits or make a donation, he or she will see the region become prosperous at a later time. The same logic applies to the protagonist's family. If a player ignores his or her spouse for a long time, he or she may get a divorce notice. In a word, the innovation of the game lies in the wide variety of parameters that reflect player choices and shape the characters and the gameworld. Player choices and actions are loosely strung together by a simple main plot consisting of an overarching quest, but really fleshed out in the numerous side quests. In the following discussion, I will reveal how the game narrative is organized and how this organization can affect player experience.

7.2.1 The Game Structure

In *Fable II*, players are encouraged to engage in a variety of activities as discursive as in real life. This discourages the imposition of a strong structure or pattern onto the gameplay.

The primary gameplay modes are navigating (including collecting treasure) and fighting. The secondary ones are socializing, trading, working to make money, and running errands. The gameplay is guided by two sources. One is Theresa's voice narration and instruction. She will tell Sparrow what to do along the line of the main quest. The other source is the interface. On-screen captions provide prompts about what to do when Sparrow is at certain time points or locations. The pause menu also has a selection called Quests/Maps, which will list what quests are available (i.e., unlocked). The gameplay mode changes based on what quest the player is on; consequently, the pattern of gameplay is dependent on the nature of the quest. The game structure of *Fable II* is thus, not surprisingly what Aarseth would call a "string of pearls" structure. When on the string, players have no choice but to move forward to the next pearl. Within each pearl, however, the gameplay can be discursive. He argues that a large number of strategy games, adventure games and RPG's are quest-based and follow the pearl-chain structure, in which "the player-avatar must move through a landscape in order to fulfil a goal while mastering a series of challenges" (2004, 368).

The quests in *Fable II* are commonly divided into main quests and side quests. However, this distinction is not adequate to describe the differences in the patterns of different quests. Taking a closer look, we can see a further distinction among main quests. Some main quests are *direct* in that Sparrow simply follows Theresa's instruction or on-screen prompts, navigates to the right location, and/or meets the right person, and completes the mission. Other main quests are *indirect* in that when Sparrow arrives at the location, s/he will be told that s/he needs to gain enough points (be it reputation or gold) in the region in order to complete the main quest. The player is then forced to go on a series of side quests until s/he accumulates enough points to come back to the targeted character, after which s/he can complete the rest of the mission to finish off this particular main quest. For example in the first quest "Childhood," Sparrow and Rose can only buy the magic music box after they earn five gold coins. This subgoal of making enough gold sends them to side quests, i.e., smaller tasks. After the subgoal is reached, they are able to buy the music box, which leads to future events. In "The Ritual," "The Crucible" and "Hero of Skill", the structure is similar. In these three hero-recruiting quests, Sparrow needs to build up his or her reputation through pursuing a series of side quests so that he or she can win the trust and recruit the three Heroes.

Figure 7.16 illustrates the game structure. In total there are four indirect main quests that involve a structure more complicated than the straightforward direct quests. While

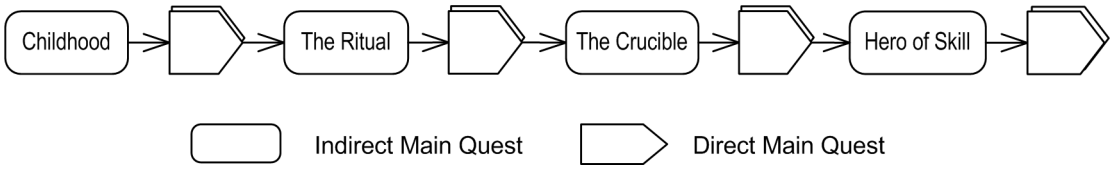

Figure 7.16: Game structure of *Fable II*.

within the four indirect quests, the trajectory of player activities can be discursive and non-linear, whereas the direct main quests present a linear structure where players simply follow the steps. Nonetheless, players can still choose to leave the main track to do side quests or work on jobs available for them. Since these side quests and jobs do not advance the plot, they are optional and can be skipped. Thanks to the two types of quests, the string-of-pearls structure provides a balanced rhythm for the high level for the gameplay.

7.2.2 Forms of Narrative Content

Having discussed the embedding structure makes it easier to detect the varied forms of narrative content in the game. *Fable II*'s selection of narrative forms is similar to *Assassin's Creed*:

- **Action sequences** are the main form used to present narrative content. This is mainly constructed by player actions including moving, fighting and other errands such as stealing an item, passing an item to an NPC, as well as collecting items.
- **Cut-scenes** mostly act as a means to provide the back-story and information to the player character. They are mostly in the form of dialogues by various characters.
- **Voice-over narration and instruction** inform players of gameplay techniques and their in-game situations. As mentioned earlier, Theresa is the voice behind all of this type of narration.
- **The pause menu** includes quests, maps, items, skills, etc. It is a platform for the player character to check the to-do list, consult maps, as well as upgrade his or her weapons, skills, and body condition (by eating or healing). The pause menu contains a lot of embedded stories in the forms of diaries, books, and letters that players collect along their journey.
- **Top-of-screen captions** give players instruction on what to do; they also mark the title of the current quest in yellow fonts. The quest's title is a significant indicator for

players to identify where they are on the storyline.

While the game is mostly filled with narrative content, the loading screen with a caption plate is non-narrative content and has the practical function of delivering some gameplay instructions to players while the game is loading.

7.2.3 Narrator, Embedding and Focalization

Fable II applies a blend of storytelling styles that can be found in traditional narratives in the genres of myths, fantasy novels and folk stories. Among the three cases I present in this work, *Fable II* has the richest narrative embedding structure. Together with other devices, the embedding structure makes the narrative "kaleidoscopic" — a term used by Murray to refer to the mosaic effect of digital narratives that shapes the pleasure of transformation for players (1997). This kaleidoscopic effect also compensates to a certain degree for the extreme linearity of the main plotline. For all players of *Fable II*, after Sparrow and the Dog perhaps the most memorable character is Theresa. Theresa plays a critical role in the narration as an internal narrator (i.e. character-bound narrator) throughout the game. The level of Theresa's narration is the framing narrative at the ground level, which concerns how Sparrow grows up and avenges the death of his or her sister while saving the world from the dangerous Lucien. Within this framing narrative, there are embedded narratives throughout the game text mainly in the forms of dialogues from NPCs and on-screen text blocks. These embedded narratives usually tell a past story about a character or a place. What is interesting is that Theresa also participates in the narration of some of these embedded narratives; i.e., she tells stories at two narrative levels: both the embedding (framing) story about Sparrow and embedded stories about other characters.

Figure 7.17 illustrates the beginning segment of *Fable II* with several vertically embedded narratives marked in orange. In general, there are two narrative levels in the game narration. As mentioned above, Theresa is the discernable narrator of the entire story who is also a character within the story. This is evident in her voice narration in a cut-scene about how Sparrow survived his or her fall after being shot by Lucien and grew up to a young adult in 10 years (see Figure 7.17). At the embedded narrative level, Theresa also serves as an external narrator, as she was not in those mini stories she tells about others, in some of the embedded narratives. Her narratee sometimes is Sparrow, sometimes others, such as Hannah. At the same level, the player character will also encounter other NPCs who might start telling a story about others or their own. Usually their narratee is Sparrow since most of their dialogues are triggered by Sparrow's presence. While Theresa's narration at

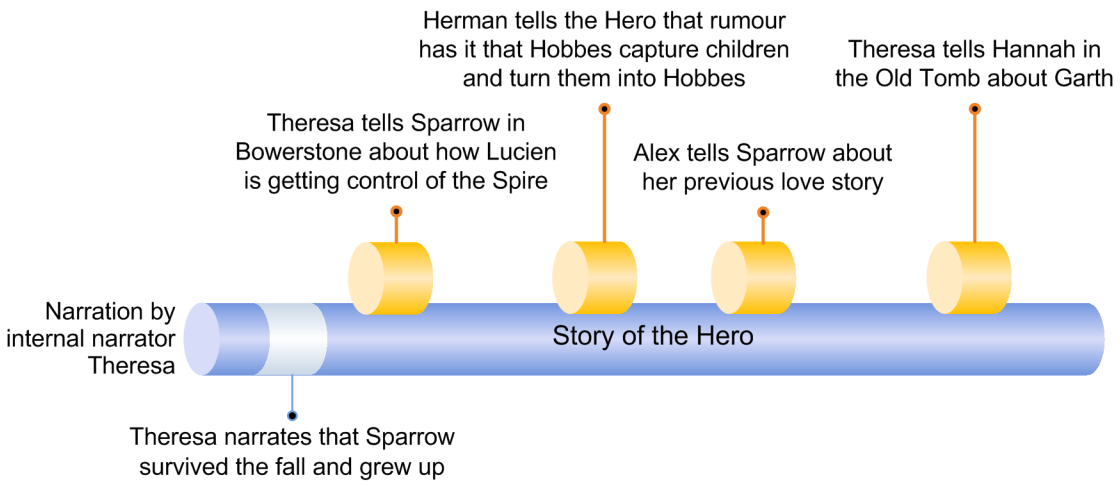

Figure 7.17: Narrative embedding in *Fable II*.

the ground level frames the story, the mini stories told in the embedded narratives mainly serve the function of supplying backstory and narrative information (e.g. Herman's story) as well as adding some fun elements to the narrative experience (e.g. Alex's story). From the examples shown in Figure 7.17, we can see that *Fable II* has a more complicated embedding structure than *Assassin's Creed* and *Heavy Rain* (to be analyzed in the next section), which are both narrated by an external narrator at the ground level. This structure resembles such folk literature as *Arabian Nights* where Scheherazade, an internal narrator, tells numerous small stories in the narrative about herself. Nevertheless, the story of *Fable II* is more coherent and its embedded stories tend to be on a much smaller scale. In addition, Sparrow's story is always in the foreground, unlike Scheherazade's own story that fades to the background in *Arabian Nights*.

Having a versatile narrator like Theresa certainly creates more levels and depth for the game narrative. However, if scrutinizing the corresponding situation of the narratee, one may find that the narration lacks consistency and can at times undermine the sense of player agency. The most problematic issue is that within the ground level (i.e., framing narrative), Theresa can address not only Sparrow, but also the audience *not* as Sparrow. While most of the time Theresa is talking to "you" (by calling Sparrow "you"), which is the player character, there are moments she is clearly not addressing Sparrow. In the example I mentioned earlier that is also shown in Figure 7.17, Theresa recounts the story of Sparrow's survival not to Sparrow him- or herself, but to an external (to the text) narratee: "...and so the boy survived ...With time the boy's pain turned to strength. His grief became will — a will to change the world and to revenge the death still haunted his every dream." In another

similar cut-scene to collapse the time passage in the Tattered Spire, Theresa recounts: "As years passed, Sparrow's task seems ever more impossible." While we can treat the changing narrative situation with different narratees as horizontal embedding, it certainly challenges the identity of Theresa. Is she the mastermind of all that happened to Sparrow? It is worth noting that in the two aforementioned cut-scenes, Theresa uses a past tense to *recount* both stories. This almost makes the entire narrative as a flashback, similar to the narrative situation of *Max Payne*. The present-time actions clash with past-tense narration, which poses the question: does what we do in the game really matter if we are just re-enacting everything? This is surely not a question a designer wants the player to ask.

In *Fable II* we never hear Sparrow talk, nor can we make him or her talk; in addition, we have a third-person point of view of the gameworld. These factors together almost determine that the focalization is mostly external, although as I argued earlier the focalization in a game is usually somewhere in between external and internal since players make most decisions for the player character. Having an external focalization tends to make players psychologically detached from their avatars. Thus for some players who seek more emotional experience, the agency can seem weak and they can feel less immersed while playing.

7.2.4 Structure for Narrative Interaction

Fable II features a very immersive and lively gameworld. Like all RPG's, player choices generally have an impact on their avatars' traits, including appearance, abilities, possessions, and so on. In addition, the *Fable* series allow the player character to make such life choices as getting married, having children, and buying and selling properties. In this section, however, the concern is mainly on the narrative consequences brought by player choices and actions. These consequences should be able to change the plot trajectory and/or the ending status. Unfortunately, player choices and actions in *Fable II* do not affect the game ending directly until the very last quest. Therefore, I will illustrate the details of a few exemplary quests instead of the whole interactive flow from the beginning to the end.

In an earlier section, I have shown that the game *Fable II* is structured by a string of quests, which can be further classified into *direct quests* and *indirect quests*. Indirect quests contain side quests and players will have to finish some, if not all, of these in order to proceed with the original main quest. While in direct quests players may also go on a side quest, it does not constitute a hierarchy as in indirect quests, as the side quests are optional and not related to the main quest. Figure 7.18 shows the flow of a typical direct quest, "Birth of a Hero." The quest consists of a string of events where players need to complete

several steps to reach the end of the quest. In this simple quest, player actions include navigating, fighting, and other small-scale errands such as taking an item and standing on the portal. From the single flow path, we can tell that none of these actions change plot trajectory or ending. Players simply enact a pre-designed plot segment.

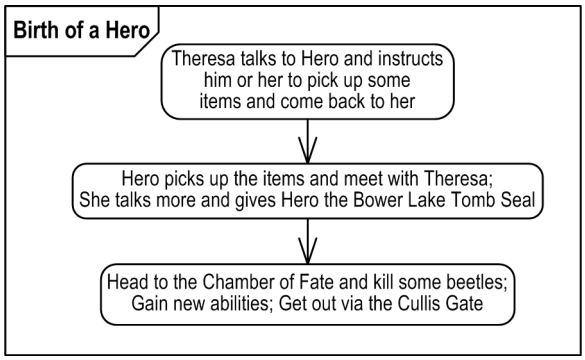

Figure 7.18: A direct quest in *Fable II*.

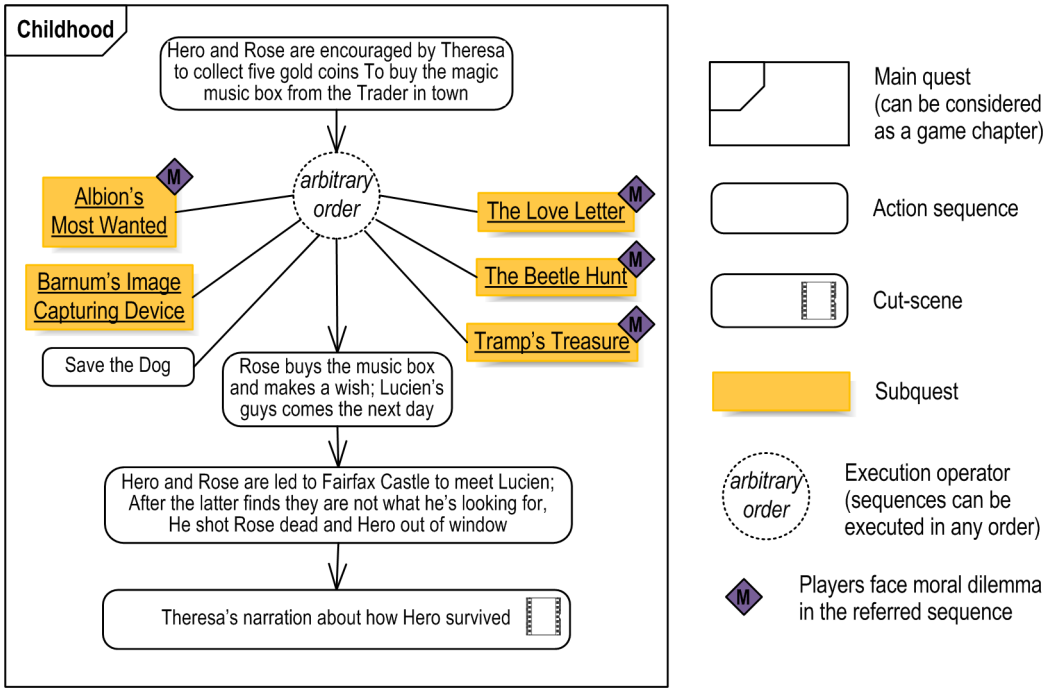

Figure 7.19: A simple indirect quest in *Fable II*.

Figure 7.19 illustrates the first quest of the game, "Childhood," which is indirect. Here we see a narrative operation that leads to narrative variations. Encouraged by Theresa, Sparrow and Rose decide to collect five gold coins to buy the magical music box. They then

complete five subquests, each getting them one coin. The plot can vary depending on their order of completion of those subquests. In addition, four of the five subquests require the two children to make a moral choice, which leads to one of the two possible local endings of the subquest. It is worth noting that since "Childhood" is the very first main quest of the game, it is relatively simple and can be regarded as a training quest. Taking a look at the most complicated indirect quest of the game, "Hero of Skill" (Figure 7.20), we can see that the interactive structure of an indirect quest can be much more complicated thanks to a more complicated narrative operation. While in "Childhood," the operator only specifies that subquests can be executed in arbitrary order, in "Hero of Skill," it asks for side quests that can make up 20000 renown points. Depending on how many points players have to start with, the minimal number of side quests vary for each player. Moreover, while some players complete all side quests anyway, others may just do the minimum. Hence, not only the order but also the number of side quests varies in each play-through. Because this quest is further into the game, for some players there might be undone side quests left from before, which can also be done now as a means to increase their renown points. This means that the inventory of side quests is much larger at this point.

In the final main quest "Retribution", various versions of the ending can be generated through player choices. Sparrow can kill Lucien or wait for Reaver Sparrow of Skill to kill him. S/he then is able to make a wish chosen from three choices. The first one is "sacrifice", which will bring back the lives of those who had worked on the Spire. The second one is "love", which will make Sparrow's sister, spouse, child, and the Dog come back to life. The third one is "wealth", which will allow Sparrow to leave the Spire with 1 million gold yet suffering the scorn of Albion's people. Despite the seeming significance of Sparrow's choice, the story ends here and credits starts to roll, without showing the narrative consequence of the choice. The two-level hierarchy of the indirect quests is built on the same narrative logic: the player has to collect a certain number of items (e.g., gold coins, renown points) before s/he can complete the quest. This logic is even used *within* some side quests. For example, in the side quest titled "T.O.B.Y." (see Figure 7.20), Sparrow is asked to collect four "items" (well, the last one is a prostitute) for Toby. Players thus need to go on mini trip in search of these items and come back to Toby only to be asked to find another one.

The two-level structure of the quests is ideal for encompassing two types of story events: the constituent events and the supplementary ones. Abbott claims that this distinction is maintained by several schools of narrative theory. Roland Barthes calls the two types as "nuclei" and "catalyzers," and Chatman uses the terms "kernels" and "satellites." According to Abbott, "*consistuent events* are events that are necessary for the story, driving it story

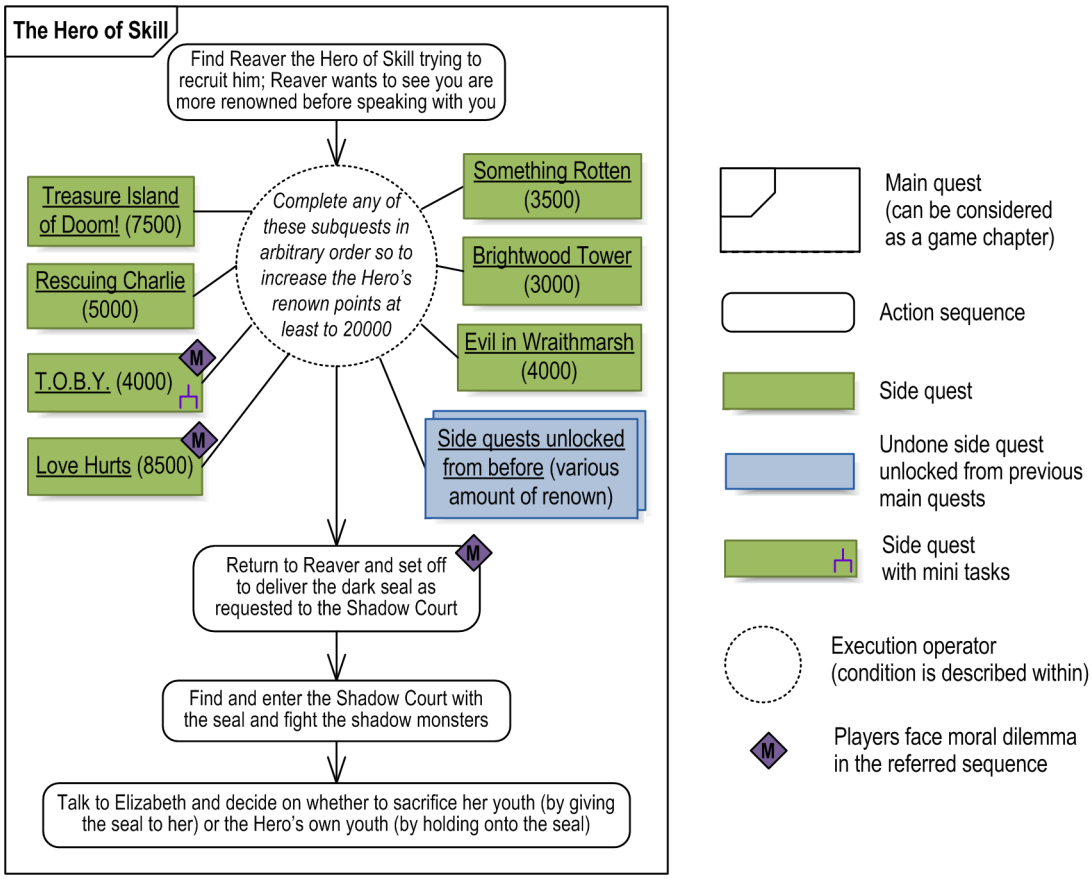

Figure 7.20: A complicated indirect quest in *Fable II*.

forward," whereas "*supplementary events* are events that do not drive the story forward and without which the story world still remain intact" (2008, 22-3). Abbott adds that while "kernels" drive the story, "satellites" can help "thicken" the narrative. In the interactive textual structure of *Fable II*, kernel and satellite events can sit nicely on the two levels, with kernels being the main quests and satellites the side quests. However, it is not easy to allow narrative interaction at both levels. Adam Rovner comments that games like *Fable* "present a conundrum: what is most narrative (the "string") is least subject to agency, and what is most subject to agency (the "pearl") is least narrative" (2009, 101).

7.2.5 The Plot Structure

As previously mentioned, the storytelling of *Fable II* bears similarity to that of traditional folktales. This can be seen in the role of the narrator Theresa. The overall theme of *Fable II* resembles a typical "Hero's Journey" found in many folktales. Among the 12 identified

steps of the "Hero's Journey," *Fable II* covers most of them, some being more obvious than others. Despite using the canonical plot type "Hero's Journey," which usually constitutes a central conflict and resolution, the dramatic arc of *Fable II* unfortunately falls flat. This is caused partially by the lack of perceived emotion and partially by the distraction of side quests.

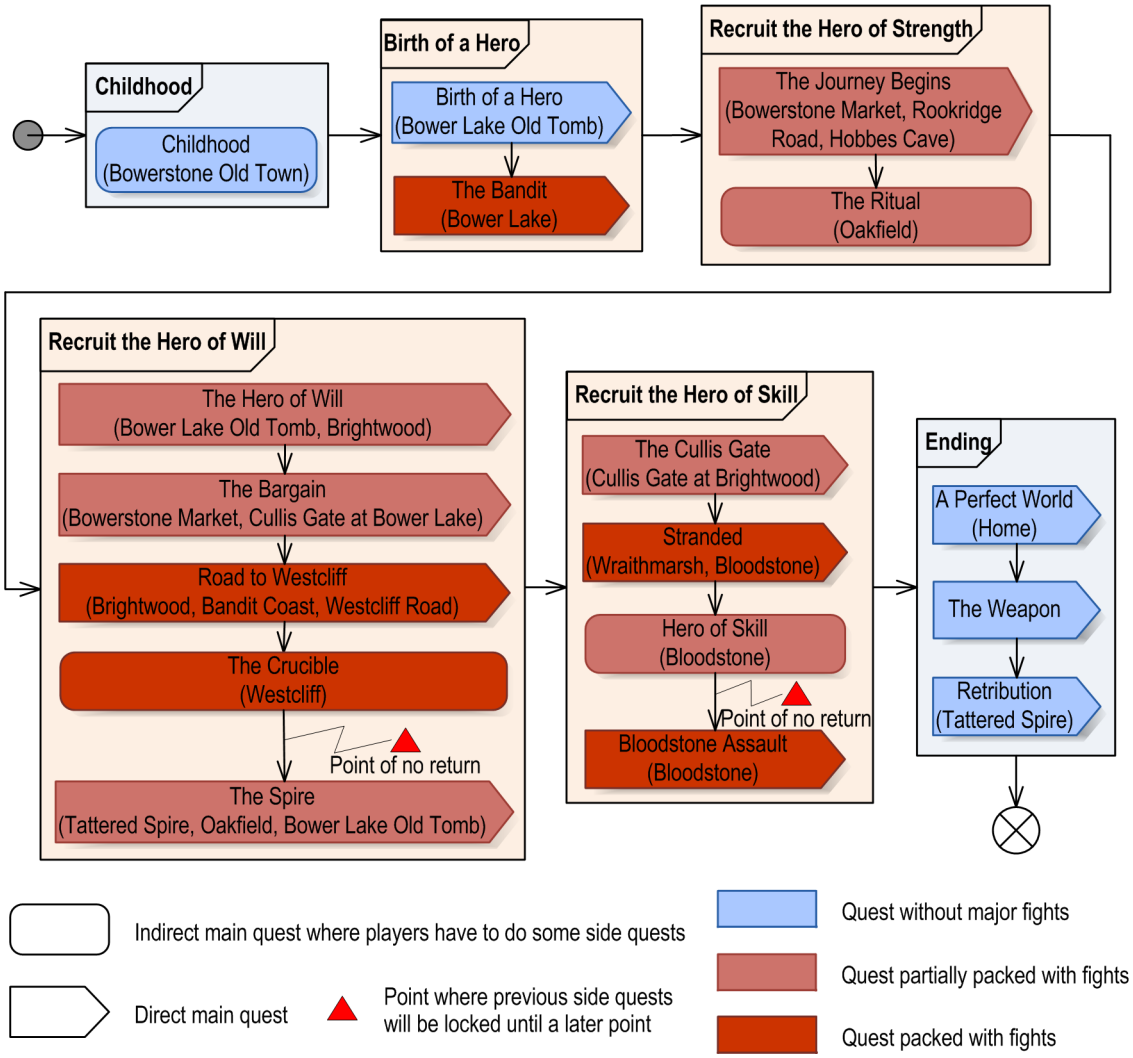

Figure 7.21: The plot sequence of *Fable II*.

From Figure 7.21 we can see the high level of intensity of the gameplay actions, but they do not necessarily imply the same level of emotional intensity or dramatic tension. The plot consists of six parts. The first part shows the childhood life of Sparrow and a seed of revenge for his or her sister's death is planted. This roughly corresponds to first three steps of a "Hero's Journey" (see 6.3.1). The second part shows Sparrow as a young adult

and sets him or her up, via Theresa, for the central quest of the game — destroying Lucien's evil plan. This corresponds to Steps 4 and 5. From the third to fifth parts, Sparrow goes on a journey to recruit three fellow Heroes in order to fight with the powerful Lucien at the end. These three parts can be considered to correspond to Steps 6 — 8. The sixth part is the ending, where Lucien is killed, Sparrow gets his or her reward, and all Heroes return their homes or their destinations of choice. This last part corresponds to Step 10 ("the resurrection") and Step 9 ("the reward") respectively. Step 10 ("the road back") is simply omitted in the game and Step 12 ("the return with the reward") only happens when players want to keep exploring the gameworld after they complete the main adventure (i.e., after the game credits). The middle three parts of the plot, i.e., recruitment of three the Heroes, are of equal action intensity and importance to plot development. Therefore, to define any plot point as the climax seems a bit far-fetched. In this regard, the plot structure of *Fable II* is similar to that of *Assassin's Creed*.

As a result of employing a plot of roughly the "Hero's Journey" type, the principle of structuring story events in the game plot is mainly based on their chronological order and the hero's growth. While the main quests follow a fixed order, players have great freedom to pursue all kinds of side quests for various achievements and work on four different jobs for money. They can also wander off at almost any time to a side quest in between main quests. The game uses at least two design features to encourage its players to "wander off." The first feature is the indirect main quests, which "force" players to go out and finish some side quests in order to accumulate enough points to proceed with the main quest. The second design feature is the two points of no return embedded in the plot (see Figure 7.21). At these two points, Theresa's voice-over will suggest to the player that s/he finish off things s/he wants to do because some side quests will be permanently closed and some others will be temporarily locked up until a later point. This serves as a good reminder for those impatient, speedy players to take a step back and explore the gameworld a little bit more. The supply of the side quests and the devices to encourage players to do those side quests together constitute the non-linearity of the *Fable II* plot. In other words, each player's plot is different thanks to these side quests. Since the design of all indirect main quests recycles the same structure (see Figure 7.19 and Figure 7.20), certain players might find that the plot becomes a bit tedious later in the game. Nevertheless, indirect main quests are separated by direct main quests, creating a good rhythm of gameplay that to certain degree makes up for the possible negative effect a repetitive structure may bring.

7.2.6 Temporal Analysis

Since the plot of *Fable II* sequences the story events mainly in chronological order, the order is mostly straightforward. However, duration in *Fable II* is presented in a variety of ways. In fact, *Fable II* tells a long story with a short plot, shortening the story (fabula) duration to such a degree that at times it breaks the suspension of disbelief. The following is a detailed analysis of time in *Fable II*.

7.2.6.1 Order

The plot sequence diagram (Figure 7.21) demonstrates that all the main quests are carried out in chronological order, which means that the order of plot events follows that of story (fabula) events. However, among these there is one particular quest named "A Perfect World" that does not appear to fit the pattern. This quest occurs after the adult Sparrow is killed by Lucien for the second time after losing the last combat of the game in the quest named "Bloodstone Assault." After Sparrow is shot, players are brought back to Sparrow's childhood. On a beautiful sunny day, Sparrow is playing with his or her sister Rose all day long until bedtime. They are awakened by some mysterious music from afar. Sparrow decides to investigate the source and soon discovers a magical music box. This quest is then ended and the story continues with the quest (or more precisely, a scene) called "The Weapon," which is set back in the Tattered Spire with Lucien and other Heroes. The resurrected Sparrow then uses the music box to extract all the power out of Lucien. At first glance, the childhood scene seems like a flashback. However, the music box traverses time and space together with Sparrow and arrives at the scene right after Sparrow is shot. This on the other hand indicates the continuity of time. Perhaps we can only use "magic" to explain this time traversal scene.

The rest of the game applies a regular set of temporal devices for order. There are many mini flashbacks, many narrated by Theresa, portraying stories of characters from the past, such as what Lucien and Garth did in order to build the Spire. There is no major flashback that is presented in action instead of dialogue. There is also no discernible flash-forward in the game plot. To create narrative variations for non-linear play, the game repeatedly uses one narrative operator that allows the multiplicity of sequencing (ordering), shown in Figure 7.22. An indirect main quest is initiated but met by a narrative operation, which sets a guard condition for the plot to pass through. The condition is usually a number (e.g., renown points) to reach. In doing each of the side quests, this number will increase. As long as the number is bigger than the set minimum, the guard condition is met. Players can

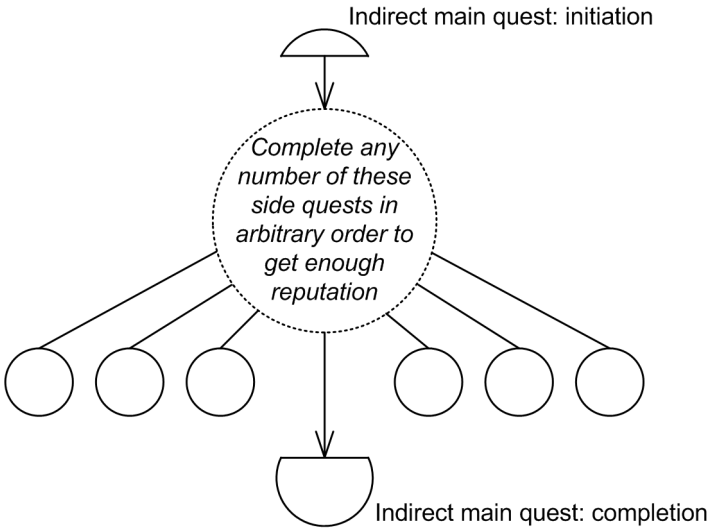

Figure 7.22: Order in an indirect main quest in *Fable II*.

choose to do more than required or proceed with the rest of the halted main quest. Among all indirect main quests, "Childhood" is different from others in that players have to finish all the five subquests (hence I call them subquests instead of side quests), in any order, to meet the condition.

7.2.6.2 Duration: Long Story Short

Compared with *Assassin's Creed*, *Fable II* uses more temporal devices to vary the narrative speed. The game is set in a fictional time and space, so there is no special need for realism in the narrative design. The game immerses players with its vivid interactive world and a wide variety of gameplay options built into the large selection of quests. Hence, time in *Fable II* does not have to be realistic; in fact, it is presented in a way that helps with efficient gameplay. Figure 7.23 demonstrates the main ways of representing durations. The diagram shows the duration on three time schemes: story time, plot time, and operational time. The temporal design of the game ensures that the operational duration of all events is substantially shorter than in the plot time; however, this shortening is done on a roughly consistent scale. For instance, the "Birth of a Hero" quest typically takes a player 8 minutes to complete, whereas from the change of daytime lighting, we can estimate that this whole deed takes more than half day in the plot. This is because Sparrow enters the Old Tomb under broad sunlight and comes out in a nearly pitch dark night. Days change in the game really quickly. If we do not do anything, we will hear the town crier crying "it is officially

bedtime" and "shops open for the day" in just a few minutes. This duration shortening scale is also embedded in the game mechanism. If we buy a property and rent it out, we will receive a notice on screen saying we will receive rent every 5 minutes from now on. Therefore, it is safe to assume that there is a one-to-one mapping between plot time and operational time. We can now focus our attention on how narrative speed varies on the plot time.

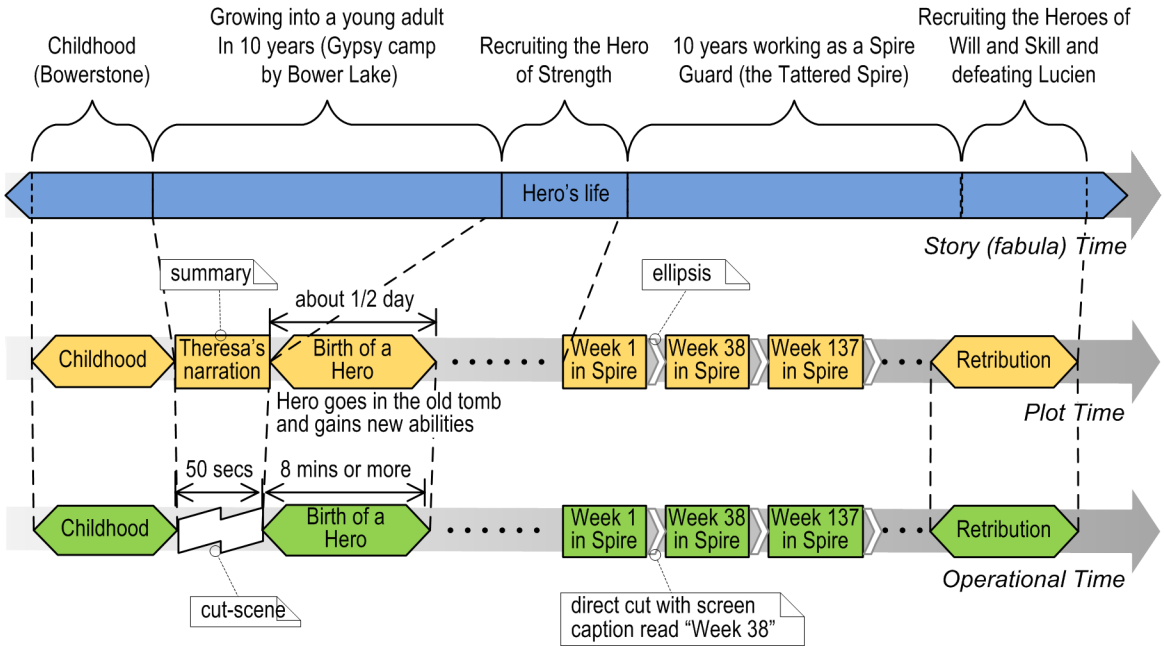

Figure 7.23: Duration in *Fable II*.

As in most visual narratives, the most common narrative tempo in *Fable II* is *scene*. Scene is used in combats, navigations and running errands. The second frequently-employed tempo is *ellipsis*. It is almost everywhere in the game. For example, when Sparrow is next to a bed and presses the button to sleep, the screen will show four options for different hours to sleep. After the selection, a direct cut brings us to a quick sequence showing Sparrow getting up, stretching and feeling refreshed. In this way, players do not need to wait through the eventless time period. Under the same efficient motivation, events that tend to be long and repetitive are also told with ellipsis in the plot. When Sparrow is working as a guard in the Spire, ten years pass. The plot thus chooses three time points within these ten years to show us different stages as Sparrow ages. Three sequences are presented and marked with week 1, week 38, and week 137 in an on-screen caption at the beginning, with a direct cut or cut-scene in between. *Summary* is used quite often, too.

The most memorable summary sequence is the cut-scene happening after the young Hero is shot by Lucien. This cut-scene displays a sequence consisting of still graphics enhanced with simple animations. The sequence is accompanied by Theresa's voice-over narration telling us the Hero has survived and ten years have passed. In this summary, 50 seconds of operational time (we can consider it is the same as plot time as this is a non-interactive sequence) covers the story events happening over 10 years in story time.

For the same reason — that the temporal design attempts to increase gameplay efficiency, the narrative tempo *stretch* is almost non-existent. The only stretch we can see is those brief slow motions showing in an exaggerated way how an enemy dies from Sparrow's shot or slash. This type of stretch is used mostly under artistic motivation. As in most other games, the tempo of *pause* rarely exists in the game plot if we do not count the pause menu, which allows players to halt the game and make menu selections.

Ticking clock is used on several occasions as a game mechanism that plays with the duration. Although this timing device is mainly for pacing the gameplay, at times it can create some stress on players. One example is in the "The Journey Begins" quest, when Theresa is late for her meeting with Sparrow. Her voice suggests that Sparrow go and make some money and use it to upgrade his or her equipment. Players then have 5 minutes to hang around. The time is counting down on the corner of the screen. This ticking clock on one hand encourages players to explore the town and on the other hand controls their free roaming time since this is, after all, a direct quest. Another example is in Week 38 of "The Spire" quest. Sparrow is ordered to go to the detention centre and watch the prisoners while the guard on duty is on a short break. During the timed 3 minutes, Sparrow is torn between moral choices. Players can disobey the order and feed the starving prisoners at the cost of losing all their unused experience points but their "good" points will be increased. Alternatively, they can watch them starving without doing anything, which will increase their "evil" points. This second ticking clock effectively creates psychological pressure on players since they will have nothing to do but to debate between their moral choices for 3 minutes listening to the cries of the prisoners.

7.2.6.3 Frequency

At the macro level, the events of *Fable II* are presented singularly. Players can go through all the main quests only once. At the micro level, however, we see repetitions quite frequently. The most memorable ones are probably those repetitive behaviours, greetings and dialogues from NPCs when they meet the player character. As part of the game mechanism, these

repeatable social actions respond to the player character's appearance and expressions. Some of the side quests are repeatable although provided with a slightly different context. For instance, whenever Sparrow is in proximity to a plinth for a statue, the "The Sculptor" side quest will show up on his or her quest map. Sparrow can then go to Susanne the sculptor and pose for her for a new statue to be installed in a town. The whole process, such as what Susanne says and what Sparrow can do, is the same every time though s/he can pose a different posture.

As a narrative device, repetition is also used in a flashback in the second to last quest (or scene) "The Weapon," as a mental summary of the journey Sparrow has completed. When Sparrow is holding the magical music box, the soundtrack of several lines spoken by a few key characters in the past is replayed. During this flash summary of what Sparrow has been through in the quest of defeating Lucien, Sparrow's figure changes from the pre-teen look to the current look. This repetition rounds off the entire story and brings us to the last quest (or chapter) "Retribution," which closes the game.

"Repetition due to death" does not exist in the game because the player character can not die no matter what happens. When the player character's health bar shrinks to zero during a combat, the character will simply be "knocked out" and fall to ground. After losing a certain amount of experience points, the player avatar gets up and resumes the fight. Having been "knocked out" for a certain number of times, Sparrow will have an extra scar left on his or her face showing his or her "battling" experience.

7.2.7 Spatial Analysis

The story of *Fable II* takes place in a carefully designed, large, and seemingly continuous 3D game space. The operation within the game space, however, is segmented by regions. There are multiple ways to go across regions that including "fast travel" and teleporting. Because it generally takes a long time to travel from one destination to another, players will usually use the "fast travel" function from the menu to skip the tedious walking trip to the next destination. Even when players choose to go to a conjunct region on foot, they will eventually be stopped at the regional boundary (or "exit"), and presented with a loading screen telling them the distance and travel time to the neighbouring region. After a short loading time, players will find themselves at the "entrance" of the next region. In this way, the space is never *visually perceived* as continuous. As a result, the topographic structure of the game space at its global level does not play a significant role in narrative and gameplay. At the local level, on the other hand, each location has a distinct spatial layout designed for

different purposes. In the following discussion, I will show the main distinct spatial features of *Fable II*.

7.2.7.1 Topographical Structure

Fable II presents its story in the fictional world of Albion, which is a coastal land with various geographic features including mountains, lakes, swamps and caves. From the north to south along the coastline, there are the main locations that include Oakfield, Bowerstone, Westcliff and Bloodstone. In the inland area, there are Bower Lake, Brightwood and Wraithmarsh. In the middle of the sea next to the coast arises the Spire, a giant tower that is being built by Lucien to concentrate all the Will power in the world so that it can grant its user a single wish. In this topographical layout, the Spire can be seen from several locations, such as Bowerstone and Westcliff, seeming distant, mysterious, and ominous yet implying its central status in the game plot. Among the major locations on the shore, Bowerstone and its conjunct Bower Lake are like the origin of Albion's coordinates. It is the point of departure of the protagonist, Sparrow. After recruiting the Hero of Strength and the Hero of Will, Sparrow and the team will come back to the Old Tomb under the Bower Lake to be briefed by Theresa. From the plot diagram (Figure 7.21), we can see that Bowerstone and Bower Lake Old Tomb areas are the locations that Sparrow repeatedly visits for different quests. The topographical layout is illustrated in Figure 7.24.

While in the towns players see shops, pubs, inns, residences and so on, in between towns they will find themselves in rural landscapes with main roads stringing together the towns. Like in the real world in olden times, these main roads in the rural area are the active zones for bandits. In contrast, in almost all towns there are guards patrolling all the time. As a result, most of combats take place outside towns, either on the road or in some cave. Most of the errands for information collection or meeting with people happen in towns. Players also "live their lives" in towns, e.g., making money, trading things, finding themselves a spouse, keeping a family or buying properties. From this opposition between inside and outside towns, players will start to be aware of the convention and consequently adjust their alert level and expectations of what to do accordingly.

In addition to the contrast between the spaces inside and outside towns, each town or village in *Fable II* has its unique appearance that distinguishes it from others. The colour tone and the layout reflect the culture and atmosphere of an area. Bowerstone is full of heritage structures and busy commercial activities showing off its prosperity as the largest and safest city as well as the economic centre of Albion. Bloodstone, on the other hand, is

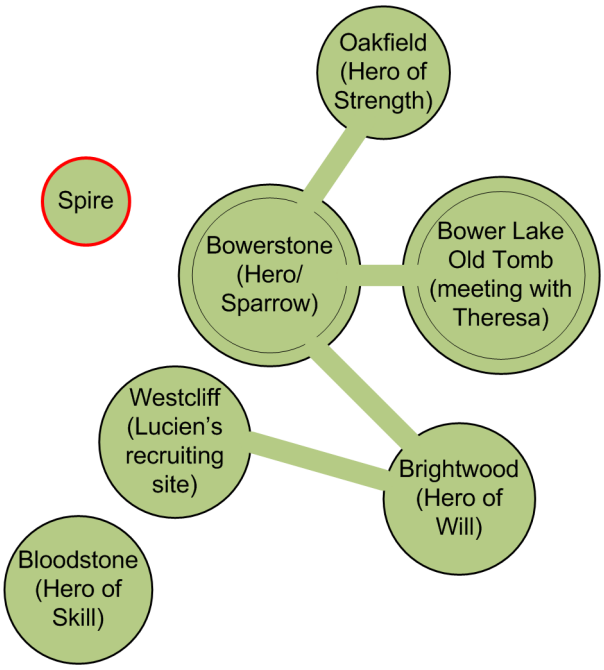

Figure 7.24: Topographic layout of main locations in *Fable II*.

portrayed in a dark tone, with tattoo shops, prostitutes, and pubs along the only main street next to the sea. From the topographic layout we can see it is cut off from the rest of Albion. The only way to travel there is through the sea on the west, or through the dangerous Wraithmarsh, a swamp area with banshees, on the other three sides. The town presents a corrupted atmosphere with a hint of pirate and smuggling culture, as it is ruled by the pirate Reaver. In contrast, the village of Oakfield is full of green color with its beautiful garden look. It is home to many farmers and monks and the place has a peaceful atmosphere.

7.2.7.2 Operational Structure

Despite the spatial oppositions carefully designed for the topography of the storyworld, its impact on the operational structure is somewhat undermined by two game mechanisms that are created to help the gameplay. With these two efficiency enhancing mechanisms, impatient go-getting players might simply overlook the subtlety of the space when concentrating on advancing the main plot line. These two mechanisms are the "fast travel" and "glowing trail" functions. In *Fable II*, the vast game space is segmented by individual quests since each quest tends to send Sparrow to a different location. There is often considerable distance from one to another. Once out of town, one can find the rural landscape difficult to recognize. To save players' time, *Fable II* allows players to "fast travel" to a place, just like in

Assassin's Creed. Once a player has traveled to a place "on foot" for the first time, the place will be unlocked on the quests/maps selection on the pause menu. The player can then set their destination from the menu and "fast travel" there. After a screen showing how many hours it will take and typically a loading screen that lingers for a short while, players will be at the entrance point of the next location, be it a neighbouring one or not.

While "fast travel" shortens the gameplay time traveling between locations, within a town or a region, players must still travel on foot. This still poses the orientation problem. In a larger location, it can be confusing to go from point A to point B. To help players self-orient, the game employs a unique design — the glowing trail, which is a breadcrumb trail in glowing gold colour showing players the way to follow. Although it is not mandatory to use these two mechanisms, most players will use them for efficiency purposes especially when the in-game maps are of a very poor quality and nearly unusable. As a result, how individual locations are laid out in the topographic space does not matter much any more. A player can complete the game smoothly without having a clear idea of the topography of the storyworld.

In *Fable II*, several key characters are able to move between places and even follow the player character. Among these characters, the Dog is one that loyally follows Sparrow throughout the game. The Dog not only follows but also sniffs for treasures and fights for Sparrow. It is both an intelligent character and a game mechanism. Theresa, the mentor, also follows Sparrow though not always physically. Early in the game, she gives Sparrow a Seal of the old Hero's Guild and uses it after that as a communication device for sending "messages" to Sparrow. Because of her "fortune-telling" ability, it seems that she always knows where Sparrow is and shows up on the site where Sparrow just finishes a mission. The three other Heroes also follow Sparrow for different durations and for several missions. The rest of the NPCs are bound to a location. The villagers and townspeople are always seen hanging around within a small range every time the player character revisits the place. This situation can feel life-like until the point that we find them saying the same things every time. Nevertheless, these location-bound characters are usually less important for the plot. There is one NPC that is attached to a location but highly dynamic — Sparrow's spouse, if he or she has one. The behaviour of the spouse character is determined by that of Sparrow. If Sparrow leaves home for too long or ignores the spouse, the spouse will change his or her attitude towards Sparrow. Sparrow is then reminded his or her responsibility for the upkeep of the family's finances and the romantic relationship.

7.2.7.3 Presentational Structure

Similar to *Assassin's Creed*, the space of *Fable II* is conceptually continuous and presented from a third-person point of view. This means we can simply believe that the off-screen and on-screen spaces together make up a continuous storyworld. Players can navigate freely in the gameworld and adjust the camera angle although not as freely as in *Assassin's Creed*. For example, *Fable II* does not have the one button-press that can reset the camera angle to a standard forward looking one. There are certain scenes where the player can press the LT button on their controller to zoom in on a distant object. This function is usually provided in some lengthy dialogues, as a way to guide the gaze (hence the attention) or simply a way to give players something to do while listening. If we count in this type of interaction, the non-interactive cut-scenes in *Fable II* are indeed, just what the designers boast, less than 5 minutes in total. Players can make Sparrow run off the scene from a speaking character. If the information is important, the character will show up at another occasion trying to tell Sparrow again. As I have previously mentioned, the game space is conceptually continuous but not perceived as continuous. This is because the space is presented one region after another, with the distance in between collapsed. Each time players visit a new region, the screen caption will say a new map has been added, meaning they can now see this region in the quests/maps selection from the menu. In this way, the space is "unlocked" bit by bit until all subspaces are loaded. This mechanism is also used in *Assassin's Creed*.

In *Fable II*, the ambient sound helps to define the environment and shape the emotional tenor of the progress through the game space. When the player avatar is exploring a town, the background music is quiet and peaceful. When he or she is on the road or in the cave where bandits and monsters are nearby, the music becomes loud and ominous. When combat begins, drumbeats kick in to intensify the fighting mood. This dynamic design of musical soundtrack effectively creates both narrative and gameplay tensions that intensify the player's experience of the game.

The screen interface of the game is typical (see Figure 7.25. Depending on the situation, the top left shows Sparrow's health bar, bottom left shows the directional pad that represents different interactions with the Dog. On the top of the screen, captions will be displayed from time to time giving the title of the current quest, location names, hints, instructions and explanations. In addition, a set of other controls will be imposed on screen when needed, such as the social interaction selector or the spell selector. Unlike in *Assassin's Creed*, players cannot place a marker on the map in the menu; the only in-game function the menu serves, aside from providing information, is the fast travel option. All players need

Figure 7.25: Screen interface of Fable II: play screen and pause menu. (Source: Microsoft Game Studios, 2008. Image from IGN.com, by permission)

to do is to pick a quest and "set trail & travel" to the location of the quest. This function is also one of the links that connect the presentational space to the operational space.

7.2.8 Summary

As in the previous case, a summary of those prominent narrative techniques and devices used in *Fable II* is provided in Table 7.4 and Table 7.5 in four aspects: text composition, plot structure, time and space. The table gives us an informative glimpse of the narrative design of *Fable II*. Although there are numerous successful and interesting uses of narrative techniques and devices at a low level, the game has an overall narrative structure that delivers a non-dramatic narrative experience. While the game plot may be sufficient for the explorer type of player, the lack of narrative motivation can hinder the gameplay for those players who look for more emotions or realism in their games. The most distinct yet controversial narrative design of *Fable II* is its two-level game and narrative structure. On the upside, this structure accommodates both a linear plot and non-linear play at the same time. As David Gerald Saunders points out:

> But what makes *Fable II* particularly interesting is its two-part narrative structure, namely, the game's extremely linear main storyline, overlaid with a tremendously dynamic, changing world. The player's moral choices directly affect the shape, landscape, and makeup of the world, and thus *Fable II*, despite being linear, gives the player the impression that they are writing their own, personal narrative. (2010)

The drawback of this structure lies in the wide gap between the two levels because there are not enough cohesive connections in between. Players can halt the main plot line almost whenever they want and explore the gameworld for an unlimited duration. For these players, the plot does not matter. On the other hand, the structure also allows speedy plays; namely, impatient players can choose to play only a minimum of quests that are enough to advance the plot and finish the game. In reality, "[m]ore than 60 percent of the Fable audience understood less than 50 percent of the features," Peter Molyneux discloses in his talk on the 2010 Game Developers Conference (GDC) about the Fable franchise as a whole. He continues: "This was enormously frustrating. We're creating content that people don't care about and don't use, and we're spending vast amounts of money on this" (Nutt 2010). During an interview, Molyneux says "*Fable II*'s story is rubbish" because most players do not remember the plot beyond those moral choices they need to make in the game. Consequently, "making the story clearer and more dramatic" was on the design agenda for the forthcoming *Fable III*, claimed by Monlyneux on GDC.

Table 7.4: Summary of narrative techniques used in *Fable II* (1/1).

Aspects	*Techniques*	*Level*		*Positive*	*Negative/Controversial*	*Remarks*
		Macro	*Micro*			
Text composition	Internal narrator	✓	✓	Stylistic narration		
	Vertical embedding		✓	Creating story depth; Varying the ways to provide narrative information		
	Horizontal embedding	✓			Switching both tense and narratee on the same narrative level creates ambivalent narrative situation that might cause confusion	
	Narrative database		✓	Providing access to the index of side quests to facilitate non-linear play		
	Two-level interactive structure	✓		Use of indirect quests effectively creates a two-level hierarchy where on the lower level, the play is non-linear	On the high level, the sequencing of the main quests is still linear. The low-level non-linear play does not alter the plot trajectory and ending	While a linear plot is very common for RPGs, the problem lies in the loose link between the two levels. The result is that players may only explore a very small portion of the side quests provided at the lower level.
Plot structure	Segmentation by main quests following chronological order	✓			Without a clear dramatic arc, Narrative experience is undermined: for some players, there might not be enough narrative motivation for them to complete the play	The use of Hero's Journey does not help create the plot arc because of the lack of narrative tension

Table 7.5: Summary of narrative techniques used in Fable II (2/2).

Aspects	*Techniques*	*Level*		*Positive*	*Negative/Controversial*	*Remarks*
		Macro	*Micro*			
Time	Non-predetermined order		✓	Create non-linear play	Different orders do not have an impact on the plot trajectory; hence, no substantial narrative variations are created	
	Extensive use of ellipsis and summary	✓	✓	Create efficiency in gameplay and narration	Overly "efficient" storytelling can interfere with the suspension of disbelief and undermines the player agency	
	Repetition		✓	Some side quests and all jobs are repeatable, giving players a chance to earn more points or money	NPC's behaviour is repetitive; Side quests and jobs are exactly the same when repeated	There is no repetition due to death. The player character simply will not die.
Space	Multiple ways of travel	✓		"Fast travel" function and the glowing train facilitate efficient gameplay and prevent disorientation	Players may overly rely on the two functions and do not pay much attention to the richly designed gameworld	The efficient design arguably waste the elegant visual design of the gameworld
	Multiple characters with mobility	✓	✓	Make the narrative more interesting and the gameplay more dynamic		The Dog is a successful mobile character that is intelligent and fun
	Gradual revealing of space	✓		Give players a chance to get familiar with each region before they start overusing the "fast travel"		
	Player camera control		✓	Create a visually continuous space; Ease the gameplay; Make cut-scenes somewhat interactable		

7.3 Heavy Rain

> HOW FAR ARE YOU PREPARED TO GO TO SAVE SOMEONE YOU LOVE?
> Experience a gripping psychological thriller filled with innumerable twists and turns, where choices and actions can result in dramatic consequences. Spanning four days of mystery and suspense, the hunt is on for a murderer known only as the Origami Killer — named after his macabre calling card of leaving behind folded paper shapes at crime scenes. Four characters, each following their own leads and with their own motives, must take part in a desperate attempt to prevent the killer from claiming a new victim.

Heavy Rain is probably one of the most dramatic games and one of the most engaging interactive narratives that have achieved commercial success. Developed by France-based Quantic Dream and released by Sony Computer Entertainment solely on PlayStation 3 in February 2010, the game sold one million copies within the first five weeks.[44] At of August 2010, the game has sold for 1.5 million copies worldwide.[45] It has received universal critical praise with an aggregated critic score of 87 out of 100 on Metacritic and 89.30% on GameRankings.com. Sony's summary of *Heavy Rain*, as shown at the beginning of this section, clearly indicates that this is not just another adventure game; it is an interactive thriller story waiting for players to intervene. Sony's game site also introduces the key features as the following:

- An evolving thriller in which you shape the story;
- Mature content, reflecting a realistic world setting that explores powerful themes;
- Stunning graphics, animation and technology support an emotionally driven experience;
- Accessible gameplay via intuitive, contextual controls and interface.[46]

Generally labelled as an adventure, *Heavy Rain* is also discussed within the realms of "interactive drama" and "interactive movies" because of its pronounced emphasis on exploring emotions through giving players real control of how the story develops. The game

[44] http://www.gamespot.com/ps3/adventure/heavyrainchroniclesthetaxidermist/news.html?sid=6257359

[45] http://gamescom.gamespot.com/story/6273573/david-cage-opens-up-about-heavy-rain/?tag=newsfeatures%3Btitle%3B1

[46] Both the summary and key features are quoted from Sony's website for *Heavy Rain*: http://us.playstation.com/games-and-media/games/heavy-rain-ps3.html

takes a third-person point of view and grants players the sequential control of four characters, one at a time: the victim's father Ethan Mars, the journalist Madison Paige, the FBI profiler Norman Jayden and the private investigator Scott Shelby. The plot revolves around finding the Origami Killer who has committed a series of murders of young boys using the same method: kidnapping them and letting them drawn in rainwater after four days of being trapped. This setup of the story successfully enables a multi-person narration that adds to the suspense in the story. The game is presented in a highly cinematic way, using many film conventions including the styles of film noir. Within the "key features" of the game listed above, the most critical one that separates it from other games is the player's control of the narrative, which is designed to not only direct the plot but also access the inner worlds of characters. *Heavy Rain* effectively brings the game community's attention back to the once-heated discussion of interactive narrative in general, and particularly on how to tell a coherent story with considerable intervention by players. By using many of the conventions of film narration, the game advances the exploration in this area and creates its unique solution to the classic problem, which can only be unveiled through a thorough analysis of its structure. In the following analysis, I will use the same organization as in my previous cases, but with a focus on discovering how designers attempt to balance coherency and player control.

7.3.1 The Game Structure

The gameplay in *Heavy Rain* mimics real-life situations where characters go through events and actions in chronological order following a causal logic, which is termed "contextual gameplay" by David Cage, the writer and director of the game. The primary gameplay modes are talking, including the triggering of thoughts, moving (including walking and all sorts of physical movements), and fighting against other characters. Players get the cues regarding what actions to perform from the on-screen prompts that visually show the control buttons when interaction is needed (see Figure 7.26). There are two types of prompts. The first type demands that one or more buttons be pressed in order to perform an action (see the screenshot on the left); the second type provides chance to access the character's different thoughts or to speak different lines (see the screenshot on the right).

From the above description, we can see that the gameplay can hardly be repeated in patterns. In fact, Cage (2010) claims that the game does not have a pattern of changes of gameplay mode — "the game uses almost no mechanics (by mechanics I mean recurrent systems)." He considers that this design choice helps the game afford a good diversity of

Figure 7.26: Control scheme of *Heavy Rain*. (Source: Sony Computer Entertainment, 2010. Image from IGN.com, by permission)

player actions and principles of game progression. Under this design, in *Heavy Rain* we feel a weaker sense of game levels than in most of other games, where levels are often marked by different victory condition, settings or character levels (e.g., abilities and possessions). Instead, the game is constructed by scene-by-scene and segmented into "chapters," each marked by a game loading screen at the beginning. There are only a handful of chapters that are non-interactive cut-scenes. The game progresses into new chapters regardless of player actions; however, what happens in the future chapters is determined by what players have done in the previous ones. The game structure can be illustrated by the simple model in Figure 7.27. Within each interactive chapter, the gameplay mode evolves as the situation changes.

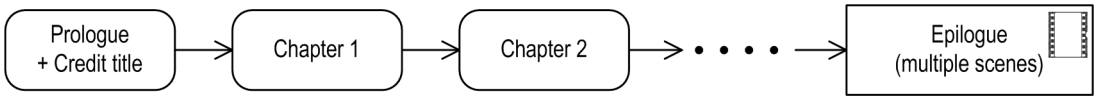

Figure 7.27: Game structure of *Heavy Rain*.

The diagram demonstrates a structure that resembles a film. It is no surprise that the storytelling of the game bears many conventions of film narration. A weaker sense of "levelling" in game progression also requires that motivation be compensated from other sources. In the case of *Heavy Rain*, the motivation mainly comes from players' desire to solve the mystery by driving the game as well as the story to resolution. Thus, the narrative design in this particular game is critical to the player experience.

7.3.2 Forms of Narrative Content

All the narrative content is presented in "chapters" that are sequences. In an ideal play, in which no character dies before "The Old Warehouse" chapter, there are 53 chapters in total,

if we count all epilogue chapters as one (usually there are more than one epilogue chapters but they are all non-interactive). Depending on the gameplay mode, the chapters can be further distinguished into four types:

- **Action sequences** where players can control the character to talk and move as well as "talk out" their thoughts. More importantly, they can choose their actions in order to control and guide the situation. This form is taken by the majority of the sequences and is the place where branching narrative happens.
- **Non-action sequences** where players can do the same as above, but cannot choose their actions to change the situation. In this type of sequences, players can only enact pre-determined narrative content.
- **Cut-scenes** mostly act as a means to provide the backstory, present the inner world of characters or short intermissions. There are very few non-interactive cut-scenes in the game.
- **Narrative artifacts** that can be picked up by characters for different purposes are scattered around in the environment. For example, Ethan can pick up and look at one of Shaun's drawings that lie on his desk; Madison can take the medicine from the bathroom and give it to Ethan; Norman can open up his virtual toolbox to analyze the case. Objects that are interactable will have an on-screen icon next to them when the controlled character is close to them. This use of narrative artifacts is very typical for adventure games.

The non-narrative content of the game mainly exists in the pause menu, where players can set game options and pick a past chapter to replay.

7.3.3 Multi-Person Narration and Focalization

The story of *Heavy Rain* is not told in a straightforward way. Despite a conventional chronological order, the story (fabula) materials are presented in the game text in an interwoven fashion by rotating among four different focalizers/narrators. This form of narration can be regarded as a form of polyphonic narration because the story is told through not only the perception but also the voices (in dialogues and monologues) of the four main characters. It is used as an organizational means that adds to the complexity and mystery of the crime drama.

For the most part, the game scenes are presented through external focalization, seen from the position of an external camera. However, for the interactive chapters, because players can access the thoughts of the controlled character, we can consider the focalizer a player-focalizer, making the focalization a mixed one. Generally each game chapter assumes the voice and/or perceptive point of view of one character (the focalizer), but there are a few exceptions where two voices are at work, though not at the same time. For cut-scene chapters, since we are watching the happenings from an outsider's view, we can consider that the story at that moment is told through external focalization as we assume an "eye" situated outside the story. The game text is thus composed with sequences that are distinct from one another by switching the focalizer. Figure 7.28 offers an incomplete view of *Heavy Rain*'s textual structure marked by rotating focalization. The diagram shows chapters in operational (narrational) time, which follows the order of presentation of the sequences in the plot. In addition, because each play varies, the diagram only shows one instance (run-through) of the game text.

Though many shots have external focalization, the designers' intention, however, is to invite players to explore the inner world of each playable character and experience their subjective feelings. Thus the focalizer role rotates among each of the four main playable characters, and through this players assume each character's perception and voice. The in-game camera adjusts the scene based on the playable character's movement so that despite a third-person point of view, we can see what the character sees. The playable character talks according to the situation. We can access its inner voice by choosing to press one or more on screen buttons representing different thoughts. Once a button is pressed, the character will talk out its thought so that we know what mental state it is in. In this way, the game story is told in a form of multi-person focalization and narration, which induces unreliability of the narration and thus adds to the complexity and mystery of the crime drama. This technique can be seen in film narration with *Rashomon* (1950) being a classic example, where the story of a crime is told four times by three participants and one witness. The focalization structure illustrated in Figure 7.28 can also be seen as an embedding structure, which I will discuss in the next section.

7.3.4 Narrative Embedding

The polyphonic narrating structure of *Heavy Rain* makes it a very good example of horizontal embedding at the global level. The shifting focalizer can help us identify such embedding. Almost every chapter shifts the narrator from the last one (see Figure 7.28). In

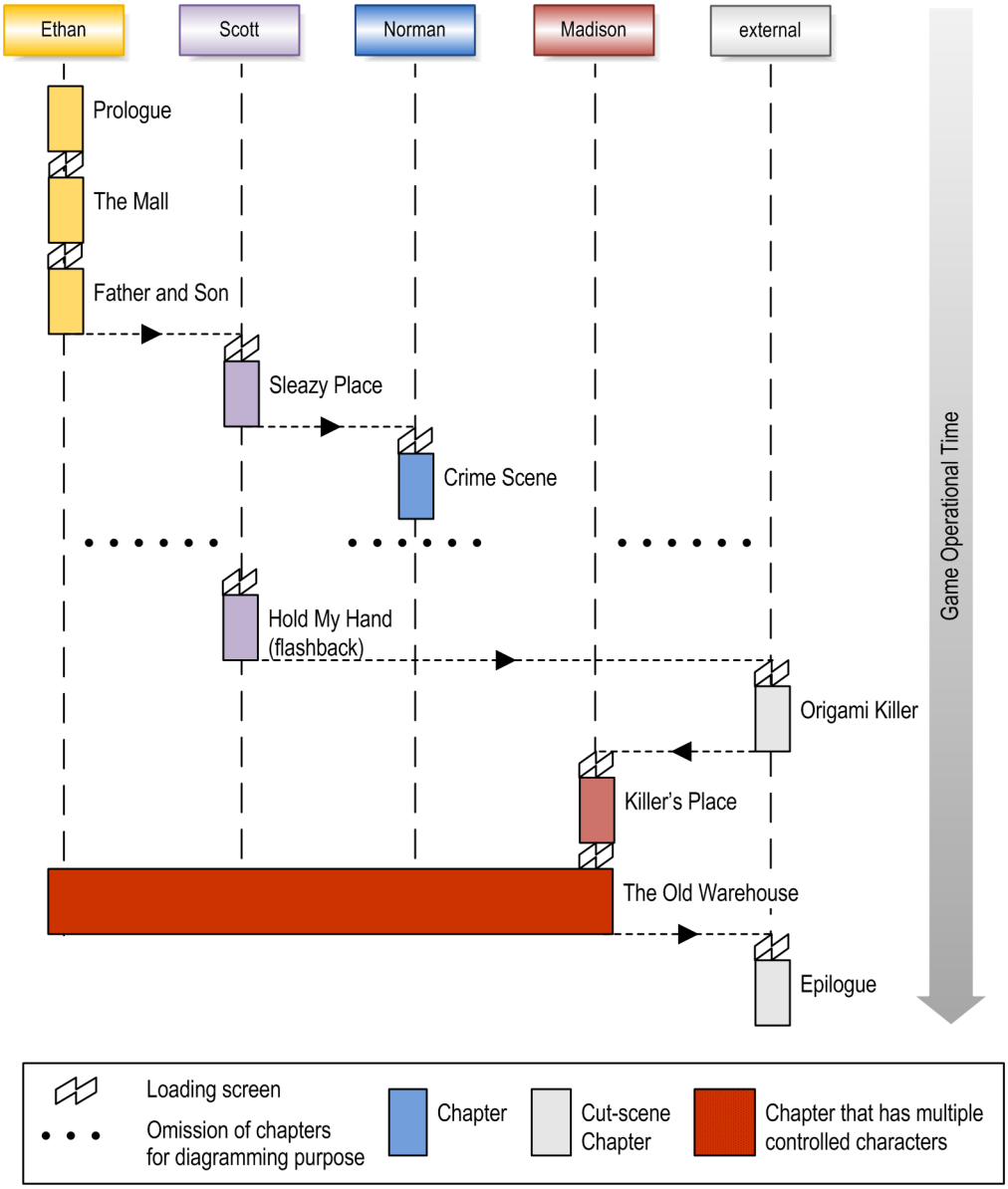

Figure 7.28: Organization of *Heavy Rain* marked by rotating focalization.

addition to the macro embedding, there is embedding at micro level for various purposes. Since the game partly adopts a film noir style, the use of flashbacks is prominent. Some flashbacks are presented from a different narrator and/or focalizer. Such flashbacks thus constitute embedded narratives. For example, the two flashback chapters about the twin brothers provide critical details of the back-story of the killer (as one of the twins), which explains his psychological wound and his pathological killing in the hopes of healing. In these two flashbacks, players will assume the killer as a child and enact the past through gameplay.

Narrative artifacts are another potential carrier of embedded narrative. When Ethan turns on the VCR player in his post-accident home, the TV will play a video recorded in the past about his two sons playing with him. The video recording is thus an embedded narrative serving as a device that triggers strong emotion for players to feel for Ethan. Similarly, the newspaper headlined with the Origami Killer update is another piece of embedded narrative that tells the back-story of the serial killer.

7.3.5 Structure for Narrative Interaction

While many adventure games employ a foldback structure, in which players' choices do not have impact on the overarching plot progression, *Heavy Rain* is considered by many as a game that adopts a branching structure, in which players make more "dramatically interesting" choices that can change the trajectory of the narrative or alter the story ending (Crawford 2005).

In *Heavy Rain*, two types of sequences can vary the ending. In the first type of sequence (those with a diamond marker in Figure 7.34, player actions and choices have an impact, indirect or direct, on the plot ending. For example, if Ethan succeeds in all five trials, he will get the address where Shaun is trapped. However, if he fails one or more of the trials, he will get an incomplete address. He will have to make a guess from the address with missing letters before he drives to the place to save Shaun. This guess will be an added obstacle for him, which potentially can cause him to fail. Hence, in these trial sequences, actions of the player, as Ethan, have an indirect impact on the ending. For another example, in one of the chapters where Madison helps Ethan in the motel — "On the Loose," if Ethan kisses Madison, the two will fall in love, which will lead to the epilogue endings "A New Life" (if Shaun is saved) or "The Tears in the Rain" (if Shaun is not saved). However, if Ethan rejects Madison, the epilogue endings could include "A New Start" (if Shaun is saved) and/or others. This sequence thus has a direct impact on the ending (of the epilogue).

In the second type of sequence, there is the potential for a character to die (marked with a cross sign in Figure 7.34). If death happens, subsequent chapters with the dead character will be automatically removed. This creates a direct impact on the ending.

Looking at those choices and consequences, one can easily feel that the game is quite complex during the first one or two plays, which leaves a lot of "what if" questions in the player's mind. However, the degree of the mystery lessens after repeated plays when the links between choices and consequences are gradually revealed in different plot variations. This should be considered a natural outcome of a practical, efficient game design and development of a successful commercial title. The structure of *Heavy Rain* maintains a good balance: the story engages players and possesses a certain degree of variability for them to replay, but it also stays at a manageable size for designers to craft each branch to secure coherency. This leads to the question: if it is a branching structure with limited branches, is it a foldback structure then? Let us take a look at the detailed operational flow of the game presented in four diagrams, from Figure 7.29 to Figure 7.32. In these diagrams, I adapt the style of an UML (Unified Modeling Language) interaction overview diagram and embed the activity flow to describe the interactive flow of the game operation. The choice of such a style is due to the complexity of the operational logic for narrative interaction in *Heavy Rain*. A simple descriptive narrative operation, which I used for *Assassin's Creed* and *Fable II*, cannot do the job.

From the four diagrams, we can see that the entire flow is divided into segments. Each segment typically represents a game chapter; however, there are a few exceptions that contain more than one chapter if the chapters do not play a role in determining the global ending. The order of the operation of the segments follows the vertical lines. When there is more than one character in a segment, the segment block crosses the corresponding characters' lifelines. The diagrams only show the logical elements that have a global impact. At the end of a segment with a global impact, the character's state can change and will be taken into account in future segments. An example is that after a character died, the future affiliated segment(s) would not take place. For example, in Figure 7.30, if Madison died, the segment "Sexy Girl" would simply be skipped. This means that in the game program, the states of the characters are global variables. In the last segment — the climax chapter "The Old Warehouse," the values of such variables (3 in total) will together help determine how this segment is played out. For instance, if Ethan fails to find the warehouse and Madison and Norman manage to arrive at the warehouse, Madison will be chased by the Killer while Norman is saving Shaun. In total, the diagram shows 12 ending situations, some of them having patterns that are partially the same. For example, when Madison is chased by the

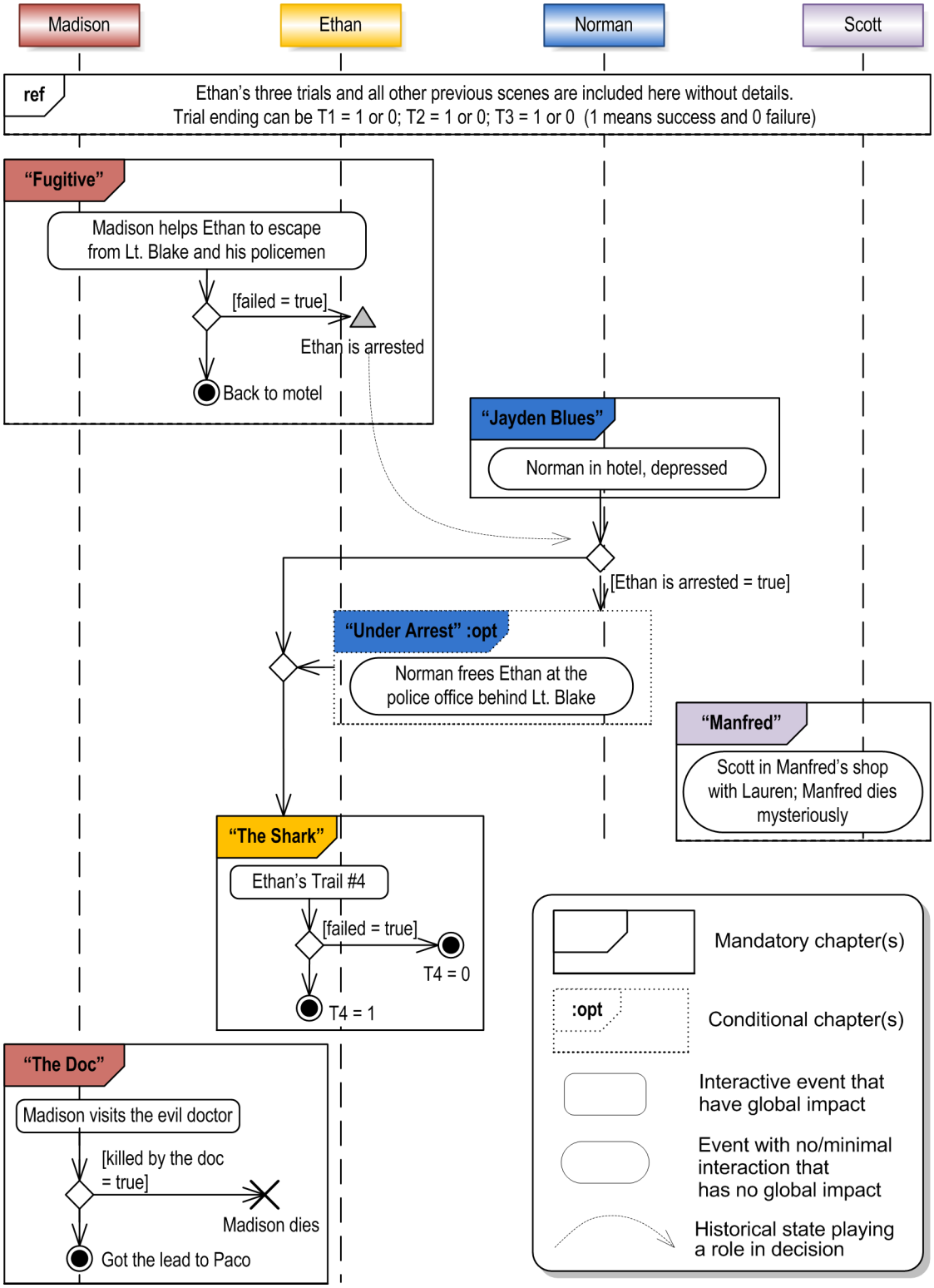

Figure 7.29: The operational flow of *Heavy Rain* (1/4).

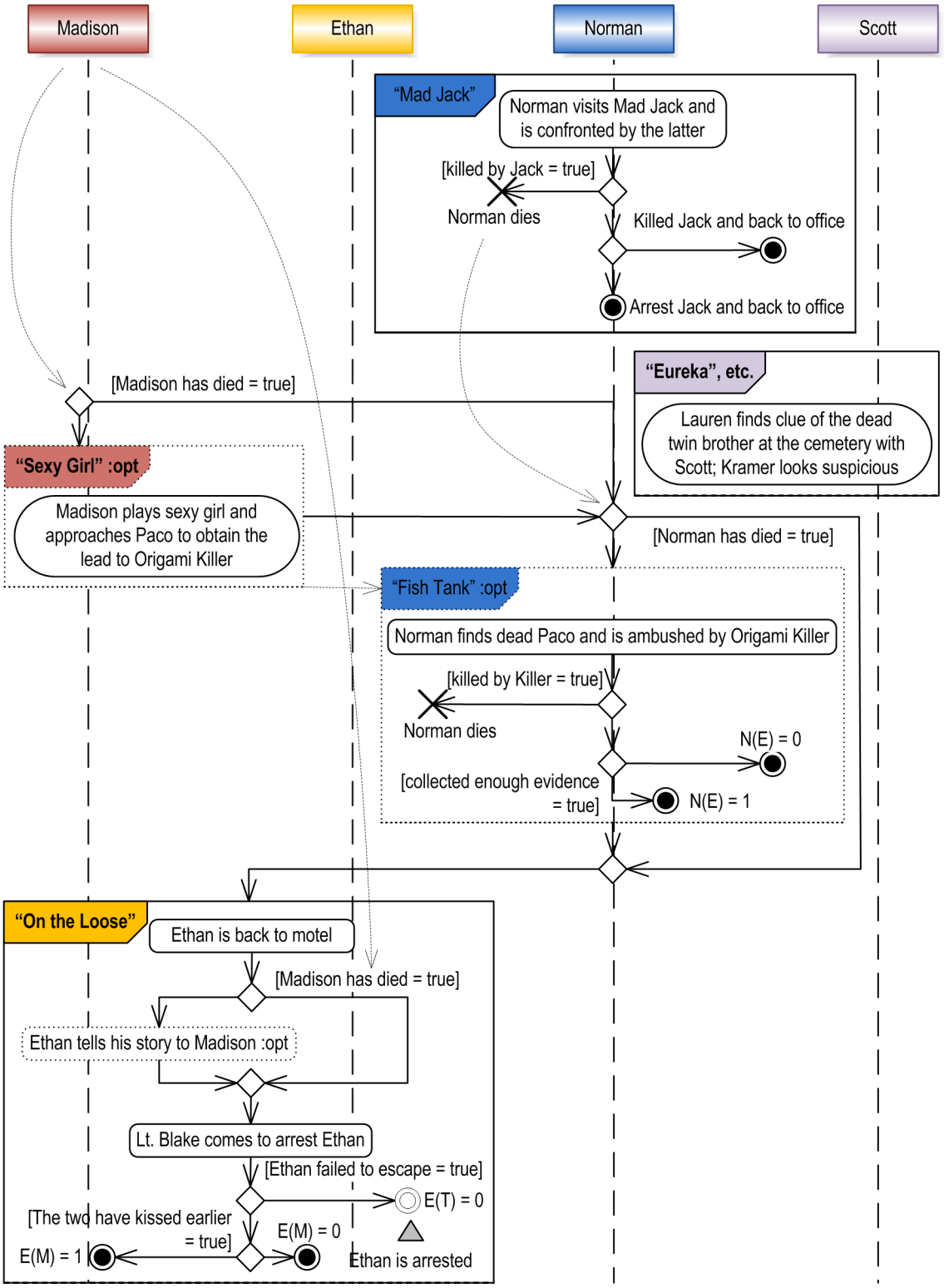

Figure 7.30: The operational flow of *Heavy Rain* (2/4).

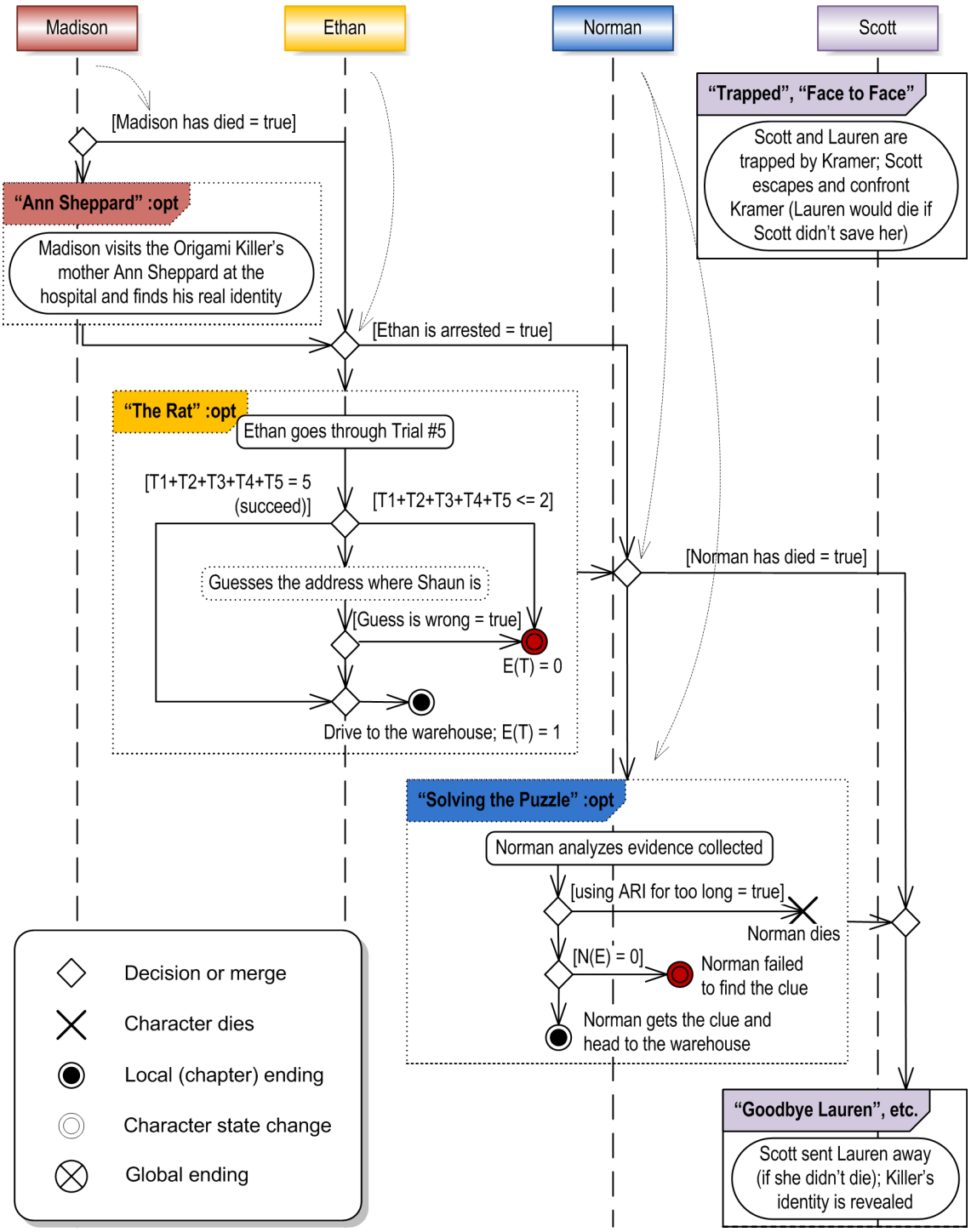

Figure 7.31: The operational flow of *Heavy Rain* (3/4).

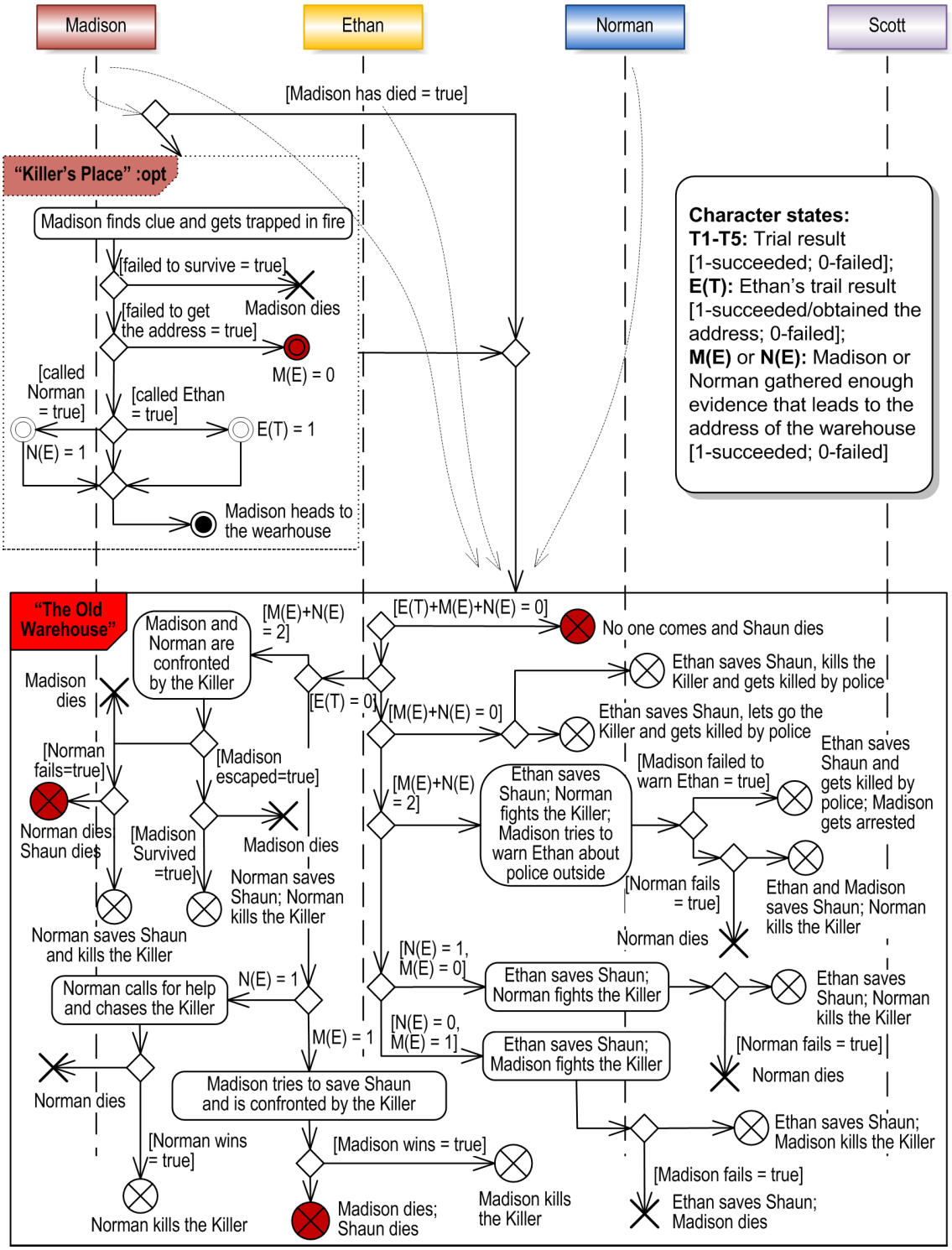

Figure 7.32: The operational flow of *Heavy Rain* (4/4).

Killer on the rooftop, no matter whether it is Ethan or Norman who is at the scene, he will come up eventually and shoot the Killer.

From the diagrammatic view of the operational flow, it is apparent that the interactive structure of *Heavy Rain* is not quite like a branching structure shaped like the one in Figure 5.6. In fact, the narrative does not branch at the global level, but it does branch out at the local level within some complicated chapters. There is no branching *between* chapters. In this sense, we can say that the game as an interactive narrative still uses the foldback structure but does it in an intelligent and disguised way. The narrative design of *Heavy Rain* fulfills what Ryan suggests about interactivity: "The ideal top-down design should disguise itself as an emergent story, giving users both confidence that their efforts will be rewarded by a coherent narrative and the feeling of acting of their own free will, rather than being the puppets of the designer" (2006, 99-100). Apart from the 12 ending situations after the climax (shown in the "Old Warehouse" in Figure 7.32), the game follows the ending situation with a number of epilogue cut-scenes (not shown in the diagrams), selected from a total of 18 sequences based on all characters' states. This "second" ending further enriches the narrative experience as a reward to players who can finally relax and watch some cut-scenes, perfecting the great dramatic arc.

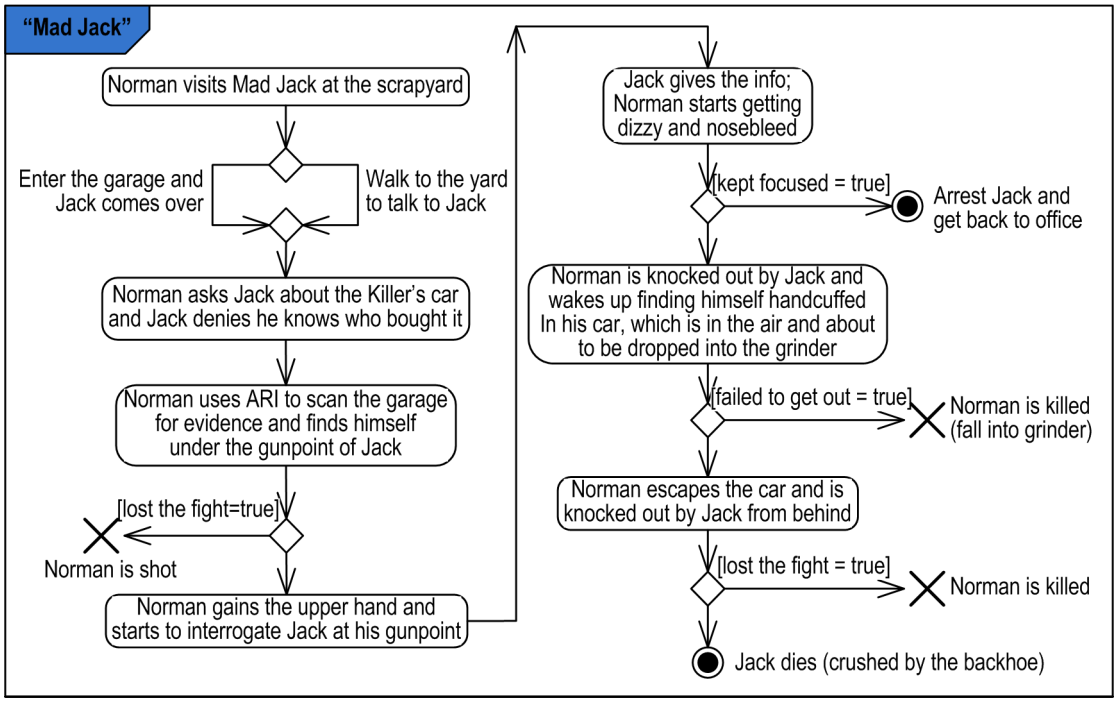

Figure 7.33: *Heavy Rain*'s local interactive structure - the "Mad Jack" chapter.

At the local level, *Heavy Rain* maintains a complex interactive structure, too. In total, there are three types of chapters in the game. In the first group, players cannot vary the story unfolding at all; they can only follow the prompts and move the scene forward, or in a very few chapters, sit there watching the cut-scene. In the second group, players can choose from several options at some decision points so that the story unfolds differently. However, there is only one ending situation of this type of chapters, meaning there is no change of global states of the characters. In the third group, things are the same as the second group, but player choices can lead to different ending situations of the chapters. This will lead to the change of one or more global states, which will be factored into the unfolding of future events. Figure 7.33 shows the internal flow of one of the complicated chapters, "Mad Jack," which belongs to the third type of game chapters. As we can see, the playable character, Norman, can die at three different times and venues in this intense fighting scene. When he dies, his state will be changed on the game's record so that any future scenes with him will be removed.

7.3.6 The Plot Structure

The plot of *Heavy Rain* is both dramatic and epistemic. From the plotline of Ethan, the story is a drama-thriller where he needs to overcome his psychological weakness and save his son. From the plotlines of other main characters, the story is a detective mystery where they need to gather clues to find the killer. The plot is tightly structured by sequences with the dramatic tension going through a clear arc, shaped as the Freytag's triangle mentioned earlier. The sequences are roughly organized by the chronological order with very few flashbacks. The premise of the game plot is that Shaun, the potential victim of the Origami Killer, has been kidnapped and has only four days to live before drowning to death. The interactive storytelling adopts a branching structure with sequences that allow players to alter the plot progression at both local and global level.

As previously described, there are four protagonists/playable characters in *Heavy Rain*. The dramatic tension mainly follows the experience of Ethan, who is Shaun's father. Nevertheless, the three other protagonists also experience more or less the same trend of tension. Multiple protagonists naturally lead to multiple plotlines and subplots. After a lengthy setup, the plot goes through a stair-step development including five phases marked by the five "trials," set up by the Killer, for Ethan to go through in order to save Shaun. Then it comes to the third part that pushes the plot to a climax and ends with an epilogue consisting of several scenes. Although the time required to complete each chapter varies (typically

from 5 to 15 minutes), the count of chapters can still serve as a rough means to time the plot segments. Ethan starts his quest to save Shaun from chapter 12 and when the last trial is over, it is chapter 48. There are 5 chapters left from this point; however, the climaxing chapter "The Old Warehouse" takes longer than others (about twice the time). Moreover, the epilogue typically consists of several chapters depending on the ending situation. Hence, the last part is only slightly shorter than the setup part. This timing is close to that of classical Hollywood films, which is typically 1-2-1 for the three acts (Thompson 2003).

Figure 7.34 shows the plot segmentation. The diagram is based on an operation where no character dies before "the old warehouse" in order to show a complete picture. If a character dies in the game, all the remaining chapters related to that character will be simply removed. I consolidate some of the chapters in order to make the key development standing out. During diagramming, I paid attention primarily to two aspects. One is the segments of the plot; the other is the tension level of each segment. From this diagram, we can see *Heavy Rain*'s plot structure resembles that of a classical film as described by Thompson (2003). Although the plot roughly includes three acts, there exists a middle point by which Thompson would divide the middle act into two parts — the *complicating act* and the *development*.

In the first act, every playable character is introduced. As a result, four lines of action are set up. As the overarching plot follows Ethan's journey to save his son, the setup part gives more time to the exposition of his situation. It is notable that in this act Ethan has experienced two devastating events: the loss of his first son and the disappearance of the second. This doubling technique creates a strong suspense for players. In the usually peaceful first act, Madison's scene shows a near-rape, in an unusually violent dream sequence. This sequence sets the tone of Madison's character — insanely insomniac and unsettling — as well as closes the first act on a high note, as it is the first intense action sequence in the game.

In the second act, Ethan embarks on his rescuing journey and goes through the five trials, while other characters are trying to find out clues to the Origami Killer. As I mentioned earlier, the game chapters rotate the playable character (i.e., narrator) on a semi-regular basis. In the middle block of the plot diagram, the sequences on the same horizontal line can be considered to occur within roughly the same time frame. The plot is pushed forward by all four characters' actions. Focusing on Ethan's situation again, I found a key middle point from which Ethan's situation worsens. It is the cut-scene where Ethan's separated wife came to police telling Norman and detective Blake about Ethan's unstable psychological condition, which leads Blake to believe that Ethan is the Killer. After consulting Ethan's

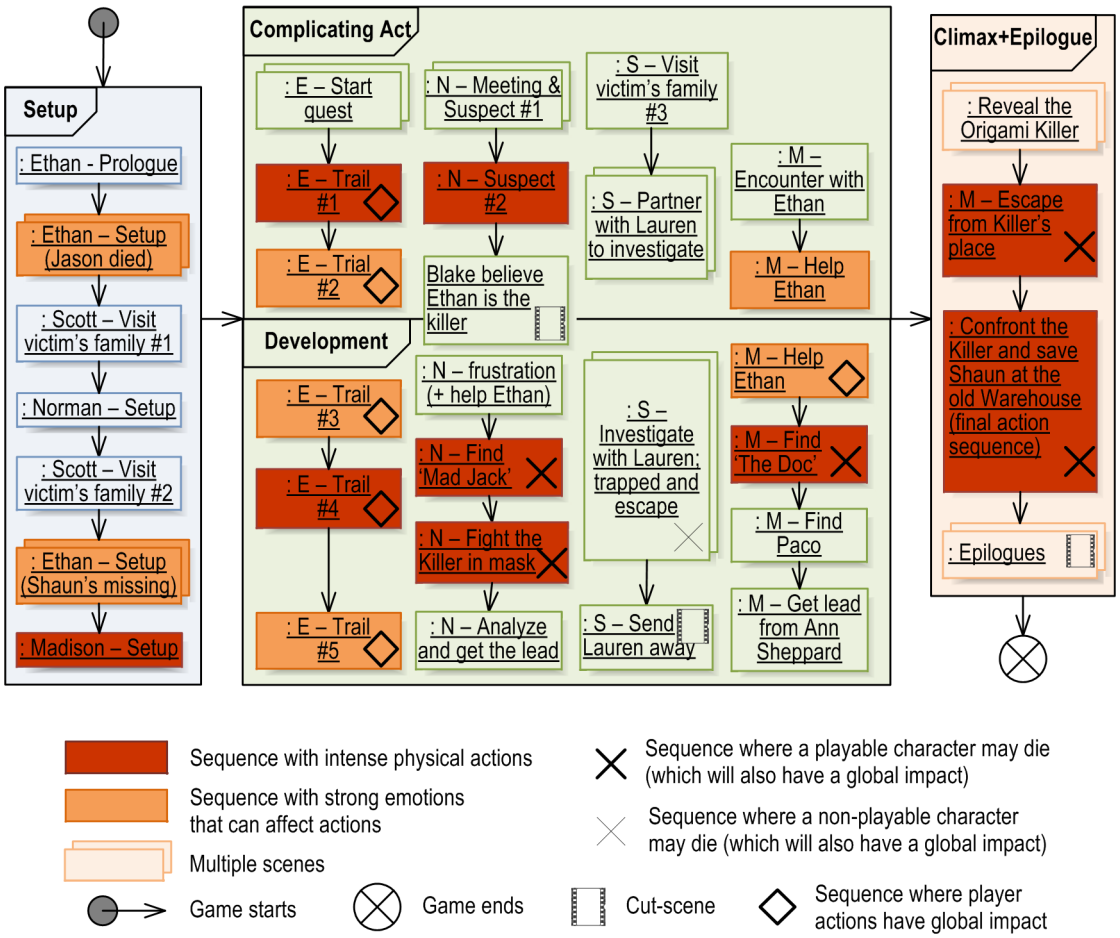

Figure 7.34: *Heavy Rain*'s plot segmentation.

psychiatrist, Blake decides to arrest Ethan, which makes Ethan's quest to save his son remarkably more difficult. Hence, the second act can be further divided into two parts — the complicating act and the development, using Thompson's terms. In the second part, Ethan faces a threat of being captured by police in addition to the trials set by the killer. From the tension color coding, we can also see that the second part (lower half) has more emotion and action charged sequences than the first part. The tension level is on the rise during the course of the second act. While Norman and Madison have a few very intense fighting scenes, Ethan faces more moral struggle and great fears when going through the trials: driving the wrong way on the highway, climbing through electrical condensers at a power station, cutting his own finger, killing a drug dealer, and drinking the poison. Another indicator marking a higher dramatic tension in the second part is that in several chapters, the playable character can die for different reasons or do something that has an impact on how

the future story goes and ends. After Ethan completes the five trials and heads out to the address where Shaun is supposed to be, and in addition Madison and Norman each finds a lead of the killer, the second act closes in preparation for the resolution.

The third act is the climax and epilogue. Depending on who has survived to this point and whether Ethan has been arrested, the climax chapter "The Old Warehouse" can play out very differently. However, no matter which character is there to save Shaun, the last playable chapter is full of actions and tensions during the fight with the Killer.

7.3.7 Temporal Analysis

As a mystery and thriller, the dramatic tension of *Heavy Rain* is largely built on suspense and surprise. While the strategic design of focalization helps create suspense with subjective knowledge, the temporal design plays an important role in making the plot development motivate the gameplay. In *Heavy Rain*, themes and devices are clearly introduced in a principle of realist motivation. Under realist motivation, a theme or device is used for the purpose of creating realism or lifelikeness, from which plausibility is generated. This plausibility is the key to create the suspension of disbelief, to immerse players into the storyworld and become both physically and emotionally attached to it. In a realist style, the story is unfolds over a time period of four days in which events happen in a rhythm. In the beginning of almost every scene, there is an indication shown on screen of time and the precipitation level, reminding players that the more rain falls, the less time Shaun has to live. Players thus have to find the killer under the ticking clock, which build the dramatic tension.

7.3.7.1 Duration and Pacing: The Ticking Clock

The clear on-screen time stamp starts from chapter 4, after Ethan's first setup; however, only in game chapter 15, "Kick off Meeting," through Norman's analysis do we get to know that we only have less than 4 days to save Shaun, before the rainfall reaches 6 inches. From the time indication we see that although the plot juggles among four characters, the timeline remains unified; namely, there are no events happening simultaneously. This can be seen in Figure 7.35. Although the main story (fabula) events take place in four days, from Tuesday to Friday, the length of the game is typically 8 to 10 hours. How do the designers fit 4 days into 8-10 hours yet still maintain a realistic narration? For most of the chapters with critical, continuous actions (i.e., with global impact), the events unfold in the *scene* tempo under the

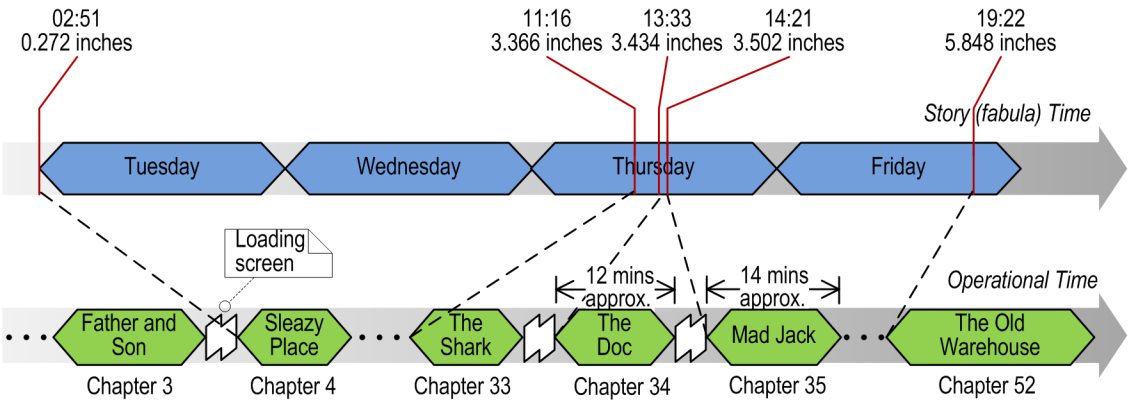

Figure 7.35: Duration in *Heavy Rain*.

designers' realistic motivation.[47] Under this circumstance, the most effective way to reduce the operational duration is to employ large amount of *ellipsis*. As we can see from Figure 7.35, almost all loading screens can be regarded as some sort of ellipsis because the next scene will start from a new time point, discontinued from the ending point of the previous chapter. There seems to be only one occasion the plot uses ellipsis in an typical and explicit way, which occurs at the beginning of chapter 2 — "Father and Son," with onscreen caption reading "two years later," indicating the time passage.

As indicated in the plot diagram, the middle turning point of the plot (and operation) — Chapter 33 — takes place near noontime on the third day of the story time. Since the on-screen time stamp starts from Chapter 4, the game takes 29 chapters to complete about 60% of the duration of the story time, which leaves 19 chapters to 40% with slightly longer operational duration for some of the chapters. The distribution of operational time almost strictly sticks to the durations of story time, making players feel they are playing in real time. In order to keep the strict mapping relationship, the game has a strong control over the pacing. Many of the events are timed. If the player does not perform what is required to advance the plot, the game simply takes back the control and makes the game move forward by making a decision for the player. A good example is the scene where Ethan reports to Lt. Blake at the police office about the missing of Shaun. When asked what time Shaun went missing, the player has to promptly choose the right option among the four time points on screen. If the player is too slow, the game will choose a wrong time and make Ethan say it.

[47] As I have discussed earlier, in general actions happening in games tend to be quicker than in real world because designers want the gameplay to be reasonably efficient. As the scaling of duration (if it is different from real-world one) in such sequences is usually consistent throughout the game, it does no harm to assume they are in the tempo of scene.

Given the strong control of pacing, there is rarely *stretch* and *pause* in the game narration. Most of the "pause" moments in the game exist only for practical reasons, including the loading screen and the pause menu. The enforced pacing successfully secures the gameplay under a ticking clock, which intensifies both narrative and gameplay experience.

7.3.7.2 Order

Under the same motivation for realism, the sequential order of the plot events is consistent with that of the story (fabula) events. There are only a few exceptions where the game uses retrospections to present important back-story to players. Similar to film narration, these retrospections are done in flashbacks as part of a dialogue or mental recalling. There are two major flashbacks with visual scenes. They are two parts of a back-story about what happened 30 years ago to a twin kid named John Sheppard, who is suspected to be related to the killer. Because his name comes up during the search for the Killer by all three investigating characters (photographer journalist Madison, FBI profiler Norman and private detective Scott), the flashback chapters serve as important clues for players to uncover the mystery. The first flashback (in Chapter 37) is told by the graveyard worker to Scott and Lauren, a past victim's mother who is determined to help Scott. By now, we realize that John Sheppard died 30 years ago and his twin brother could be the killer. The second flashback is a short standalone scene (Chapter 49). At the end of flashback before John died, he called out the name of his twin brother, which brings shocking surprise to players and unveils the climaxing act. These two flashbacks give a good "push" to the mystery plot by revealing key information. Lastly, there are other more conventional, short flashbacks; they are presented not through visuals but through embedding in dialogues and monologues throughout the game.

7.3.7.3 Frequency: A Death is a Death

In my discussion earlier, I have shown that one important feature about frequency in game narrative is *repetition due to death*: when players fail a fight and die, they are simply brought back to life and given the chance to repeat that fight until they succeed. We have seen this happening in *Assassin's Creed* and most of other games. Repetition after the death of the avatar, which is considered by Atkin (2008) as a game routine that can cause the collapse of the linear understanding of games but is also a pleasure of play, is eliminated. *Heavy Rain*'s loyalty to realism prevents the use of this common game niche. A death is a death; there is no second chance to make things right. When a character dies, it will not appear in any of

the future events.

In *Heavy Rain*, almost all story events are presented singularly, which follows the convention of realist narratives. There might be a few rare and brief repetitions. For example, one short sequence about the bar waiter cautioning Norman not to get over addicted (either to ARI the detective device or to Triptocaine the drug to ease ARI side effects) appears twice in the game. When this sequence appeared in Norman's illusion for the second time, he is at the verge of collapsing due to long hours of exposure to ARI for analyzing the case. The repetition thus serves as an implicit warning to players that Norman's condition is quite serious at that point. In fact, if he spends too much time in that chapter to do ARI analysis, he can die from it. In general, repetition is provided only as a game option: once the game is completed for the first time, all the chapters are unlocked to players so that they can choose one on the index page to replay. This option is very similar to a DVD menu option, which allows viewers to choose a chapter to view.

7.3.8 Spatial Analysis

The story of *Heavy Rain* takes place in several locations that are naturally scattered around in an American city. As these locations are not connected to each other in the storyworld, the overall spatial layout is not as important as the presentation of each individual subspace. Because the space is not a continuous one, we cannot really draw a map of the topography of the game. Hence, the following spatial analysis will look at the game only from operational view and presentational view.

7.3.8.1 Operational View: Moving through Discontinuous Subspaces

The subspaces in *Heavy Rain* can be distinguished into two groups. One is those recurring subspaces where characters constantly go back. The other group of subspaces only appear singularly in the game. There are three recurring places: the motel, the police office, and Scott's apartment. These places accommodate three lines of events and actions. Ethan and Madison check into the same motel and encounter each other there. Ethan will then come back from each "trial" to take a break and get ready for the next "trial", whereas Madison will check on him and help him in different ways. In the police office, Norman and Lt. Blake (NPC) work on the case in between investigations, sometimes separately, other times collaboratively. Scott retreats to his apartment between investigations and works on the case with Lauren (NPC). All three recurring subspaces serve as the venue for characters to retreat and exchange information. These characters have a common characteristic —

mobility. They are able to move around the storyworld following the plot progression. For players, the scenes taking place in these recurring subspaces also help them digest the information gathered so far, through characters' discussion. These characters are the four main characters, Lt. Blake and Lauren.

Singular subspaces appear when characters leave their retreating places to gather information. In fact, the majority of the scenes happen in a singular subspace, e.g., the homes of past victim's families Scott visits and the places of informants visited by Norman and Madison. Each such subspace features one character that is critical in the process of investigation. This character is attached to the subspace and thus immobile. Examples of such immobile characters are Hassan (attached to his convenience store), Mad Jack (attached to his scrap yard), the evil Doc (attached to his house), Paco (attached to his pub), to name a few. These characters are part of the subspaces they are attached to and hence the space and the character manifest for each other. Hassan runs a tidy yet modest looking convenience store; he himself has the look of a hard-working immigrant shop owner, in clean and slightly serious clothing. Paco runs a trendy dancing pub called Blue Lagoon, where he looks comfortably rich in an animal print top, tattoos on his chest, and is apparently interested in sexy girls. The atmosphere of the environment largely helps the characterization of these immobile characters, which otherwise can easily be as flat as those in *Assassin's Creed*. Through these characters, players accumulate more information about the Origami Killer though some of it could be false. Mobile or immobile, most characters in *Heavy Rain* exist for a purpose and hence are interactable.

7.3.8.2 Presentational View: a Filmic Experience

The story of *Heavy Rain* takes place in a discontinuous space. With each scene featuring a unique subspace, the presentation of the game space is very similar to that of a cinematic space. Because of the discontinuity of the space, navigation is not a key aspect in *Heavy Rain* despite a few larger subspaces that involve some navigation (e.g., the electrical wire room in the power plant and the rooftop of the old warehouse). Hence, the space serves mostly as a thematic backdrop and container of events, rather than as an interactive object of presentation itself like the space of Assassin's Creed.

Applying some narrative techniques from noir and detective films, some of the game scenes have tactfully composed on-screen and off-screen spaces. In these cases, the relationship between the two spaces is not to simply complement to each other, as in *Assassin's Creed*. In the chapter named "Fish Tank," for example, after Norman enters the Blue Lagoon

nightclub, the screen splits into two windows. On the left in the smaller window, Paco pours himself a drink and a person enters the room. We can vaguely hear their conversations and see Paco is killed by the shadow of the person. Simultaneously on the right in the bigger window, Norman walks through people and upstairs to Paco's room. In the soundtrack, the dancing music overlapped with Paco's conversation. Once we hear the gunshot, the two windows merges into one screen showing Norman opening the door. After he sees the dead Paco and starts looking around, the killer comes out of the dark (i.e., from the off-screen space) and attacks him from the back. The composition of shots in the above sequence creates a filmic experience of the narrative. The split screen, the overlapping soundtrack, the camera angle and thoughtful editing, taken together, strategically deliver *part* of the information and *withhold* the key information — who is the killer.

The next question is: how does a discontinuous space coordinate with the temporal continuum? As I have discussed in the previous temporal analysis, the time in *Heavy Rain* is in fact *not* continuous. As a result, the entire game narrative is segmented into scenes, each having its own continuous space and time. This is very typical to film narration. During a time continuum, if there is a need to change the subspace beyond the range of a shot space, a simple cut will transit to another subspace. In other words, editing is the main way of transition between subspaces. Editing also plays a role in the physical perspective. Although the storyworld is presented in third-person perspective, frequent interventions through editing constantly refocus our attention. In addition to editing, the game also uses on-screen prompts to hint to players that they can switch their view to the focalized object. For example, a visual prompt overlaid on an item suggests to players that they can press a button and take a closer look at the item (see Figure 7.36).

Figure 7.36: On-screen prompt in *Heavy Rain* that allows players to switch views. (Source: Sony Computer Entertainment, 2010. Image from IGN.com, by permission)

In a way, on-screen prompts complement players' loss of camera control in the game. In

some scenarios, on-screen prompts also indicate that the object is interactable and players can pick it up and use it for different purposes. Other than the prompts, the screen interface of *Heavy Rain* is fairly transparent. There are no health bars and other indicators that often appear in other games. As I have mentioned earlier, the game design promotes the contextual gameplay. By minimizing interface elements, the game creates a more transparent, immersive narrative experience for players.

7.3.9 Summary

As usual, I use tables to summarize those prominent narrative techniques and devices used in *Heavy Rain* from four aspects: composition of the game text, plot structure, time and space (see from Table 7.6 and Table 7.7).

From the very beginning, *Heavy Rain* is designed to be a game different from others in many ways. The motivation for writer director Cage is to explore emotions in a game that is designed for adults. From this perspective, the game is a big success. Applying extensively film narrative techniques, including the three-act dramatic arc and styles borrowed from film noir and crime/mystery genres, the game creates an immersive, engaging and thrilling narrative experience for its players. As *New York Times*'s Seth Schiesel (2010) describes it, "I have probably spent 10,000 hours playing various sorts of electronic games. But no single-player experience has made me as genuinely nervous, unsettled, surprised, emotionally riven and altogether involved as *Heavy Rain*, a noir murder mystery inspired by film masters like Hitchcock, Kubrick and David Lynch". *Heavy Rain* and its precedent *Fahrenheit* (another serial killer story) have enabled a series of discussions that revisit the question whether it is time to "bury" the so-called "interactive movies." While Travis Moses (2009) at GamePro.com calls the game the "closest thing to an interactive movie we've ever seen", game scholar Ian Bogost (2010) claims the game is "not an interactive film" because a game by nature rejects editing — the technique that marks the identity of a film. Whether *Heavy Rain* is an interactive movie is not important here since the genre has never got a commonly agreed definition. However, it is worth mentioning that limited interactivity is the common complaint of interactive movies.

Table 7.6: Summary of techniques used in *Heavy Rain* (1/2).

Aspects	*Techniques*	*Level*		*Positive*	*Negative/Controversial*	*Remarks*
		Macro	*Micro*			
Text composition	Multi-person focalization	✓	✓	Delivering subjective information through different focalizers, which helps intensify the mystery and suspense		
	Complex interactive flow	✓	✓	Resisting patterns; Strong perceivable consequences of player choices both globally and locally; Motivating replay		
Plot structure	Segmentation by scenes	✓		Allowing the use of techniques of film narration		
	Dramatic arc	✓		Following a three-act, four-part structure and creating the dramatic arc, which is the classic way to deliver a satisfactory dramatic experience	Unlike the usual timing of three acts in films, the game has an longer setup phase that can bore some players	The long setup is partially due to the multi-person narration; i.e., the plot has to introduce all four main characters in the setup which prolongs this phase
Time	Scenes most of the time with regular ellipses	✓	✓	Adding to the sense of realism of the game story; Helping the player's reasoning process for solving the mystery		
	Ticking clock	✓	✓	Pressuring players to act quickly and intensifying their gameplay and emotional experience		At global level, the on-screen time stamps remind players how much time is left for Shaun's life; At local level, different devices are used to pressure players, e.g., timed sequences and clocks in the mise-en-scéne
	Chronological ordering	✓	✓	Adding to the sense of realism and player agency	No repetition after death, which might frustrate some players	Exceptions are the few flashbacks providing critical information

Table 7.7: Summary of techniques used in *Heavy Rain* (2/2).

Aspects	*Techniques*	*Level*		*Positive*	*Negative/Controversial*	*Remarks*
		Macro	*Micro*			
	All singular events (i.e., no second chance for players)	✓	✓	Adding to the sense of realism		
Space	Discontinuous space	✓			Limited navigational freedom	
	Combination of mobile and immobile characters	✓	✓	Complicating the story and making the choices more interesting		
	Recurring and singular subspaces	✓	✓	Recurring subspaces (mainly for characters to retreat) anchors the story and provides opportunities for characterization; Singular subspaces present interesting immobile characters and events that push forward the uncovering of the mystery; The distribution of events taking place in these two types of subspaces creates the sense of rhythm of the narrative progression		
	Cinematic presentation of the space through controlled camera angle and thoughtful editing		✓	Helping control the covering and revealing of narrative information; Creating fluid presentation of game story	Preventing free navigation; Limiting the viewing angle of players	The on-screen prompts compensate the loss of player control to some extent. They allow players to switch views, e.g., to get a close-up of an interesting object, or to move the playable characters head in order to view left and right

A look at the weakness of interactive movie leads to the central challenge of the game design: Granting a satisfactory narrative experience, how does the game give players enough meaningful choices based on a manageable size of narrative materials and interactive mechanisms? The game addresses the challenge in several ways. First, the game uses an interactive flow structure integrated with a state machine mechanism. While players can choose different paths at a local level, the states of all characters affected will be recorded. Thus in a later scene, at each decision point, it is both player choice and the states recorded that together construct the conditions at the moment, based on which the game decides which direction to go. In this way, with limited choices for players, the game plot still looks complicated and extremely variable. The second way to enhance the interactivity is at the local level. The contextual gameplay scheme employs on-screen prompts to enable players to interact. Aside from making plot decisions and taking physical actions, it also allows players to access characters' inner thoughts and explore the physical environment enriched with interactable objects.

Notwithstanding the above efforts to enhance the interactivity, the gameplay experience is unavoidably compromised by the strong narrative ambition of the game. Under the thoughtfully designed gameplay scheme, players have limited control over the characters, especially their physical movements. The scene-based cinematic narration style enforces a discontinuous and highly edited presentational space, where free navigation is discouraged. In addition to the gameplay issues, the unusually long setup act with no substantial actions also makes some hardcore gamers shy away. Nonetheless, I believe these areas are probably a necessary compromise and are the risks the game designers take to realize their top goal, which is to reject existing repeated gameplay mechanics and tell a story that unfolds according to player actions. Cage apparently was aware of the risks at the time of developing the game and wrote in his blog:

> If HEAVY RAIN fails for whatever reason, it will be years before another publisher takes the risk of creating a project based on emotion and interactive narration for an adult public. If it succeeds, it will prove that it's possible to create different kinds of interactive experiences that have nothing to do with the rules that have been pre-established for the last twenty years. (2010)

7.4 Comparison and Summary

Applying the same analytical framework to the three case analyses makes it easy to compare and contrast the three games. In this last section of the chapter, I will highlight the similarities and differences among the three games as a synthesis of the above analytical findings. I will present them from four aspects, from which an informative set of, successful or unsuccessful, design lessons can be drawn.

7.4.1 Relation between Structures on Three Layers

A comparative look at the game structure, interactive structure for narrative interaction and plot structure of the three games returns two insights about how the three structures relates to each other.

First, *the game structure and plot structure are usually in line with each other*. This is because the game structure is based on the patterns of changes of the gameplay mode. These patterns determine the formation of gameplay units, which can potentially lead to game levels. Since the plot unfolds during the course of completing each unit, its progression is always in accordance with the game progression. In spite of this accordance, either one of the two structures can take the lead in the design. Both *Assassin's Creed* and *Fable II* boast complicated gameplay dynamics and thus are more driven by gameplay. As a result, the plot structure is subordinated to the game structure. The high-level game structure of *Assassin's Creed* is a string of self-contained gameplay units, each with its beginning and end and a similar internal structure. *Fable II* is structured less rigidly. While some units (i.e., indirect quests) have a similar internal structure, others vary in their gameplay mode (i.e., direct quests). What is similar between the two games is that their plot structures are more or less just a container for their game structures. This is also why the plot in these two games lacks dramatic tension and more closely resembles a travel story, as in general each gameplay unit (or game level) presents a different location. *Heavy Rain* is different. Because the drama takes the lead, the game structure is subordinated to the plot structure, which contains a series of scenes that form a dramatic arc. There is no pre-determined gameplay pattern. The gameplay mode is dependent on whether a scene is charged with actions, narrations, or emotions. Consequently, the game structure lacks distinct game levels and more or less just accommodates the plot structure.

Second, *the interactive structure — the textual structure of the game as an interactive narrative — is independent of the game structure and plot structure.* The interactive structure concerns the operational logic that drives the presentation of narrative materials. In other

words, it determines the ways of creating narrative variations that afford non-linear play. The game structures of *Assassin's Creed* and *Fable II* are somewhat different, but their interactive structures are very similar. They both use simple-logic narrative operations that allow players to pick their own tasks and the order of doing them. *Heavy Rain*'s game structure and plot structure are completely sequential (or linear), but its interactive structure allows local branching that yields a very flexible non-linear play. In a word, while in *Assassin's Creed* and *Fable II* the variability of the narrative experience is about what actions a player performed in the game, in *Heavy Rain* it is about how a player performed those actions.

The lesson here is about the priority of design. Because the game structure is the container of the plot, its architecture directly affects the plot structure. Which structure goes first is dependent on the priority of the design. If designers have specific requirement for the organization of the plot, it would be better for them to begin with the plot structure and create a game structure that can support that shape.

7.4.2 Presenting and Embedding Narrative

When we take an integrated view of a game narrative, both interactive and non-interactive game sequences are part of the narrative. Hence, there is little non-narrative content in a play of a story-based game. It is usually those game system menus (that allow settings like difficult level, subtitle, game save option, etc.), loading screens, and, arguably, most of the HUD content that monitors such gameplay status as the player character's health. For the narrative content, the three games employ a similar set of forms, which reflects the typical textual composition of modern games:

- **Action sequences** are the main form used to present the story as a whole. They are constructed with series of player actions and mini sequences triggered by those actions.

- **Cut-scenes** are those pre-rendered sequences used for relatively long dialogues and non-interactive presentation of events. In all three games, the traditionally non-interactive cut-scenes are largely minimized and replaced with so-called interactive cut-scenes, where players can at least move their avatars around and change their camera view.

- **On-screen captions and prompts** give players hints or instructions on what to do. While *Assassin's Creed* and *Fable II* both use on-screen caption to provide background information and instructions, *Heavy Rain* uses on-screen prompts as part of the user

Table 7.8: Distinct use of various forms to present narrative content.

Forms of Narrative Content	*Assassin's Creed*	*Fable II*	*Heavy Rain*
Voice-over narration	Female voice-over is used throughout the gameplay and loading time as a way to deliver instruction. Here it can be either considered part of the narrative (i.e., uttered by the Animus device), or non-narrative content.	Theresa's narration is used as the framing narrative.	None.
Narrative artifacts	Such narrative artifacts as letters and emails are used to provide background information. While emails can be directly accessed on Lucy's computer, the letters can only be read through the Animus memory interface.	Numerous narrative artifacts are embedded in the pause menu, including books, letters, diaries, logbooks, etc. Some of them provide back stories; others are inessential to the story.	Many narrative artifacts are naturally embedded in the environment for the playable character to access and gain crucial information about the story. Examples can go from Shaun's drawing, to Norman's case archive, to Madison's notebook, and so forth.
Narrative database	The Animus menu provides access to all memory strands within an unlocked (played) memory block. Players can view a brief description of the missions in an unlocked strand, or play a new strand.	The pause menu provides access to all narrative artifacts and unlocked quests. Players can view a brief description of each quest, or choose a new quest to do.	There is no narrative database functioning like an index of gameplay units. However, Norman's ARI case folder functions like a database that contains all the clues Norman has collected.
Monologues	None.	None.	Throughout the game, players can trigger a monologue of a playable character by following the screen prompt and pressing a button. These monologues provide explanation of the character's motivation or rationale.

Table 7.9: Distinct use of narrative embedding.

Embedding structure	*Assassin's Creed*	*Fable II*	*Heavy Rain*
Horizontal embedding	Rarely seen.	Theresa's voice-over narration is used as the framing (main) narrative. When Theresa leaves her post as a narrator and hands the narration over to the player, those player-driven sequences can be seen as horizontally embedded inside Theresa's framing story of the Hero.	The multi-person narration-focalization enables macro horizontal embedding. Each scene can be considered an embedded narrative since the focalizer/narrator is changing in every scene. Several major flashback sequences (with or without interaction) are embedded horizontally.
Vertical embedding	Mini-story telling dialogues are often used especially in eavesdropping activities to give hints to inform Altair's next move. Such narrative artifacts as letters and emails with discernable narrators are used as containers for vertically embedded narratives. They provide background information for those curious players.		Some characters' dialogues contain mini stories, which are vertically embedded narratives. Although numerous narrative artifacts are scattered around the environment, they generally just present pieces of information.
Modal embedding	On the highest level, the game narrative is structured with assassination narratives (in the ancient world) modally embedded in the modern day narrative (in the lab). As the game progresses, the narrative displays a periodic shift of storyworld. In this way, it presents two settings (themes), which can: (1) potentially help attract more player groups by mixing genres; (2) ready the game for a sequel narrative: by simply replacing one of the two plot lines, a sequel can create brand new plot line while keeping the continuity.	None.	None.

interface to enable players to make choices, move and fight, access the player character's inner thoughts or speak a line.

Notwithstanding the similar choice of some major forms to present narrative content, each game uses a variety of minor forms, or the same forms in a different way to fit into its narrative structure. Table 7.8 lists the distinct forms used by the three games.

When the presented narrative content contains a mini story that has a new narrator or brings the current narrative to a new level, it becomes an embedded narrative. All three games use narrative embedding to a different extent. Horizontal embedding often takes place at a high level, which makes it more noticeable by the audience. It is a stylistic choice that is chosen by bolder designers to fulfil their artistic or compositional motivations. Vertical embedding creates depth for narration and helps to layer narrative material into hierarchies. It is both a stylistic and practical way to organize narrative content. Lastly, modal embedding is especially useful for narratives with multiple themes and realities. The concept of modal embedding can be incorporated into level design to create multiple "worlds" that have their own sets of rules. Table Table 7.9 summarizes their distinct use of this structuring device and their associated effects or functions.

Two design lessons can be drawn from the discussion. First, narrative designers have a wide selection of ways to present the narrative content. While cut-scenes and on-screen texts/graphics are must-haves for most games, other forms can not only create variety but also have special narrative functions. For example, voice-over narration can be used as a framing device; narrative artifacts can not only embellish an interactive game world but also help with hierarchical storytelling as they oftentimes tell an embedded story. Second, a combination of different embedding methods can be taken to perform various functions.

7.4.3 Means to Create Narrative Variation

The interactive structures of the three games show us the differences in how designers create the narrative variations that are necessary for non-linear play. A database narrative is almost always the solution for interactive narratives, which means the game text contains more narrative units than minimally required. By activating different combination of these units in a different order, each player gets a unique plot. The rules for the activation among the three games are different. In *Assassin's Creed* and *Fable II,* the scale of the narrative units is larger than in *Heavy Rain*. Their units are based on missions, which can contain several minutes, if not longer, of play sequences. These units are embedded in the game space. Players can choose what to do and the order of doing them. *Heavy Rain* is a game

consisting of countless quick-time events (QTEs), whose scale can be very flexible, from a few seconds to several minutes. This flexibility allows a play sequence to be broken up into tiny pieces, so that local logic can be woven into them. *Heavy Rain* thus can afford to have many more decision points than the first two games, which in turn requires a larger rule base.

In summary, two strategies can be used to create narrative variations. The first one is to create variability at a higher level by offering more-than-required plot units for players to choose from. The second one is to generate variability at a lower level by offering local choices for players to go through each plot unit in a number of ways. The second strategy can go to a different level so that characters can act intelligently and improvise on their own, using artificial intelligence that applies logic models in sequencing and generating plot units. No matter what technique is used, as Schell reminds us, the key to creating narrative variation is to create the *feeling* of freedom through "indirect control over the actions of a player" (2008, 284). *Heavy Rain* has done a good job in this regard without huge technological investment.

7.4.4 Structuring the Plot with Time and Space

Because the game structures of *Assassin's Creed* and *Fable II* have clear patterns, as the game plot moves on players experience segments with similar structures. Adams points out that dramatic tension "fades in the presence of both randomness and repetition" (2010, 165). Both of these two factors are present in the two games. Randomness is built into the narrative operation that allows players to take missions in random order. Repetition exists in the mission structure. Consequently, because of the weak dramatic tension, the game plot of both games falls flat on an emotional layer. On the other hand, the plot of these two games is largely organized by space. Missions tend to be carried out at various locations. In this sense, the plot is more like one for those travel stories where the protagonist traverses different spaces, each with its own actions.

Heavy Rain's plot focuses on dramatic tension because rich emotion is what the designers are seeking. By designing the intensity level of the emotion in each scene, the plot is shaped as a Freytag triangle to have the tension built up, climax, and resolve. To follow such an arc means the progression of the plot has to be time sensitive. Players are not allowed to dwell in any one scene longer than needed, nor can they skip through events. Therefore, the plot has a tighter control in time than space. Compared with the other two games, players have less freedom in the pacing and no freedom in order (event sequencing) in *Heavy Rain*. As

for narrative speed, *Heavy Rain* presents most of its content in the scene tempo to make the game feel realistic.

In the cases of *Assassin's Creed* and *Fable II*, the protagonist is a traveler. Hence, players, who control the protagonist, deserve some freedom to explore the space in the way they prefer. Space is designed with attention to realism, whereas time is mainly designed for convenience and efficiency. As a result, the two games present a large space that is both visually appealing and fully functional, with complex links to subspaces. In contrast, *Heavy Rain*'s space is designed as a background for actions. Its discontinuity, caused by both the topographical design and the camera work, more or less prevents players from exploring the space.

The lesson taken from the discussion of time for games is mainly about using different narrative tempi to manipulate the pacing of the plot. This pacing is crucial to shaping the narrative tension. In addition, designers need to be aware that it is not easy to build an overall tension arc for plots of travel stories. However, this can be partly remedied by creating a mini arc within each plot unit, which presents a different location and hence a relatively independent story.

Chapter 8

Discussion

The recent boom of digital games with sophisticated stories poses challenges to not only learners and scholars but also designers. In exploring ways to increase game literacy, Zagal proposes that a deep understanding of games requires the "ability to explain, discuss, describe, frame, situate, interpret, and/or position games" in various contexts and "by deconstructing them and understanding their components, how they interact, and how they facilitate certain experiences in players" (2008, 33). Describing the qualities game designers must have, Rollings and Adams point out that in order for designers to recognize the good and bad parts of a design, they need to possess a "keen logical and analytical mind, and the ability to manipulate nebulous concepts with a high level of mental agility and critical analysis" (2003, 13).

Conducting an insightful critical analysis for a game can be challenging. Studying the challenges of teaching about games, Zagal and Bruckman (Zagal and Bruckman 2008) found that despite having a good sense for aspects of gameplay, students have problems articulating these aspects and their inter-relationships due to a lack of vocabulary and appropriate models of discourse. Their research data also shows that learners tend to confuse game analysis with game review and playing games for fun with playing games for analysis and critiques. In addition, my own survey of game analyses also shows that existing analyses generally pay less attention to the narrative design than to the gameplay and visual design. For those that do cover narrative aspects of games, analysts tend to stick to an ad-hoc approach to game narratives, using only the very few narrative lenses that they are familiar with. The lack of a systematic approach makes their methods of analysis hard to replicate and transfer onto another game.

In this research, I tackle the challenge of understanding games from the viewpoint of

interactive narrative analysis. Adapting the mature discourse model of narratology with descriptions of concepts and principles, I have developed a descriptive framework addressing narrative phenomena and issues specific to games, which enables more systematic, in-depth analysis of the narrative of games. The three case analyses demonstrate the replicability of the analytical process using the framework as the method.

From the viewpoint of interactive narrative analysis, we can loosely position different genres on a spectrum of narrative that is based on the weight of pre-defined narrative structure.[48] At one end of the spectrum is the abstract game with no narrative content (let alone narrative structure), followed by games with a high proportion of emergent narrative with minimal narrative structure, while at the other end of the spectrum are games and interactive narratives with a large portion of pre-defined narrative content. Figure 8.1 illustrates a possible arrangement for an array of interactive narratives and games along such a spectrum of narrative.[49] Since the "measure" of pre-defined narrative structure is just conceptual and relative without a scientific means of measurement so far, the positioning of the interactive pieces is debatable. For this specific diagram, I loosely use the following factors to "measure" the pre-defined narrative structure:

- Does the interactive narrative or the game have more than one plot trajectory on the high, medium, and low level?
- How many endings does the interactive narrative or the game have?
- Does the plot of the interactive narrative or the game follow a certain arc?
- Does the interactive narrative or the game present certain theme(s) that contextualize the choices and actions of players or audiences?

[48] Not all games have narrative content; therefore, strictly speaking, only those story-based games can be regarded as interactive narratives, although we need to keep in mind that the boundary is always blurry. For the purpose of comparison in respect to narrative, I put games and other interactive narrative forms in the same paradigm. This is not without any problems however; in the spectrum defined in the following, it is hard to position interactive fictions and hypertexts, both interactive narratives, because the works in these two genres vary significantly, both in the number of narrative variations and in the degree of audience choice and freedom to change the plot.

[49] An alternative but common approach is to map the paradigm of interactive narratives and games onto a spectrum with one end being plot-centric and the other play- or player-centric works (Murray 2004; Pearce 2004). For interactive narratives, Ryan (2009) holds the same view, considering that one side of the spectrum is the narrative game, where the player's actions dominate, and the other side the playable story, where narrative meaning dominates. For games, Rollings and Adams use a "story spectrum," where in going from no story to story-based gameplay, the importance of story to gameplay increases; following this tendency are arcade games, strategy games, FPSs, and RPGs (2009, 54). In contrast to the story-play dichotomy and similar to Rollings and Adams' approach, the spectrum proposed here emphasizes how much pre-defined narrative structure is built into a particular piece.

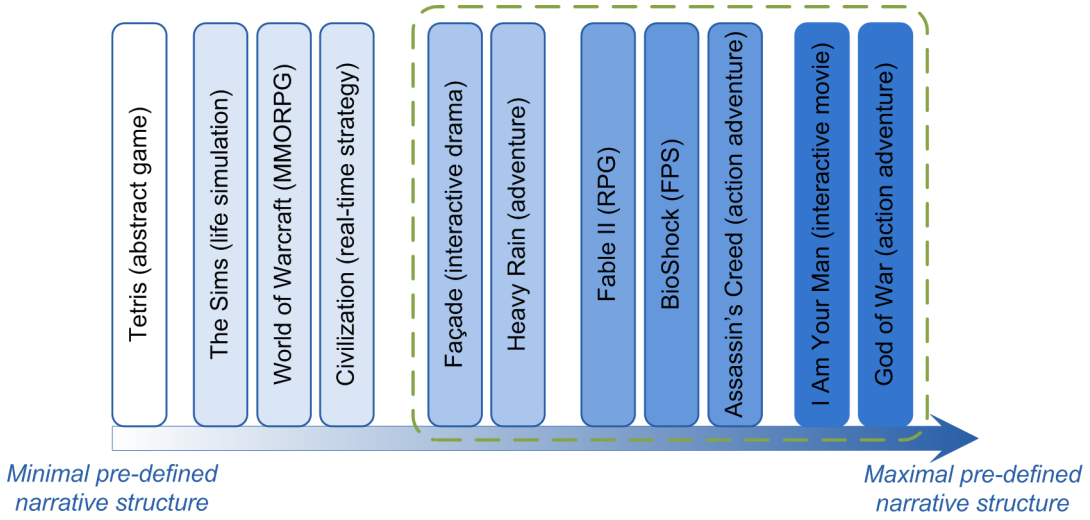

Figure 8.1: Interactive narrative and game examples loosely positioned on the narrative spectrum.

The mapping in the diagram is thus a compromise that results from the answers to the above questions and it only serves as a reference for the purpose of focusing discussion in this dissertation. The boxed area is the range of narrative examples where the descriptive framework created in this research can be applied. In other words, the power of the framework is most effective for games and interactive narratives with certain amount of pre-defined narrative structure and pre-generated narrative content. With this framework as a foundation, analysts can integrate narrative principles into a range of games and interactive narratives. In the rest of the chapter, I will summarize the contributions of this research, reflect on the approach, and discuss the utility of the framework.

8.1 Contributions

In Chapters 3-6, I have examined an array of structural aspects that are essential for the discussion of the principles and techniques of game narratives. These aspects together form a theoretical framework for describing and analyzing game narratives. In order to demonstrate the utility and usefulness of the framework, I have conducted analyses using the framework for three test cases in chapter 7. The previously defined concepts and principles are made operational and their use is demonstrated in the three analyses. In the following, I will summarize the framework by highlighting how the main principles are applied in game narratives. I will then describe two major findings, or principles that emerged from the case

analyses and that can potentially be generalized for games and interactive narratives within the scope of this study.

8.1.1 Summary of the Framework

The core of this research is the development of the descriptive framework to characterize game narratives. The framework is both an aid to the understanding of game narratives and a method for game narrative analysis. It contains the key aspects for studying or analyzing the narrative structure of a story-based game or interactive narrative in general. It is an open checklist; findings from case analyses can always add new principles or new items to an existing list. However, what is presented in this work is the fundamental core that describes general features shared by story-based digital games. In the following I will summarize the four groups of principles covered by the framework.

8.1.1.1 Time

The temporality of a game narrative is determined by characteristics from three categories: order, speed and frequency, as shown in Figure 8.2. Generally *order* concerns the relation between *plot time* and *story time*, which can be anchored in three sequential orders: chronological, flashback and flashforward. In games, most sequences of events occur chronologically, which means the order of events in plot is consistent with that in the original story. Nevertheless, more and more game plots use flashbacks and flash-forwards in order to tell the story in a more interesting way that adds to the complexity of the narrative for those cognitively active players. The relation between the *plot time* and *operational time*, with respect to order, is always consistent. This is because players are enacting the game plot through operating the game text.

Narrative *speed* concerns another dimension of the temporality of game narratives that affects the player's experience with the passage of time. Unlike order, *speed* is determined by two relations: both that between story time and plot time and that between plot time and operational time; hence, speed crosses three layers in Figure 8.2. The first one is seen and often discussed in the realm of literary narratives, where narrative speed can be denoted by five canonical tempi: pause, stretch, scene, summary and ellipsis. In fact, these five tempi can also be used to describe the second relation, which has to do with any narrative in time-based media, including films, videos, some multimedia works and games. In these cases, the representation of time is not just dependent on verbal description or implication, but also on the material (usually visual) representation of the story. In games,

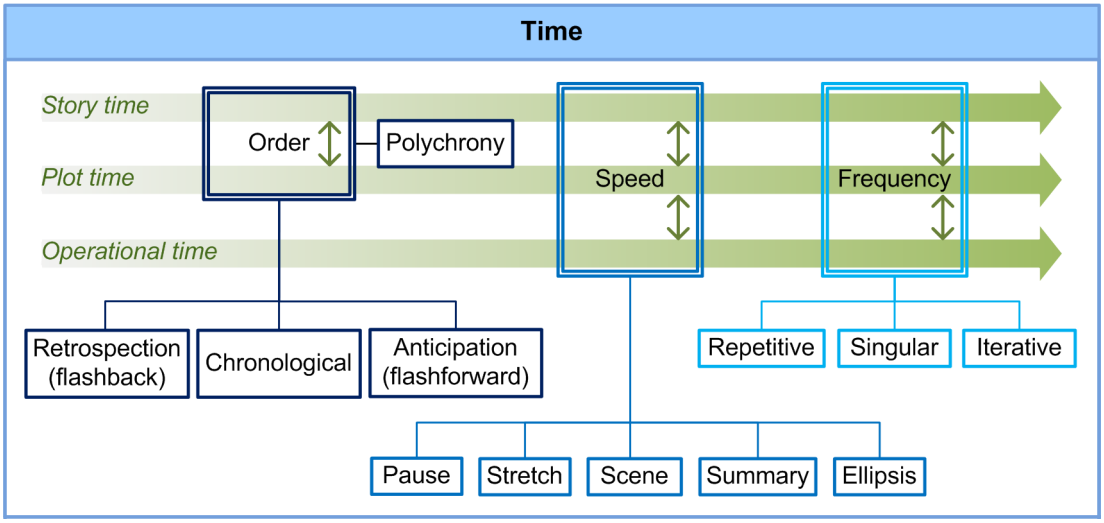

Figure 8.2: Temporal principles.

where the events are graphically represented on the screen using programs (rather than human actors), the "screen duration," in operational time, of an event is not necessarily the same as the duration of the actual event in plot time. For example, when a game character walks from location A to B in a sequence of 30 seconds, it might need 5 minutes to finish the walk in reality. This relation is thus between the plot time and operational time, instead of plot time and story time. While the speed on the level of operation is mainly designed for the efficiency and effectiveness of players' interactions with the game, the speed on the level of plot time helps create an effect on narrative experience. As a result, there are two levels of pacing in game progression regarding the operational speed and the plot speed.

In traditional narratives, *frequency* concerns how many times the same event gets (re)-presented in the plot. Similar to *speed*, in games *frequency* can describe relations between story and plot or plot and operation, as shown in Figure 8.2. At the level of plot, almost all game events take place singularly if players succeed all the time; if not, certain sequences get repeated until players pass the obstacle. At the level of operation, certain repetitions can take place under players' choice. For example, players might choose to go back and repeat a sequence of actions only to increase their health points; however, this action has no impact on the story logic and the plot progression.

Because of the unique fuzzy temporality of game narratives, the ordering of the plot events can be different from one play to another. This *polychrony* is essential to narrative interactions. It is one of the most common techniques designers use to give players a sense of freedom and agency. In a polychronic narration, not only the order of plot events but also

the position of each event on the timeline can be different from one narration to another. For those games with different endings, players will tell different stories after their individual plays.

8.1.1.2 Space

One of the most essential elements to a successful game design is the game world. In games, the narrative space is largely identical to the game space, which is not only the setting of events but also an object of interaction for players. Hence, to study the narrative space of a game means to study the construction of the virtual game world, the possibility space for player (inter)actions and thee (re)presentation of the world. Consequently the characteristics of space can be grouped into three layers: the topographical, operational, and presentational layers. These three layers of space are like three conceptual treatments of the space, which are detailed in Figure 8.3.

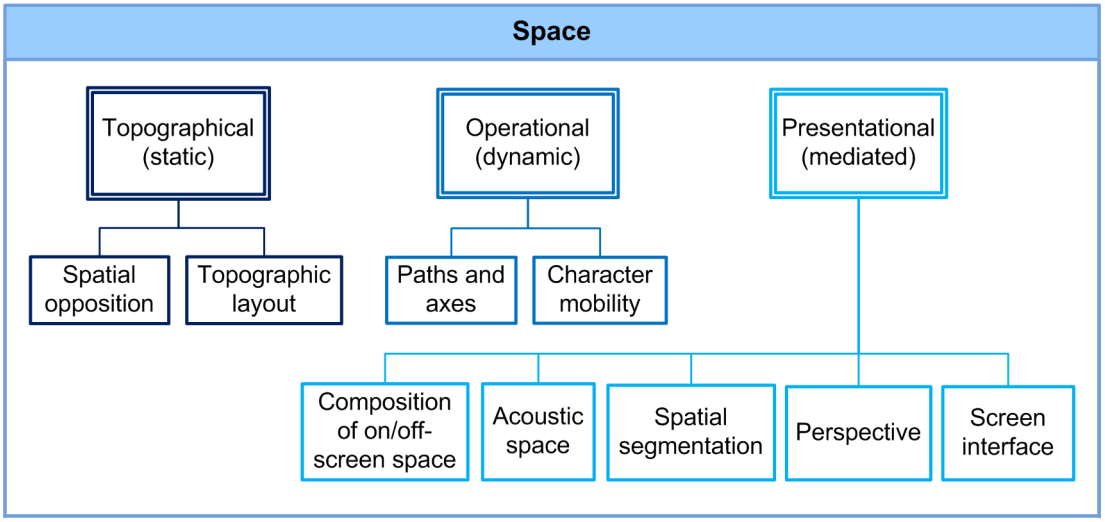

Figure 8.3: Spatial principles.

On the topographical layer, space is treated as a static setting of the plot. Thus this treatment only looks at those static features, including locations and the layout of these locations. The design of the locations sets the mood for the story. By using oppositions in the design of these locations, spatial information can be embedded into the static environment, giving players various hints. The design of the layout, on the other hand, indirectly determines the patterns of player navigation in the space.

On the operational layer, space is treated as dynamic and it changes over time and operation. In this treatment, events and characters play a key role in characterizing the space.

The pattern of how the events are attached to locations affects the cognition and navigation of the space by players. When events are assigned along one or more axes, players will have a more linear pattern in navigating the space and carrying out tasks along the way. When the space lacks axes, players tend to carry out missions in a more varied order and so their behaviours are more non-linear. Unlike events which have to be attached to a location, characters can either be mobile (unattached to locations) or stationary (attached to a location). The design of the mobility of characters affects the narrative and gameplay experience to a great extent. The more mobile characters the game has, the more dynamic the player experience is, and in some sense, the more freedom the player will feel. While mobile characters can play as tough enemies or good helpers, immobile characters help characterize the subspace they occupy, through their appearance and behaviours.

On the presentational layer, space is treated as a mediated, presented space for players to interact with. Camera work, lighting, sound design all contribute to the (re)presentation of the game space in real-time. The characteristics at this level include how the space is segmented and how players' psychological and optical perspectives are structured. The space can be segmented physically — by designing a discontinuous space, or virtually — by creating an artificial separator (e.g., fog of war) or limiting the viewing angle. Manipulating the camera angle can successfully affect the player's perspective, both psychologically (through careful focalization design) and optically (through first-person or third-person view). As the presented space is the playground for player interactions, the design of the interface, including the screen and control scheme, also has narrative effect. Some of the interfaces are designed to be more immersive than others in that all information is designed as narrative information and embedded into the control scheme.

8.1.1.3 Embedding and Interactive Structure

From Figure 1.2 we can see that the principles for narrative embedding and interactive structure are addressed in the text layer of the game narrative. The basic constructs of the game text, such as sequences and objects, can take a wide range of narrative or non-narrative forms. These constructs are organized and architected in the embedding structure and interactive structure. The former structure defines how the story is "narrated" and the latter how players' choices and actions affect the narrative flow.

In narratology, narrative embedding is identified by the narrator; when the narrator is changed from one to another, a new story is embedded in the original story. In the context of games, narrative embedding can take place horizontally (with a shift in narrator but not

narrative level), vertically (with a shift in both narrator and narrative level), or modally (with a shift of reality). The principle of narrative embedding has two implications for the narrative structure of a game. First, it is a way of presenting narrative information hierarchically. The pattern of the embedding carries the designers' intention of hiding or revealing information to players. Second, narrative embedding provides an opportunity for players to temporally shift their roles. For example, they can switch to another playable character, which is the temporary protagonist of the embedded story, or another set of gameplay rules, when the embedded story takes place in a new setting.

While there are many types of freedom a game can offer to its players, the freedom at issue in this study is the freedom to construct the game plot. When discussing the polychronic ordering of games, I have pointed out that the key to this narrative freedom is the narrative variability. The more variations of the game plot, the more freedom players will feel. Empowered by the computational mechanism of the game, the principle of narrative interaction enables players to alter the trajectory and/or the ending of the plot through their choices and actions. Like other interactive narratives, game narratives are delivered procedurally and their plots take shape in the interactive flow between players and games; in this way, numerous narrative variations can be generated. The structure of this flow — the interactive structure of a game — can be linear, branching, foldback or open.

These structures only describe the interactive flow on a high level. To understand how plot progression is affected by the player in real-time, we need to inspect the low-level design of the choices and consequences. In general, almost all games have a two-tiered design, using the global level to convey a coherent story and the local level to offer players freedom. So far, this has been the most workable solution for games trying to tell an interactive story. It is a consensus that more solutions will come out for the way designers pursue their dream of telling a truly interactive story of good quality.

8.1.1.4 Focalization and Plot Structure

On the layer of game plot, focalization is a special principle that performs more functions than just structuring. It is the principle where the narrative designer can stylize the presentation of the story and manipulate the subjectivity to achieve certain narrative effects. Focalization concerns the relation between "who sees" and "what is seen." For films and games, it is perhaps one of the narrative principles depending on the medium most, closely working together with the principle of embedding. Thus, in Figure 1.2, the principle of focalization runs across both layers of text and plot. Apart from those clues found in films,

such as the eyeline match of the camera and voice-over narration, player control is a clue to subjectivity that is unique in games. As a result, both "who sees" and "who is controlled by the player" are crucial to the identification of the focalizer. The selection of the focalizer and the pattern of the shifting of such selection are two important factors at play in shaping the player's perception of the story.

While the principle of focalization is about manipulating the point of perception and the vision "seen" from that point, principles of plot structure concern how events are organized and sequenced. The principles of plot structure discussed in this work are shown in Figure 8.4. One method to structure the plot is to organize fabula materials after a canonical plot type (or achetype). This organization involves selecting of the fabula events and sequencing them into segments based on a canonical model. Many game plots are based on the "Hero's Journey" epic plot. Others are an Aristotlian three-act drama or a mystery story. In a dramatic plot (and sometimes an epic plot, too), the deterioration and the improvement of the situation of the protagonist constitute the dramatic tension, typically forming a triangle shape of arc. In an epistemic plot, this tension is formed between the revealing and withholding (i.e., suspense) of key information. With the help of artificial intelligence, an interactive narrative can use a story manager to manipulate the tension of the plot so that it follows a desired tension arc.

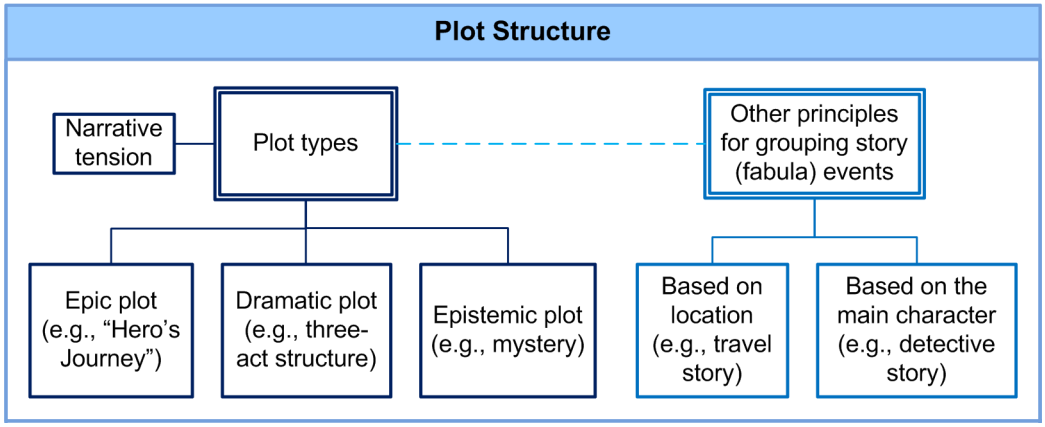

Figure 8.4: Principles for plot structure.

Even with a high-level view of what the plot cycle should look like, we still need to know what story (fabula) events should be selected into the plot to form that cycle. This is where the principles of plot structure extend to the layer of the story (fabula). Two typical grouping principles are location and character. When the plot organizes events based on locations, we get a travel story, of the kind we find in many RPGs, where each

level takes place in a different location. When the plot organizes events based on characters, we follow a different main character in different plot segments. It is worth noting that in the diagram, mystery is cited as an example for epistemic plot, whereas detective story, which is essentially a genre of mystery, is cited as an example of using characters to group story events. This overlapping case only shows the importance of characters to the mystery plot type. A grouping principle based on character can be either sequential or parallel. In the former case, each segment features a different character. In the latter case, several candidates take turns to be the main character for each segment, so that several plotlines are intertwined, as in the case of *Heavy Rain*.

8.1.2 Findings from Case Analyses

The three cases demonstrate the ability of the descriptive framework, when applied in systematic analyses, to reveal a range of findings that include not only the basic principles shared by game narratives but also the unique techniques applied in each game. Set on a common foundation, the three analyses are able to uncover the similarities and differences among the three popular games. Moreover, the framework allows the discovery of new knowledge and principles through the in-depth analysis of a concrete example. For example, the framework gives a high-level view of the common forms of narrative and non-narrative content existing in games, but the enumeration of the forms was enriched in the detailed investigation of the three cases. While all three games use a similar catalogue of narrative forms, *Assassin's Creed* features an in-game database where Desmond can access different memory strands. This database sits at the blurry zone between narrative and non-narrative content, serving as an interface for players to access different narrative information. What is more, if we compare the amount of non-narrative content across the three games, we will find that *Heavy Rain* has the least, which shows the game designers intention of devising a form of "contextual gameplay." In the rest of this subsection, I will focus on two principles that emerged from the case analyses, which can potentially lead to design implications for creating engaging narratives for games.

8.1.2.1 Structure for Narrative Interaction

Since the focus of this study is on how to analyze the narrative structure of for digital games and interactive narratives in general, the type of player-game interactions of concern here are those that have an impact on the story, and specifically those that can alter the plot trajectory. I call these interactions *narrative interactions*. The pattern of narrative interactions

is the key factor that characterizes an interactive story. The descriptive framework presented earlier in this work touches upon the patterns but only on a very high level, leaving low-level details unexplained. When we are told that an interactive narrative has a linear (string of pearls), branching, foldback, or open structure, we still do not know the quality of this particular interactive narrative or what kind of narrative experience it creates. We thus need to find out the low-level pattern of the narrative interactions in order to characterize a narrative piece.

In my analyses of the three game narratives, a common pattern has emerged — all three cases have a two-tier structure where the global and local logics are different. At the global level, *Assassin's Creed* and *Fable II* both follow a linear, string-of-pearls structure, having only one ending situation. The interaction pattern of these two games is traditional: player interactions alter the plot only at the local level, i.e., within the pearls. The local interaction patterns of the two games are similar: both allow players to pick their own set of missions and to complete the missions in their preferred order. The difference is probably only in the scale of these choices. While *Fable II* provides more options within each "interactive" pearl, *Assassin's Creed* includes more such "pearls" in total. In addition, the optional missions in *Fable II* are larger than those in *Assassin's Creed* and its environment (including the setting and characters) is more reactive than that in the latter game. The last difference is in the ending. In *Fable II*, the player is given three options to end the journey (or the story), even though after the choosing the game ends almost immediately but leaves the player in the open world where they can still explore around. In contrast, *Assassin's Creed* has one closed ending; once players finish the game, they cannot go back to the ancient world again.

Heavy Rain displays a very different pattern of narrative interactions. The analysis shows that the plot can be altered by the player at both global and local levels and thus can be completed with a dozen endings. Its interactive structure can be seen as a series of pearls directly connected without a string, for in almost every game chapter players can do things differently. This is where I find the previously mentioned four structures inadequate to describe the structure of *Heavy Rain*. Within pearls, the structure is branching. At the global level, although the order of the pearls is fixed, each pearl presents a slightly different situation based on character statuses and the endings of previous pearls. This radically differentiates *Heavy Rain* from the previous two games. In *Fable II*, each pearl presents a slightly different environmental setting instead of a plot situation based on the player's previous behaviours. The interactive structure of *Heavy Rain* is, to my knowledge, one of a kind. I call it, provisionally, a "logic blackbox" structure since the game constantly uses a blackbox of narrative logics to adjust the plot situation in each game segment. To

some degree, the interactive drama *Façade* has a similar interactive structure: it constantly consults its blackbox and adjusts the NPCs' dialogues in the next beat. Nevertheless, *Heavy Rain* and *Façade* create very different narrative experiences. The latter work uses its "tricks" in a more subtle way; hence, the narrative experience is closer to real-life social situations. The "adjustment" of plot in *Heavy Rain*, in contrast, is a bit more mechanical, which could frustrate some players for its limited freedom.

To summarize, there are four ways a player can influence the plot:

1. Pick their own missions;
2. Carry out missions in their own orders;
3. Cause environmental changes through their behaviour and micro decisions, e.g., a violent manner can cause NPCs to display fearfulness to the player avatar; and
4. Like in *Heavy Rain*, make meaningful choices, including showing attitudes and taking actions, throughout the process of play.

8.1.2.2 Tension for Engaging Narratives

In general, narrative tension is formed by the action and counteraction between the pushing force and the delaying force. A plot with a good narrative tension can successfully engage its audience. In an attempt to formalize design tools for creating dramatic games, LeBlanc (2006) considers that the pushing and delaying forces are created by the factors of inevitability and uncertainty respectively.

Now let me get back to the three games analyzed in this work. All three games adopt the "quest" structure that Aarseth (2004) suggests to be the ultimate structure of many games. Altair in *Assassin's Creed*, Sparrow in *Fable II* and Ethan in *Heavy Rain* all go on a quest journey to fulfill their goals; however, the dramatic tensions of the three games vary. The first two are relatively weak, whereas the last one is very strong. While all games have various factors to form the two forces, *Assassin's Creed* and *Fable II* failed to some degree in creating the sense of inevitability, which is formed by the action of the pushing force. To help enforce the inevitability, many narratives set up some countdown mechanism resembling a ticking clock. In early stages of the plot, *Assassin's Creed* indicates that there are 9 targets for Altair to kill and *Fable II* indicates that Sparrow needs to recruit three other Heroes in order to challenge Lucien; however, players are given the freedom to stay at a game level as long as they want, which seriously undermines the countdown mechanism.

Heavy Rain, in contrast, times almost all actions of the players; if they failed to react within a time limit, the game will move on following a default direction. Being mostly successful in creating the sense of inevitability, however, *Heavy Rain* stumbles in its painfully long setup phase, where the plot has to introduce all four protagonists and establish goals for them. Again, this is a timing issue.

A bad timing mechanism or the lack of any such mechanism in an interactive narrative is not the only reasons leading to weak narrative tension. Shaping the climax and reaching closure are also very important to resolve the tension and deliver a satisfactory plot cycle for the audience. In this regard, both *Fable II* and *Heavy Rain* are fairly successful. The first plot follows a typical "Hero's Journey" plot and the second a detective/crime drama one. Since the plot archetypes are familiar to players, they have certain expectations for the ending and the closure. *Assassin's Creed*, however, has disappointed many players with its ending without a closure. Anticipating a possible sequel too much, the game refuses to disclose the whole mystery of the Abstergo Lab — why do the Doctor and Lucy send Desmond to the ancient world to assassinate those people? Most players will expect this to be explained at the end. What is more, they expect that Altair's status (physical or social) will be changed, usually improved, at the closure, but nothing happens at the end — Altair, or the player, is left clueless facing the gigantic power globe in the last scene set in the ancient world.

One could argue at this point: "But I like *Assassin's Creed* and *Fable II*! Those issues didn't bother me at all." That is because of the successful design of the gameplay and the responsive environment of the two games. Narrative is only one aspect of games. Comparatively speaking, the role of narrative is the most important in *Heavy Rain* among my three cases. Players come with very diverse gaming preferences; thus it is not surprising that some do not like *Heavy Rain* because it has a tight control of the flow and is simply not "playful" enough. These issues are not my concern in this work, but I would like to discuss the dynamics between narrative and gameplay here. In the game design field, there are two views on the relation between dramatic tension and gameplay tension. Adams stresses that these two tensions are two different matters and do not necessarily have to be in sync. Adams emphasizes that "gameplay tension arises from a different source than dramatic tension; it comes from the player's desire to overcome a challenge and his uncertainty about whether he will succeed or fail" (2010, 164).

LeBlanc, on the other hand, holds a different view. He considers drama as a desirable quality of games. The dramatic arc thus can be an aesthetic model not only for drama but also for games. In his essay "Tools for Creating Dramatic Game Dynamics," he examines a series of game dynamics that produce dramatic tension. Where LeBlanc is right is that

the aesthetics we choose for a game is a matter of our value system, so "drama is only one aesthetic among many" (2006, 442).

Heavy Rain strives really hard to create a high dramatic tension. In fact, at a few points, it might have tried so hard that it destroys the agency of gameplay. For example, there is a 'cheating' scene that is at the heart of many debates. In this playable scene, players control one protagonist to conduct clue-searching routines. Later, the player-avatar found that a helping NPC is murdered for no reason. The mystery will be only solved after the plot reveals the Origami Killer at a later point. Players will then find out that the seemingly player-controlled avatar has done something behind the scenes. A similar cheating scene in a film would not cause as much frustration as in a game because the audience knows that they do not control the protagonist. This is a good example showing that due to the fundamental differences between films and games, some film narrative techniques are problematic for games.

8.2 Discussion

8.2.1 Comparison with Other Approaches

Game studies subsumes many interdisciplinary approaches drawing on a variety of traditions and methodologies. However, there is rarely a systematic discussion of how narrative is structured and characterized in games, and more specifically, what narrative principles and techniques are involved in the structuring process. Built on the foundation of the mature framework of narratology, this research adapts classic narrative theory to games while integrating theories and insights from game studies and design. The resultant descriptive framework organizes game narrative issues into categories of time, space, embedding, interactive structure, focalization and plot structure. The framework designates characteristics to each category through the crosschecking of game examples. The framework is thus game-specific, although compatible with most interactive narrative genres, with a concrete taxonomy and definitions. During the application of the framework to three cases, it is found that a wide range of narrative techniques can be detected and these can support the understanding of game narrative structures. What follows is a brief survey of other research works that provide analytical perspectives on game narratives. In describing the works I will relate them and compare them to my own framework in an attempt to situate my research in the larger picture of the field.

First of all, the survey encounters several important frameworks and approaches that

address either time or space in games. Among these works, Nitsche's (2008) framework is one that explicitly adapts narratology in the discussion of the structure of game space; this forms one of the three parts of his book (i.e., structure, presentation, functionality). Nitsche's discussion focuses on the meaning of the story in games and how to understand and adapt the fundamental concepts of story, plot and discourse in the context of games. However, this high-level conceptual discussion leaves the detailed methods for analysis and design of game narrative space largely unaddressed. Moreover, Nitsche's book interconnects the conception of five principle spaces: rule-based space, mediated space, fictional space, play space, and social space. Although this integrated view of game space is of great value, it is hard to find principles specific to *narrative design*. Jenkin (2004) gives us a good starting point to examine the relation between narrative and space, but it contains no specific insights on the structure of time and space. Other approaches to game space are less comprehensive than Nitsche's and not focused on storytelling, either. For instance, McGregor (2007) summarizes six patterns of use of space in games, which is a good descriptive framework to study the relation between space and gameplay. The approaches to time that I investigated in chapter 3 have even less focus on game storytelling. These approaches, built on multiple time schemes or time frames, cover some important concepts of game temporality, though not specifically for narrative comprehension. In this work, in contrast, I identified that the key to making narrative interactive lies in the fuzzy temporality that helps create plot variations by breaking the linearity of the story.

Principles on focalization and narrative embedding that are discussed in depth in this research, unfortunately, are rarely discussed in the field of game studies. In my survey of the literature, Nitsche seems to be the only scholar who observes focalization in games, but his discussion does not go much beyond a mere identification of the phenomenon. In this work, I have attempted to use the notion of the centre of consciousness to explain focalization and the link between focalization and subjectivity in narration, which affects player agency considerably. Narrative embedding has not been mentioned by previous works. To make things worse, there is the popular term "embedded narrative," used as opposed to "emergent narrative," to confuse our understanding of narrative embedding for games. In this work, borrowing Nelles's (1997) taxonomy of narrative embedding, I identified the three embedding principles in game narratives and explained how they help to build the hierarchy of narrative information.

Plot structure and the interactive structure of games have been discussed to a considerable extent in the literature but using different terms. Almost all game design books mention such canonical narrative cycles as Aristotle's three acts and Campbell's "Hero's Journey." For example, Adams (2010) points out several grouping principles, or, in his terms, "mechanisms to advance the plot." These principles or mechanisms include "the story as a series of challenges or choices", "the story as a journey" and "the story as a drama". The last two were discussed in the plot structure of this work as well. In the field of game design, the notion of interactive structure is often mentioned as "narrative structure" or "story structure." In Ryan's (2006) proposal for an "interactive narratology," she discusses the interactive structure within the terms of "textual architecture". In Ip's (2011) content analysis of game narratives, he uses "game structure" to describe the interactive structure. In my discussion of plot structure and interactive structure, I have attempted to integrate the insights and taxonomies from the interactive narrative and game design literature and set out the principles in clearer and more consistent terms within the overall framework for game narratives.

The second group of literature in my survey is those works that involves empirical studies. Among these works, Carr et al.'s (2006) book *Computer Games: Text, Narrative and Play* provides a comprehensive view of games and game studies. In the first part of the book, the authors analyze games from the textual perspective, covering such aspects as genre, narrative, gameplay, space and navigation. In the second part, the authors use interviews and email dialogues with players to analyze the player-game relationships. In the third and last part, the authors study the social aspects of gaming and relationships between players, using experiments to observe how players play games. The investigation described in this book clearly demonstrates the tendency in doing game research is to use textual analysis for game analyses, interviews for topics involving player-game interactions and player preferences, and user studies for topics in MMORPGs and player-player interactions. Despite the motivation of employing empirical approaches to justify the conceptual understanding of the dynamics of game narratives, many of these works still lack the systematics for a standardized analytical approach that is both repeatable and inducible to new conceptual findings.

Recently there have also been a few attempts to use empirical approaches in the exploration and description of narrative structures of games. Researchers hope to identify the properties or principles of interactive narratives through players' eyes, instead of those of researchers. Mallon and Webb (2005), for one instance, use two focus-group studies to carry

out such a task. Methodological soundness aside, their two studies approached game narratives in the RPG and adventure genres from an evaluation point of view and reached a series of implications for "bettering" the game narrative. For the balance between pre-generated narrative content and player control, some pre-structured linearity and limitation of player control (e.g., restricting players from leaving a room before completing a task) are desirable for guiding the players and scaffolding the play. Open-ended empirical studies like Mallon and Webb's work are more evaluative than explorative as the participant players do not necessarily possess enough narrative knowledge in terms of identifying and communicating aspects of a game narrative. On the other hand, the results of such research serve as evidence for generalized principles for interactive narrative design since they foreground the connection between a technique or a device and its effect on players' perception and comprehension. Therefore, in the explication of narrative aspects in this work, I have been crosschecking with results coming from such empirical studies.

Lastly, I would like to wrap up my non-exhaustive survey with Barry Ip's recent empirical research using content analysis that shares almost the same motivation as mine. Namely, the goal is to apply formal, schematic techniques to narrative analysis for games and enable theorists and designers "to gain a more comprehensive understanding of the practical construction of interactive narratives as well as draw attention to techniques worthy of further examination" (2011, 3). Investigating a corpus of 10 games ranging over such genres as adventure, RPG and shooter, which were published over a span of two decades, Ip did a schematic examination of how narrative is delivered in games. This examination resulted in a mix of quantitative and qualitative data, giving insights into the status quo of commercial games. Ip characterizes the games with the forms, or "methods" in which narrative is delivered, the portrayal of emotion, the reactive environments and the narrative structures. A summary of his results is set out below (2011; 2010).

- Most of the games studied allocate a considerable proportion of time to prescribed narrative. The top three games in this regard have 28%, 26% and 20% respectively, of time for prescribed narrative. On the other hand, three exceptions have only 1%, 1% and 3% of the total game time respectively.

- Cut-scenes are the dominant form of narrative delivery. There are 11 other forms observed, such as on-screen text, audio cues, the combination of gameplay, etc. Among these forms, game prompts that guide players occupy a significant proportion of time within the narrative delivery.

- Linear game structure is dominant among the games studied. The use of branching structure only exists as "an adjunct to provide a greater sense of freedom in confined sections" (23).
- A range of emotions is depicted in the games studied. The more recent the game, the more unique emotions the game exhibits. While the frequency of the occurrences of basic emotions is generally quite high, the frequency of more mixed emotions is low. The emotions relating to extra-personal conflict, such as aggression, contempt, love, optimism, anxiety, dominance, outrage and so on, all have a good presence. Emotions relating to inner conflict are much less frequently portrayed, such as alarm, cynicism, remorse, envy, shame and so on.
- "The Hero's Journey" is the dominant narrative structure. There is slightly varied ordering of the stages in some games, but all present the stage "The Call to Adventure" (especially in back stories) and "The Approach to the Innermost Cave"; they most likely omit "Refusal of the Call", "The Road Back" and "The Return with the Reward." Moreover, "The Approach to the Innermost" occurs frequently as parts of the "leveling up" process in those games with a clear level structure.
- If the stages are put into the three-act structure, Acts 1 and 3 take up less than 1.5% of total game time.
- The games exhibit a low ratio of kernel to satellite events, implying that "key story events may not be sufficiently amplified by supporting scenes." However, the game narratives gain extra depth through: "(a) a greater quantity of micro structures, (b) horizontal division of micro structures, and (c) vertical division of micro structures" (33).
- Besides the hero, among all the character archetypes, threshold guardian (who challenges the hero) and ally appear most frequently. Other archetypes found in the titles include shadow, herald, mentor, and shapeshifter. Male characters dominate the studied games.

In setting up his analytical scheme, Ip took a process similar to that of this research: he first did a review of the literature for narrative theory and game studies and then extracted a set of narrative techniques to form the scheme. While the makeup of the analytical scheme does not appear to be very systematic, his analysis did follow a formal process so that the findings can be cited to describe game features. In comparison, this dissertation puts more

weight on building up a descriptive framework with clear definitions and scopes. Moreover, the game analyses presented in this work are more descriptive but do not have statistical data. In a way, Ip's research and this work can be seen as complementary to each other. This relation can be illustrated as in Figure 8.5, where a good number of aspects are addressed in both research works. For the shared aspects, Ip's statistical results and my interpretative results fill up the two sides of the coin. Although the analytical schemes are both extracted from literature reviews, the interpretative nature of the structural textual analysis can help generate more findings of specific techniques adopted by individual games. The use of kernel and satellite events, for example, was noticed in my analysis of *Fable II* though it was not covered by my framework.

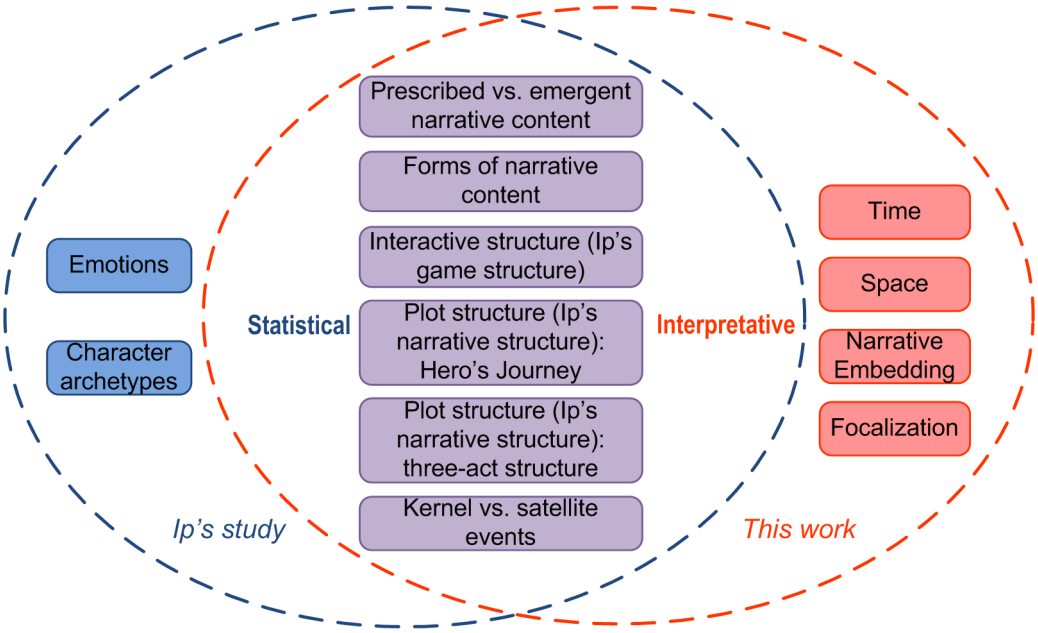

Figure 8.5: Complementary relation between this research and Ip's empirical research.

Looking at the methodological spectrum existing in game research, it is clear that theoretical and empirical approaches complement each other: the former detects phenomena and explores ideas while the latter confirms those ideas with data. Similarly, textual analysis and audience research complement each other, and interestingly, Stokes points out that "from textual analysis alone, it is not possible to make inferences about the state of mind of the author" (2003, 56). She uses film as an example to explain this, saying that textual analysis does not help find out the author or director's intention, nor how other people receive the film. To make up for the limitation of interpretive textual analysis, this research has attempted to use as many secondary resources as needed, citing research works that

include qualitative findings such as interviews and surveys, as well as quantitative results from content or corpus analysis and player research.

8.2.2 The Challenge of "Emergent Narrative"

The term emergent narrative is often used by game designers and researchers to refer to player generated narrative during gameplay. In the same vein, emergent narrative is also used to describe the type of narrative structure found in those games with a non-prescribed, open structure. The often-mentioned representatives of games with emergent narrative structure are life simulation games, such as The Sims, and MMORPGs, such as World of WarCraft. When setting the boundary for this research in Chapter 2, I decided that emergent narrative is at the border of the scope to which the framework developed in this research can be applied. This positioning can be seen in Figure 1. The reason of setting this scope is that for these types of games, prescribed narrative recedes to be a backdrop and plays a less important role; hence, the use of the framework delineated in this research becomes limited. However, this is not to say that the framework cannot be applied at all. Games dominated by emergent narrative generally lack the global narrative structure, but there remain local structures with narrative logics.

While it is arguable whether life simulation games and MMORPGs are narratives, they are considered by many, e.g., Pearce (2004), to be based on a play-centric, instead of story- or plot-centric, narrative model . In the case of *The Sims*, the plot is taken away from the game, which means there is no story that is *told* or *enacted*. Hence, there is no need for an interactive structure designed for players to affect the plot trajectory. The only means for the game program to play a role in the game narrative is for it to provide materials for players to construct their own story or experience. This is why Pearce (2004) and Jenkins (2004) consider *The Sims* as a story system or an authoring environment. For a game such as this, part of the descriptive framework can still be used in the narrative analysis. Understanding the forms of narrative content can help identify how narrative information is distributed in the game environment at a detailed level. For example, a newspaper is the place to look for job information; a family album is a place holder for snapshots taken by players. The distribution is also related to the spatial design. The pattern of how the "sims" moves around is bound to the design of the operational spatial structure. The principles of character mobility and the topographical layout of the event locations are still applicable to the analysis.

Similarly, there is some limited applicability of the framework to MMORPGs. As players

have much freedom in what they do in the game, they create story events through their actions. However, different from life simulations, MMORPGs have more defined themes, which restrict players through characterization in terms of appearance, skills and social class. These games also have a limited number of things players can do to enhance their avatars' in-game status, which are in the form of quests. These restrictions, such as thematic environments and characterization and pre-structured quests for players to enact, are the areas to which my descriptive framework is applicable. For instance, the framework can inform us about how a thematic space is structured to enable character movements and event occurrences, and how quests are structured to shape players' narrative experience within related game segments.

Indeed, the limitation of the applicability of the framework only reminds us that the relationship between pre-structured narrative and emergent narrative is always complementary and inverse. Play-centric games with a very high proportion of emergent narrative content deserve a different and more dedicated approach. Since the authorial control in these game narratives is minimal, player actions play a crucial role in creating the story. Although players might enjoy telling the "stories" (i.e., how they played the game) to others, these stories are not created to be "told" in the first place. It is hard to draw a line between these "experiential narratives" and their players; therefore, an approach dedicated to these games should especially address the social aspects, including play patterns, player preferences and social interactions between players.

8.2.3 Applications of the Framework

Through the case analyses, I have demonstrated the application of the framework in the narrative analysis of games. The framework helped to provide a clear picture of how a game narrative is constructed and how the structure affects the narrative experience. Moreover, it helped to identify similarities and differences between games and detect new techniques that fall into the taxonomy but were not delineated in the original framework. Since the framework is an instrument for describing game narratives, it can support a variety of activities aside from analysis.

The descriptive nature makes the framework suitable for teaching and learning narrative concepts in the domain of interactive storytelling. It sets out the range of perspectives with which learners are able to look at the "skeletons" of interactive narratives of various kinds. Such a range of perspectives can act like a common language that will especially benefit shared learning or even collaboration. The acquired knowledge can then serve as

a departure point for learners to start their own critical analysis or own narrative design practice. In a previous co-authored paper, I have made preliminary observations regarding how such schematic analysis can benefit students' learning (Wei and Wei 2006).

The current framework contains a rich array of concepts with detailed explanations and examples. It provides a knowledge base for those computer-based tools or applications that concern narrative structures. A visualization tool for analytical or authoring purposes, for example, would need a clear set of notations representing narrative constructs and their relations. On the other hand, some of the principles mentioned by the framework can be further formalized, from descriptive to computational, so that they can be translated to rules to be used in fine tuning the narrative design. For instance, one of the temporal principles can be translated into this: when the counter that keeps track of the number of flashbacks reports a value that is too high, the sense of realism of the game narrative may not reach the level that the designers want.

Lastly, I would like to extend the discussion to game studies in general. As I have previously mentioned, a textual analysis approach based on narratology complements those empirical approaches that concern the social aspects of games and interactive narratives. Although mostly concerning the structural aspects, concepts from the framework can help to identify or clarify social-cultural issues and guide those experiment-based research approaches. The unique two-level structure of the topographical space in *Assassin's Creed*, for example, affects more than the navigation and gameplay patterns. The spatial opposition between the rooftop level and the ground level naturally defines two modes of space presentation. A quick look at the relation between who sees and what is seen, i.e., the focalization, can potentially return some interesting findings. The birds-eye view from a rooftop or a tower allows Altair, also the player, to watch people and their activities from afar without being noticed. This view effectively detaches the protagonist from the environment. The vision provided by this view is wider but with fewer details. Using this view, players can have more time to plan ahead their moves, get to a target place more efficiently by taking shortcuts on the roof, and stay in greater safety as there are fewer guards on the roof. The view from the ground level, in contrast, offers a very different experience. The vision offered by the eye-level view is narrower, with all sorts of obstructions but more details of the surroundings. In this mode, players are immersed into the environment, face to face with civilians and enemies. Their moves are more confined because of the crowd, but they can get close to any person or scene they are interested in. Different sets of features provided by these two modes can appeal to different types of players. Applying this analysis based on spatial opposition and focalization, one can hypothesize that the rooftop is used more by

the impatient, achiever or killer types of players, whereas the ground level is used more by the patient, explorer or socializer types of players.[50] Therefore, an experiment based user study might be able to confirm the connection between the player's favored level and his or her gaming preferences. If this is confirmed, the game designers can adjust the spatial design accordingly in the sequel or next title to cater more to their targeted players.

[50]Here I simply use Bartle's (1996) four player types to explain the issue. Other player models can be applied in this type of analysis.

Chapter 9

Conclusion

9.1 Conclusion

This research aims to present a systematic approach to narrative analysis in the study of digital games and interactive narratives. A descriptive framework has been developed for the purposes of understanding the narrative structure of story-based games and framing the discussion and analysis of game narratives. Within this framework, analysts can answer a number of questions that fall into four categories as set out below. By examining the narrative effect created by the techniques at the heart of the questions, the answers can make explicit how narrative is structured in a piece of work.

1. Composing the game text:
   (a) What forms does the game use to present narrative content? Is there any new or unconventional form used?
   (b) What is the pattern of narrative embedding?
      i. Is there an internal narrator or external narrator?
      ii. Are there any embedded narratives? If so, are they embedded vertically, horizontally or modally?
      iii. Does the embedding affect gameplay patterns?
   (c) What is the interactive structure for the game narrative?
      i. What is the high-level structure and what is the low-level one?
      ii. How does the structure define the narrative flow?
      iii. How does the structure support narrative variability and give the player the sense of narrative freedom?

2. Structuring the game plot:
   (a) What type of focalization exists in the game plot?
      i. Is it an internal, external, or shifting one?
      ii. Does the relation between the focalizer (the seeing) and the focalized (the vision) add to the subjective or objective experience?
      iii. Does the method of focalization characterize gameplay?
   (b) What is the principle for the organization of story (fabula) events?
      i. Does the plot follow a canonical plot type or story genre (epic, dramatic, or epistemic), such as the "Hero's Journey"?
      ii. Does the plot form a dramatic or some other sort of tension arc? Is the arc monitored and tuned by a story manager?
      iii. Is the organization of fabula events location-based, mission-based, character-based, or other?
3. Game narrative time:
   (a) Are the plot events presented in the same order as the story (fabula) events? If not, is there retrospection or anticipation?
   (b) What is the pacing of the game plot and operation? Do they feel real-time?
   (c) How does the temporal structure support narrative variability?
4. Game narrative space:
   (a) What is the topographical structure of the story world?
      i. What is the layout?
      ii. Is there any spatial opposition?
   (b) What is the operational structure of the story world?
      i. How do the paths and, if any, axes, define the pattern of movement?
      ii. Are they any mobile and immobile characters?
   (c) What is the presentational structure of the story world?
      i. Are on-screen space and off-screen space continuing each other? Is the story world presented in a continued game space?
      ii. How is the acoustic space presented and related to visual space?

iii. How is the space segmented?

iv. Can the player adjust the viewing angle? Is the visual space edited?

v. How does the design of screen interface help the player to comprehend or experience the narrative?

The three in-depth analyses of the narrative for *Assassin's Creed*, *Fable II* and *Heavy Rain* have demonstrated the use of the above framework. The analytical process not only systematically unraveled how narrative is structured in these games, but also enriched the framework with details about how certain principles are implemented (potentially differently) in concrete examples. The framework was not built to claim certainty in the study of games and interactive narratives; instead, it was meant to provide a narrative perspective with adequate depth and breadth so that it suits a variety of interactive narrative works. This perspective can be used alone, when the narrative structure is the focus of the investigation, or collectively with other perspectives, when the investigation looks at an interactive piece as an integrated system. It is also hoped that the framework is flexible with the possibility of being extended for various uses. In the following section, I will describe a few directions for future work that can be based on the framework.

9.2 Future Work

The results of this research have potential for development in two distinct areas: narrative design and narrative intelligence. However, in order to make the framework work in these two areas, a further step of formalization is needed, either for visualizing the knowledge, or for informing the programming of a game or an interactive narrative.

The case analyses in this research have demonstrated that the framework serves as an instrument for the observation and understanding of the structure of interactive narrative. When this understanding is converted into design principles and guidelines, it can be of great use for narrative designers. Two tasks need to be carried out to achieve this conversion. First, in order to build a repertoire of guidelines for narrative design, more genre specific studies of existing games need to be done. When the guidelines are semi-generalized for each genre, it is easier for designers to make selection or experiment with unconventional combinations. Second, when the guidelines are related to the narrative experience of players, user experiments are the best way to validate the claims. The validated or modified guidelines can then benefit the future narrative design.

Researchers of interactive storytelling are constantly advancing computational narrative

intelligence in order to generate meaningful interactive stories. Since narratology has always been used as the starting point for narrative formalization, the framework presented here can be a stepping stone for such an effort. In previous work, Young and Riedl, Cavazza, Szilas, Machado, Mateas and Stern and Seif El-Nasr, to name a few, have all based their interactive storytelling (IS) systems on some traditional narrative model(s). However, the diversity of their choice of models makes it necessary to consider all their works independently. As each model addresses only one or a few aspects of the storytelling, each IS system has its own strengths and weaknesses. The framework presented here is a result of thoughtful integration of theories from narratology and game studies, rather than an inclusive survey of many different theories. Therefore, it has the potential to serve as a better theoretical basis for building IS system components or communicating/interfacing between them. Nevertheless, the framework will not be ready for such use without a significant extension of the research. One method for such an extension is to create an inventory of rules linked with different qualities of the story. For example, if one of the target qualities of the story is to have dramatic arc within a three-act plot structure, then there must be some restraint imposed on the timing of each act. These rules can be reviewed by experts before being put into use by an IS system.

To work in both of the above directions, a visualized knowledge base would be of great value to researchers and programmers. As readers might have noticed, diagrams are used extensively in this work, covering the key concepts and illustrating examples. Based on the framework presented here, a set of visual schemes can be created as the building blocks for users to visualize their own stories. Although there are some existing systems and prototypes for story visualization, the knowledge built into each visualization application is very limited. Hence, integrating the framework as a systematic knowledge body underlying a visualization system will benefit not only designers and developers, but also analysts and learners.

I have started by creating a solid foundation of narrative theory made specifically for games and interactive narratives, based on which I went through the analytical process for three cases. This research is only a departure point leading to many possibilities to make narrative knowledge available for those who want to understand and build games and interactive narratives.

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