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Digital Storytelling Structure of Adventure Games: A Case Study of Steins; Gate

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Abstract

An adventure game is a video game in which the player assumes the role of a protagonist in an interactive story driven by exploration or puzzle-solving. Thanks to their focus on storytelling, they are sometimes referred to as interactive fiction or visual novels in different countries. As some of those games have been nominated or awarded at international game awards in recent years, more attention should be paid to adventure games as digital texts in terms of narratology and literariness. Moreover, this kind of game has gradually been opening up a broad market in China with the development of the female game market. However, Chinese original adventure games still have huge space for improvement in terms of narrative and interactivity, so text analysis of excellent adventure games is quite necessary and valuable. This research, based on Marie-Laure Ryan's digital narrative theory, analyzes the textual architecture and interactive mode of Steins; Gate, a famous Japanese adventure game, to explore the textual and interactive characteristics of adventure games and promote the advancement of the original adventure games in China. Meanwhile, it is hopeful to lay a foundation for further discussion on whether video games will become another major narrative form after movies and develop their own narrative language in the future.

Keywords: *Adventure Games, Digital Storytelling, Textual Architecture, Interactive Mode, Steins; Gate.*

Introduction

The 2020 revenue of China's game industry, according to "China Game Industry Report 2020", reached 278.6 billion yuan with an increase of 20% (2020 China's Game Industry Report 2021). And the growth in games aimed at female users is prominent, expected to get rid of the original sub-cultural attributes and become another mainstream of the industry. The market size of games aimed at females is estimated to be close to 100 billion yuan in 2023 (2020 Report on Game Research and Development Survey 2021). The success of Papergames, Mihayo, 66RPG, Bilibili, FriendTimes, and other game enterprises in female-oriented games has attracted not only such giants as Tencent, NetEase, and Perfect World, but also various new game manufacturers to enter this competition. Adventure games are one of the most important categories of Chinese female-oriented games. 66RPG is a platform that mainly engages in such games and has developed rapidly in less than ten years. Since its launch in 2014, its app has obtained more than 48 million users and more than 3.5 million monthly active users (WANG 2018: 116-120). However, the selectable subjects are limited, and the depth is insufficient, and especially, the interactivity and narrativity are often separated, so there is still a long way for Chinese adventure games to go. Therefore, the analysis of excellent adventure games seems to be quite necessary and valuable. While game research in China mainly concentrates on technology and marketing, research on game narrative is relatively rare.

This research is a case study on the famous Japanese adventure game Steins; Gate. It attempts to analyze the textual architecture and interactive mode of this work based on Marie-Laure Ryan's

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theory of digital storytelling, to gain a clear understanding of the narrative characteristics of adventure games from the perspective of digital storytelling.

The Theoretical Base: Marie-Laure Ryan's Digital Storytelling Theory

Digital Storytelling

Digital storytelling has been used to refer to computer-based and Internet-based narratives in general. While the term, digital storytelling, in its generic sense is used to denote a story told using digital media, which is developed by Lambert, Atchley, and Mullen at the Centre for Digital Storytelling(re-launched as StoryCenter in 2015); namely, a 2 to 5 minute audio-visual clip combining photographs with voice-over narration (and other audio if desired) (JAGER et al. 2017: 2549). Over time, as digital storytelling has emerged more as a popular practice, the term digital storytelling has been used to encompass a wide range of forms, ranging from gaming and interactive storytellin, to the use of digital visual effects in flm, to the proliferation of self-representations in a range of social media forms, from Facebook posts, to Tweets, to self-made movies shared on YouTube (DUNFORD and JENKINS 2017: 2).

If put in the framework of narratology, it belongs to post-classical narratives that emerged in the 1990s and draws extensively on theoretical resources such as computer science and media research, showing an obvious interdisciplinary feature. That is to say, the inception of digital storytelling is closely related to digital technology represented by computers and the Internet, which is a product of the combination of digital technology and narrative. On the one hand, the computer is one of the most significant achievements of the development of digital technology. Janet H. Murray thinks that the computer should first be a representation medium, which can easily imitate and construct everything in the real world, and she believes that the computer is the most powerful representation medium in history. 20 years later, the human lifestyle has been completely modified by it, which could validate her judgment. On the other hand, narrative is the artistic content of almost all representation media at present, and various media have different storytelling methods due to their dissimilar tools for creation and communication. That is, the story itself is unchanged, but storytelling varies with the types of media. Therefore, digital storytelling is a way of constructing and conveying stories in digital media, just as cinematic storytelling is a way of telling stories in the medium of film.

With the rapid progress of the Internet and media technology, New forms of storytelling have been stamped with many different labels: non-linear, interactive, transmedia, deep-media, and more. These need to be distinguished from digital storytelling to avoid falling into the trap of new concepts. The author advocates for "digital storytelling" as it puts priority on the media that bear stories. Digital storytelling and interactive storytelling are different names for the same storytelling practice. Digital storytelling emphasizes the media on which the narrative text is based, while interactive storytelling focuses on the communicative relationship between the text and the user. The most significant feature of digital media is interactivity, and interactivity is based on the development of digital media. This research puts more emphasis on the attributes of digital media and the impacts it can exert on narratives, so the concept of 'digital storytelling' has been employed for discussion.

The Analytic Framework

This research sets up the analytic framework based on Marie-Laure Ryan's discussions about the narrative structure of digital content. Marie-Laure Ryan is an independent scholar who closely follows the development of media and technology and observes the effects of new media on narratology. This may be due to her practical and academic experience in both literature and computer science. Her works, such as *Avatars of Story*(2006), *Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media*(2001, 2015), and *Intermediality and Storytelling*(2010), all concentrate on the new forms of storytelling and literature influenced by new digital media. And she was awarded the Wayne Booth award for lifetime achievement by the International Society for the Study of Narrative in 2017.

In terms of digital storytelling, Ryan's theory has widely absorbed possible world theory, classical narratology and media theory, and has set up a relatively complete and systematic theoretical frame for digital storytelling, including the main types, logical structure, and user experience, etc (XU 2020: 17). Her discussions on the contradiction between narrative and interactivity and the solutions proposed by her are particularly worthy of attention. The biggest difference between digital media and traditional media is considered to be "interactivity". In terms of this problem, she advances an analytic framework of the textual architecture and interactive mode of digital narrative text to reconcile the contradiction

between the narrative and interactive nature of digital content. It could be said that her research provides a theoretical basis for the legitimacy of digital storytelling. As Ryan says in her book *Avatar of Story* (2006), "…that narratology must expand beyond its original territory… Needless to say, the development of a digital narratology will be a long-term collaborative project, and I can only sketch here what I consider to be its most urgent concerns." (Ryan 2006: 123)

First of all, regarding the textual architecture, Ryan discusses the impacts of interactivity on the story(plot) and discourse of digital text. As with the plot level, the plotline of the traditional linear narrative text can be roughly divided into four main structures: plot as state-transition diagram, plot as interplay of actual and virtual event, plot as interwoven destiny lines, and plot as travel in storyworld. Affected by interactivity, the plot presents new forms, namely, tree, flowchart and maze. As for the discourse level, discourses affected by interactivity present several new forms, including network, vector with side-branches, sea-anemone, and track-switching. As shown in the graphs below, black dots represent actual events, and hollow circles represent possible events. The lines represent the direction of the plotline.

Secondly, regarding the interactive mode of digital text, Ryan believes that the interaction between users and digital text is the interaction between users and the fictional world. She refers to Espen Aarseth's typology of user functions and perspectives in *Cybertext* (1997), and categorizes the interactive modes mainly into two groups of binary oppositions: internal and external, exploratory and ontological, and then proposes four types of interactivity. They are internal-exploration, external-exploration, internal-ontology, and external-ontology. "Each of them is characteristic of different genres, prefers certain types of architecture, and offers different narrative possibilities." In addition to the four types, there is also a metatextual interactivity that doesn't combine with any other type.

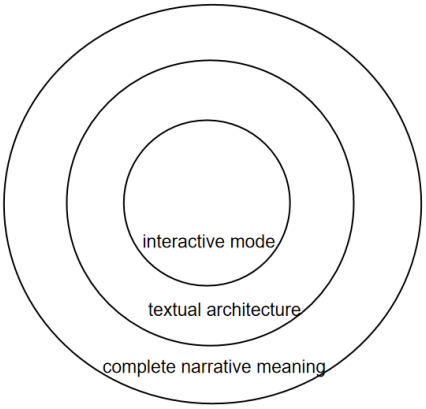

Fig. 1. The Framework of Analysis

As for narrative, the textual architecture explores various structural methods to maintain linear narrative meaning within digital text. As for interactivity, the interactive mode explains the ways for users to make choices in the fictional world and thus participate in the narration. This framework provides a feasible analysis model for the study of digital narrative texts. This research is based on Ryan's theory on the structure of digital content to analyse the narrative characteristics of adventure games as digital texts.

The Case Study of Steins; Gate

Adventure Games and Steins; Gate

An adventure game is a video game in which the player assumes the role of a protagonist in an interactive story driven by exploration and/or puzzle-solving. It is an interactive story about a character who is controlled by the player. It has been thought of as the most story-driven computer game genre since its birth in 1976 with *Colossal Cave Adventure*. The main tasks for adventure game players are unraveling stories, exploring worlds, and solving puzzles, and the stories cover almost all literary genres such as fantasies, comedies, westerns, mysteries, horror, and sci-fi, etc. Other notable adventure game series include *Zork*, *King's Quest*, and *Myst (REED et al. 2020: 7).*

As for the characteristics of adventure games, Marek Bronstring, a game designer and the founder of Adventure Gamers, thinks that narrative, puzzles, and exploration are the three main points (BRONSTRING 2021: https://adventuregamers.com/articles/view/17547). Narrative is significant to

adventure games. The story is sometimes predetermined events unfolding around gamers, which requires them to learn through exploration, dialogue, and careful observation. And puzzles are another essential element. Those in adventure games are not only puzzles, but also need to be suited for the integration of stories. There are various categories, such as inventory puzzles, dialogue-based puzzles, environmental puzzles, and non-contextual logic puzzles. Eventually, adventure games usually require exploration, depending on the type of interface. From navigation by typing in directions to moving gamers' characters close to the objects of interest to highlight, the exploration of adventure games has become increasingly direct and convenient with the progress of the game interface.

Adventure games need to be differentiated from several other game genres. Role-playing games(RPGs) are easily confused with adventure games because they both require players to role-play. But RPGs involve extensive combat, team-building, and points management. Action-adventure games are quite similar to adventure games, but puzzle-solving is clearly a secondary focus for them. Pure puzzle games like Bejeweled or Tetris are totally different because adventure games not only focus on puzzle solving, but the puzzle solving must be within a narrative framework, generally with few or no action elements. Certainly, many adventure games fuse other genres while remaining adventure games at their core, and meanwhile, more and more games outside the genre are incorporating such adventure game elements as stories, puzzles, and exploration. Those endeavors push traditional genre boundaries in a new and interesting way. Moreover, adventure games are also known as graphic adventure, interactive fiction, and visual novels in different cultural contexts, which also shows the convergence attribute of such games.

It can be concluded that the core of the adventure game is narrative. Players make choices for the characters and influence the development of the story through a series of operations, so as to acquire a thoughtful, engaging, and intelligent game experience, and also some mental challenge. Although the genre of adventure games at present is frequently overlooked, a resurgence in the genre has gradually occurred, spurred on by the success of independent video-game development. In Japan, adventure games or visual novels continue to be popular and have exerted profound influences on South Korea and China. Works like *Clannad*, *Steins; Gate*, and *Fate/stay Night* boast big and solid fandom not only in Asia but also in Western countries.

Steins; Gate is a science fiction adventure game developed by 5pb. and Nitroplus. It was first released for the Xbox 360 in 2009 and was ported to Windows, PlayStation, iOS, and Android. At the same time, the storyworld has expanded to many other content forms, such as internet radio shows, manga, light novels, anime series, drama CDs, theatrical films, board games, live-action play, and live-action television series, which embody the "Media Mix" strategy of Japan's content industry and the capacities of expanding the storyworld.

Fig. 2. The Cover of *Steins; Gate* on STEAM

The story of *Steins; Gate* happens at Akihabara(秋葉原) in the summer of 2010 and follows a group of students who discover and develop technology that gives them the means to change the past. The protagonist, Okabe Rintaro, is an eccentric individual and a self-proclaimed mad scientist. He and his friends invented the so-called "Telephone Oven (tentative)", which has an amazing function similar to a time travel machine. They could send emails (D-mail) to change the past through this oven. It is undoubtedly a huge temptation to change the past and realize one's unfulfilled wish. As several characters changed the past by this method, the present of the protagonist also changed accordingly, which made him feel frightened and uneasy. Then a secret organization found them and wanted to take the time machine away because it was closely related to the Third World War taking place in the future. Unfortunately, Okabe's long-time childhood best friend, Shiina Mayuri, died in the struggle, and Okabe began to use the time machine to return to the time before the experiment was started, in an attempt to

save Mayuri's life. In the process, the protagonist learned that the ending of the world line named α is the death of Mayuri. To save Mayuri, he must cross to the β world line whose ending is the death of his assistant Makise Kurisu. To save friends and also the world, Okabe had to face the deaths of his friends time and time again, overcome tremendous mental pressure, and find the only true end of Steins; Gate, where he could save all his friends and the world at the same time. To sum up, the entire story runs through time travel and parallel worlds, as well as the choice of fate.

The gameplay in *Steins; Gate* includes branching scenarios with courses of interaction. It requires little operation from the player because most of the game process is spent on reading the text that appears on the screen, which represents either the dialogue between the various characters or the thoughts of the protagonist. Like many other adventure games, there are specific points where the user is given a choice to affect the plotline. The phone of the protagonist, Rintaro Okabe, is a critical item in this game, as all the choices the player makes are through it, which is called the 'phone trigger system'. As the story develops, the player receives a lot of phone calls and messages, and it is the player's choice to answer or ignore. Depending on the player's choices of how to respond to these phone calls and text messages, the plot will progress in a specific direction.

Fig. 3. The Phone Trigger System on the Chinese Version (from STEAM)

After the release of the Japanese and English versions of *Steins; Gate*, it received good results and reviews and has been considered a big hit and classic of adventure games in both Asia and the West. With the later English release, a lot of video game press praised it highly, and it was nominated for the 2015 Golden Joystick Award in the "Best Handheld/Mobile Game" category. Certainly, players and critics in Western countries could not accept this game in its entirety due to differences in culture and aesthetics, etc., especially since its branch endings are all related to romance, and there were some critical opinions then. However, *Steins; Gate* is undoubtedly one of the most outstanding adventure games produced in Asia, because it tells a moving and excellent story in terms of plotlines, characters, choices, and endings, which makes it an appropriate and valuable case to study the narrative structure of adventure games.

The Interactive Mode of *Steins; Gate*

Interactivity is not unique to new media but is generally considered to be a central characteristic of it. In a gaming environment, although it is being overshadowed by the attributes of the technology or characteristics of the medium, interactivity is a product of the computer mediated communication process and an outcome of player actions (BOSTAN and MARSH 2012: 21). Interactivity can be seen to be the most important characteristic of digital media which can best distinguish the old and the new media. With the rapid advancement of digital media, it has also become a word widely used and often misused. Chris Crawford defined interactivity in his book *Chris Crawford on Interactive Storytelling* (2013), which is thought to be the closest to the original appearance of interactivity. He uses the three words "listen", "think", and "speak" to metaphorically describe the actions to be experienced in the process of interactivity between two or more parties. And it is further pointed out that only when both parties of interactivity have these three abilities and play them out, a good interactive experience can be formed (CRAWFORD 2013: 210). That is to say, interactivity stands for the various relationships between the user and the text. On the one hand, these relationships involve the psychological level, that is, the psychological construction of the story world, which is the same as the experience of other traditional narrative texts. On the other hand, these relationships also embrace the physical or material

level, that is, the user's physical experience of the digital narrative text, including behaviors of typing on the keyboard, moving the mouse, and operating through the VR glasses and somatosensory.

Ryan advances to distinguish four modes of interactivity based on two binary pairs: internal/external and exploratory/ontological. The internal mode refers to the users becoming a character in the fictional world. And the external mode refers to the users being outside and "they either play the role of a god who controls the virtual world from above, or they conceptualize their own activity as navigating a database."(RYAN 2006: 108). The exploratory mode means that the user's interactive behaviors neither create nor change the fictional world, while the user's behaviors in the ontological mode will make a difference and determine which possible story is going to become an actual event in the story world. The cross-classification of the two binaries leads to four combinations, which are external-exploratory, internal-exploratory, external-ontological, and internal-ontological interactivity. "Each of them is characteristic of different genres, prefers certain types of textual architecture, and offers different narrative possibilities." (RYAN 2006: 26). The first type of external-exploratory interactivity means that the user does not act as a character in the fictional world, and the user's actions do not affect the development of the story. The internal-exploratory interactivity refers to the mode where the user plays as a character, but the user's choices do not change the story. The interactive mode of simulation games belongs to this kind, such as *The Sims*, *Don't Starve*, and *Animal Crossing*. The fourth mode is called internal-ontology, where the user is not only a character in the story but also the choices have a great influence on the plot. That is to say, this interactive mode allows users to 'live' selected stories, where narratives are shaped by their decisions.

As a typical adventure game, the interactive mode of *Steins; Gate* can be viewed as a restricted internal ontology model, which meets the two basic conditions of the internal ontology mode. Firstly, a player plays the role of the protagonist in the game, and all the information is received through the dialogue between the protagonist and other characters and the autonomous operation of the protagonist's mobile phone. The player faces the story world(screen) from a first-person perspective; that is, the player cannot see the protagonist's appearance, and the visual range is consistent with the protagonist's visual range in the fictional world. Such a first-person perspective can make players feel more immersed, as if they are really a character in the game. Secondly, the actions of the character controlled by the player, that is, the protagonist, have significant impacts on the development of the story. Although the gameplay of *Steins; Gate* is simple, the reason why it is still popular is its branching story. Players have the right to make different choices at certain pivotal points on behalf of the protagonist, and thus enter different endings, which always throws emotional bombs at the players. There are six different endings in this game in total. One true end and 5 alternative endings. The player needs to decide whether to send a mail though the protagonist's phone at a specific point. This choice will affect whether the player enters a branch ending or continues the game and finally reaches the true end. Therefore, it can be said that this game fully presents the interactive mode of internal-ontology.

Fig. 4. The First Person Perspective Mode(from STEAM)

However, *Steins; Gate* is a restricted internal-ontology interactivity. This adventure game confines the player's actions to dialogues and the so-called phone trigger system. The player can perform through the protagonist's mobile phone, but cannot walk out of the laboratory or throw rubbish away without permission provided by the preset plotline. That is to say, the player's ontology in this game is limited to a certain extent with the purpose to direct all their attention to the dialogues and the story. Japanese-style adventure games represented by *Steins; Gate* often use this interactive mode that minimizes the player's operating range to maximize the narrative effect, which is also popular in South Korea and China, deeply influenced by the Japanese game industry.

In addition to the first-person perspective format commonly used in Japanese adventure games, there is also a third-person perspective that is popular in the West. For example, *Kentucky Route Zero*, which has been highly rated by fans of adventure games in the past two years, adopts a third-person perspective. It is the same as *Steins; Gate* that the player controls the protagonist, but the player can observe the protagonist and the whole current environment through the screen from a third-person perspective. And different from Japanese-style adventure games, Western adventure games often adopt an open world design, using a virtual world that the player can explore and approach objectives freely, as opposed to a world with more linear and structured gameplay.

Fig. 5. The Third Person Perspective Mode (from STEAM)

This kind of mechanics usually has a blueprint of all the items, characters, and places in the surroundings. For instance, in the game *Life is Strange*, the player's task is to find something for her boyfriend, so she enters her own room. There are various things in her room, of course, and when the girl approaches her laptop on the desk, the player can choose to operate and send her professor an email. Or if she walks up to the photo wall, she will recall what it was like when the photo was taken with his father. In this way, players can learn more about the background of the story and the personality of the character, etc. However, players are not absolutely at liberty. The story needs to go forward, so there is little time for players wander in the open world. The designer will set certain tasks for players to complete in order to push the story forward to the end. Therefore, these small branches generally do not have a decisive impact on the main storyline. Compared to the Japanese-style adventure games that restrict the player's actions only to dialogue and the control of key items, this third-person perspective of the open world can create a more atmospheric fictional world. However, the wider the players can act, the less attention they will pay to narrative, and thus the effect of narrative, which is the core of adventure games, will probably be reduced.

To conclude, the interactive mode of *Steins; Gate* is a restricted internal-ontological one. The player becomes the protagonist of the story, and the protagonist's choices affect the development of the story. But unlike the ideal internal-ontology that Ryan thinks, *Steins; Gate* represents a restricted attribute. The player's autonomy is concentrated in the dialogues and the crucial item (the protagonist's mobile phone), and thus maximizes the narrative effect at the expense of the player's freedom. Japanese-style adventure games frequently employ this mode, and Korean and Chinese works influenced by Japan are also dominated by this mode.

The Textual Architecture of *Steins; Gate*

If the interactive mode of digital text is the patterns of user involvement, textual architectures show the changes in textual structure due to interactivity. Ryan classifies the textual architectures of digital text into two levels of story and discourse.

Story Level

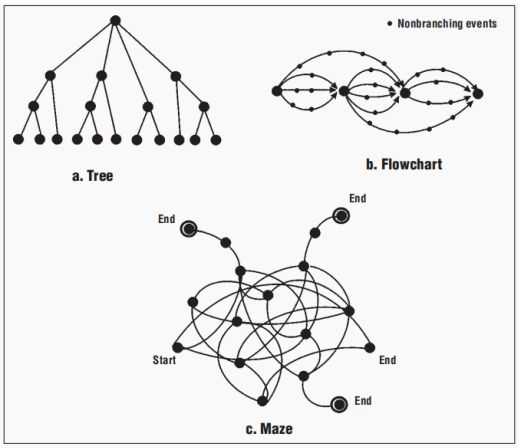

Fig. 6. Interactive Architectures Affecting Story (RYAN 2006: 104)

Figure 6 shows the textual architecture of the story layer under the influence of the interactivity of digital media. 6-a is the tree where the vertical axis from top to bottom represents the time flow of the events, and the horizontal axis represents the possible results of different choices made for the previous event. This is the most basic pattern in digital media narratives, that is, users enjoy free choice at each node, which ultimately leads to different endings. However, the disadvantage of the tree is the geometric growth of branches, requiring designers to provide all possible choices and states in advance for users to choose, which is not easy for game design. 6-b is the flowchart structure. Compared to 6-a, it restricts users' choices to a certain extent and can be viewed as the most effective structure for computer games. 6-c represents a topographic map of the fictional world, where the user could roam. The event that occurs at each node is different from the others. Users in 6-c have no fixed travel directions and can freely shuttle on the map by their choices. The disadvantage of this type, however, is that conflicts between the time and logic of the story may happen as the user freely wanders, which is not conducive to the smooth progress of the narrative. Finally, various textual architectures are not incompatible with each other and can be employed in combination.

The textual architecture in story level of *Steins; Gate* is a traditional linear structure plus a tree. This game has a total of 12 chapters, chapters 0 to 5 are a typical traditional linear story, and chapters 6 to 11 are a tree structure. First of all, the first six chapters, including the prologue, have no branch plots; that is, the traditional linear story structure is maintained. Although players have also made many choices, these do not affect the development of the plotline. Such linearity is easy for players to operate (just click the mouse and read the text constantly), but it will probably make players bored. But it is necessary for building the worldview of the story. Steins; Gate is science fiction. The beginning shoulders the burden to explain many scientific principles establish the background of the whole story, thus enhancing the credibility.

In the second place, the last six chapters show a tree structure. From Chapter 6 onwards, different story branches appear as players choose whether to send an email or not. If the answer is no, the players will enter the endings of a certain laboratory member, and the whole game will end. If yes, the story continues to evolve, and there are still possibilities to veil the true end. Chapters 7, 8, and 9 are the same. Moreover, as mentioned above, the disadvantage of the unlimited development of branches constitutes a great challenge to the game design. *Steins; Gate* controls by selectively cutting off some possible branches. Even though certain points can clearly continue to further develop, this work has made a cut, that is, some points on certain branches directly become the endings.

Discourse Level

The discourse representation of traditional narrative texts can basically be regarded as the linear structure of events, but the order of events can be changed. For instance, if a story contains 1-2-3-4-5-6-7 events in a linear order, then those events can be presented following the order of 1-2-3-4-5-6-7, or

4-1-2-3-5-6-7, which starts from the middle, or a flashback of 7-1-2-3-4-5-6. The pattern of discourse does not affect the linear logic of the whole narrative meaning, and sometimes it may show a stronger effect when the linearity is broken. So, as with digital texts, when users participate in storytelling, the architecture of the discourse level will also undergo certain changes.

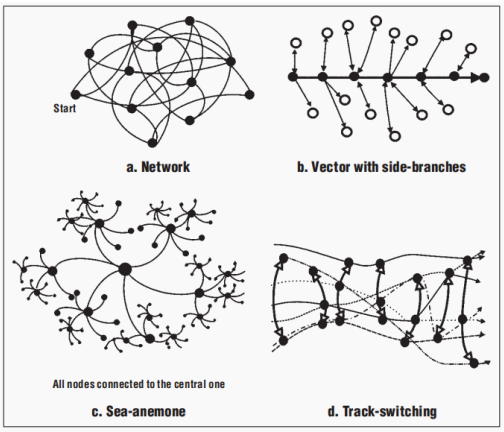

Fig. 7. Interactive Architecture Affecting Discourse (RYAN 2006: 103)

Figure 7 indicates some of the structures of discourse under the influence of interactivity, that is, the different methods of navigation that users conduct when wandering in the plot. 7-a is the "network," which is the most common discourse structure for digital texts. The black dots represent events that have actually occurred, and the lines stand for users' tracks between events. All these events are determined to occur, but the order in which these events are presented depends on users' choices. 7-b is called "vector with side-branches". The user passes through the actual events (filled circles) in sequence and can meanwhile select related possible events (hollow circles). The arrow between an actual event and a corresponding possible event is bidirectional, indicating that it's the user's choice about whether to access the possible event in order to deepen the understanding of the actual event. If the choice is yes, this possible event will become actual. 7-c is "sea-anemone," where users can return to the previous level or main menu from any event (black dots). There are no special logical relationships between these events, but users have the right to choose whether to visit a few more events and thus organize logical relationships for these events to form a storyline. This structure is suitable for archive narratives. Last but not least, different lines in 7-d, which are named "track-switching", are different plotlines, so the intersections between the lines are the intersections of the character fates. Users can switch tracks through these intersections to grasp more information on events.

The discourse of *Steins; Gate* demonstrates a collaboration of traditional linearity and vector with side-branches. Consistent with its story architecture, the discourse of chapters 0 to 5 is also a linear style where the player's route follows the linear development of the story. Starting from Chapter 6, the player's choice begins to alter the plot, making branches come out. There are two reasons to call the discourse of Chapters 6-11 a vector with side-branches. One is that there are branches in each episode for the user to choose. The events on branches can be unfilled. The other reason is that there is a main plot line leading to the true end in spite of branches. However, as Ryan said, this pattern is the one where "every episode offers an opportunity to branch toward external materials or optional activities that enrich the story"(RYAN 2006: 104), which indicates that the events on the branches are not situated at equal status to those on the main line. But those events on the branches in *Steins; Gate* are called "endings" in general. This seems to be different from the vector with side-branches.

The reason why the author contends that the branch endings are a supplement to the main story, rather than equal endings, is based on the recognition of the view that narrative is a cognitive experience. Users may not think that the branch endings are the true end, so they have strongStructure desires to manage to enter the true end chapter. As is commonly criticized by Western plays, four of the five branch endings are about the protagonist falling in love or getting married to one of the female members. Such a setting involves a moral contradiction, that is, whether to choose selfish happiness or change the future to save more people. Moreover, the true end, compared to branch endings, is more consistent with the theme and worldview of the whole story with completeness and coherence, so the experience of game over at branch endings could be abrupt and inappropriate to some extent. Therefore, from the perspective of users' psychological and emotional experience, branch endings can

be seen as a supplement to the main storyline. They enhance the player's desire to enter the true end. Accordingly, the textual architecture on the discourse level of *Steins; Gate* can be seen as a vector with side-branches.

Steins; Gate is a famous Japanese-made adventure game that tells a story of science fiction. As digital text, its users are involved in the narrative by choices in a restricted internal ontology mode where the users live a character in the story, and their choices change the direction of the plotline. At the same time, its textual architecture has made some adjustments to face the influence of interactivity. The whole story level demonstrates a traditional linear structure plus a tree structure, where the users are able to make their own choices from Chapter 6. But they are not fully free to choose to maintain the linear storyline. With such a story, its discourse level shows traditional linearity and a vector with side-branches. Therefore, it is thanks to this narrative structure that the narrative meaning of *Steins; Gate* could remain.

Conclusion

Through the above analysis of the textual architecture and interactive mode of the Japanese adventure game *Steins; Gate*, it can be concluded that the game has two notable features in its disposal of narrative and interactivity. Firstly, it emphasizes narrative over interactivity, and interactivity becomes a supplement to narrative. It makes a significant effort to transform the impacts of interactivity into a supplement and assistance to storytelling, maximizing the effects of the narrative on the emotional and psychological level. The second characteristic is restricted interactivity. There is an attribute of restraint in the setting and design of users' choice and branchingplotlines. Users are not free to choose, and even their choices are often reduced to a minimum. This approach can be considered a compromise solution based on acknowledging the contradictions between interactivity and narrative. In an adventure game, as digital content, the interactivity, which represents users' choices and actions, is its essential feature. However, the core value of an adventure game like *Steins; Gate* is that the user plays a role in the story and then "lives" in the world of the game. Humans' understanding of narratives is always a linearprocess based on a certain chronological and logical sequence. Therefore, how to use interactivity, a factor that would disrupt linear narratives, to tell moving stories is a key issue that needs to be paid attention to in game design.

With the continuous development of the game industry and technology, the genre boundaries of video games are becoming more and more blurred, and various game types are integrated in order to bring more freshness and excitement to players. The genre of adventure games at present is frequently overlooked due to their simple game operations and a large amount of text, but this does not mean that its status is lower than other game types. It is delight to see that a resurgence in the genre has gradually occurred, spurred on by the success of independent video-game development. Perhaps narrative-focused games or storygames might become a new kind of art that could carry serious themes and wise thought in the near future.

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