

Nonlinear Narrative in *Fallout 2*

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This essay describes the critical framework surrounding the creation of a Twine project that is a game / interactive critical essay, *Nonlinear Narrative in Fallout 2*. While some of this material can also be found in the Twine project itself, this essay is designed to provide that material in a more traditional linear format for readers who are unable to play it and also expands upon that material. I encourage readers to play the Twine project itself, as some of this material was originally intended for presentation within that format; I have revised it here to fit the structure of an essay, but it was originally intended for a format in which the reader could access it in almost in order that he or she wishes. I argue here that analysis of a nonlinear narrative like *Fallout 2* is best accomplished in an interactive format like Twine, and later in this essay will demonstrate the limits of traditional linear criticism when applied to such games.

Description of *Fallout 2*

This project focuses on Black Isle's 1998 role playing game, *Fallout 2*, one of the most popular turn-based role-playing games of the 1990s and a follow-up to Interplay's *Fallout*. In *Fallout 2*, the player controls a character named The Chosen One in a post-apocalyptic wasteland environment which is set several hundred years after a massive nuclear exchange has destroyed most of the earth. Human society has slowly re-established a foothold in the world, but is beset by constant challenges, including radioactivity, mutated creatures, and threats from within humanity itself. The Chosen One is the descendent of the main character of *Fallout* and a member of a tribal society that ekes out an existence in the wasteland. As the tribe's crops fail, they send The Chosen One to find the Garden of Eden Creation Kit (G.E.C.K.), a piece of technology that is said to be capable of bringing life to the Wasteland. The player must navigate the game world, which includes part of Oregon, Nevada, and California, interacting with other characters and making choices along the way. Eventually, the player finds the G.E.C.K., only to discover a larger threat to the wasteland itself, one that he or she must defeat in order to save his or her tribe and the wider world.

Fallout 2's gameplay centers around turn-based combat scenarios as well as a variety of narrative options that the player can use to resolve situations in the game world. Many of the game's choices are presented through dialogue menus in which the player chooses his or her character's responses during a conversation with other characters from a list of options, much like the format of many hypertext stories and other interactive narratives. Other in-game choices that are not related to conversation, such as deciding upon the right way to hack a computer terminal, are also often presented this way, such that many narrative options in the game can be easily modeled in a format like Twine. These choices often have a significant impact on characters, places, or other events in the game world. Upon the game's conclusion, the player is presented with a slideshow that catalogues the results of The Chosen One's interactions within the game world,

offering countless possible different "readings" of the game's story based on the choices that the player made during a playthrough.

These structure of *Fallout 2* offers a wide variety of potential narrative endings for the game, but also make those various endings quite difficult to discuss within a linear textual essay: there are well over 50 different "ending slides" for the game, each of which depicts an image with a description of what happened based on the player's choices. In an essay, simply listing all of those slides would take a great deal of space, and that structure would not represent *Fallout 2's* endings very well: a player gets a specific combination of slides based on what he or she did in the game rather than seeing all of them. Another potential option would be to just discuss a single playthrough of the game in an essay, but that would reduce the wide variety of narrative possibilities in the game down to a single, very limited set of choices: again, such a structure would not represent *Fallout 2* very well. The benefit of a Twine project is that it can model the structure of *Fallout 2* by basing the content that the user sees on what he or she chooses while reading through it. To be fair, the Twine project I created does not recreate all the possible activities a player can perform *Fallout 2*: like an essay, it also reduces the scope of the nearly limitless possibilities available in the game down to a more limited number of options for the purposes of analysis. The Twine provides more flexibility than a textual essay, however, in that it does allow the user some control over the ending that he or she gets. In this sense, it reflects Jerome McGann's (2001) discussion of the "need for critical tools of the same material and formal order" (p. 18) as the digital objects being criticized, a need also highlighted by this essay. I suggest that playing a Twine game is not the same thing as actually playing *Fallout 2*, but that it is certainly a more similar experience than reading an essay about it and allows for a kind of interactive criticism that is simply not possible in an essay.

Description of Twine Project

The Twine project I created offers an interactive critical discussion of various story options in Black Isle's 1998 video game, *Fallout 2*. The essay was created with Twine 1.4.2, a program that allows users to easily create nonlinear branching stories, games, or other kinds of material: Twine primarily relies on HTML and other kinds of basic code but requires no prior coding skills, making it an ideal tool for criticism since a critic does not have to learn how to use an entirely new technology. The project was created in Twine because the resulting game allows the reader to navigate through the critical discussion presented in the project as if he or she is playing *Fallout 2*, making the same kinds of decisions that a player would make within the game's narrative. I also chose Twine because the resulting creations can easily be shared online and accessed through almost any web browser.

I have chosen *Fallout 2* as the subject of this Twine project because the game's dialogue and narrative choices can be recreated in a relatively straightforward way in Twine. Newer games in the series, such as *Fallout 4*, feature a first-person perspective, action-based gameplay, and fully-voiced dialogue, elements that would be difficult to recreate in a format like Twine. On the other hand, *Fallout 2* relies primarily on text-based dialogue and narrative choices that are ideal

for the Twine format: in some cases, I have even directly included original text from *Fallout 2* in the Twine game. While nonlinear analysis like this could be useful for many video game genres, I argue that games driven by a nonlinear text-based narrative are an ideal starting point for these kinds of projects because they can be more directly modeled in a format like Twine.

Project Research Questions and Main Goals

This project will investigate two key questions surrounding video game theory: First, do video games complicate notions of narrative by allowing player choice to impact the narrative? Second, can interactive criticism, as developed through projects such as this one, resolve such complications?

The first question noted above has been discussed by many theorists before, and as such, this project will answer it by examining previous critical discussion of nonlinear narrative structure, primarily in order to contextualize the approach I am taking here and to frame the second question in terms of theory. This project answers the second question through an example of interactive criticism in the form of the Twine game itself; as such, that question is not fully addressed here, and I suggest that it can only be answered via formats such as Twine.

In this project, I argue that video games like *Fallout 2* complicate narratives by allowing players to influence the game's storyline and that this complication can best be resolved through interactive criticism. The player's influence makes these games difficult to discuss through the lens of narrative theory: players are often described as "co-authoring" the narrative because the player's choices impact how the narrative plays out. When analyzing video game narratives, narrative theory must consider the player's role in constructing the narrative: as with any text, interpretations of the game might differ from player to player, but in games like *Fallout 2*, the text that each player experiences might also differ as well. Many different approaches to game studies have attempted to resolve this complication, and many methods of game analysis focus on the ways in which games offer choices to players: for example, Marie-Laure Ryan (2009) has called this issue the "interactive paradox," describing it as "the integration of the unpredictable, bottom-up input of the user into a sequence of events that fulfills the conditions of narrativity – conditions that presupposed a top-down design" (p. 45). Such approaches tend to focus on the structure of interactive texts, however, rather than the actual narratives produced by such texts. While that structure is an interesting aspect of video games, the narratives they produce are likewise worth discussion, as they result from the mechanisms that video games use to produce such stories.

The challenge in analyzing video game narratives is that written genres like the traditional critical essay cannot capture the player's role in shaping the text: at best, such texts might simply list different options within a game and then discuss them, an approach that becomes infeasible when dealing with a game like *Fallout 2* that features hundreds of potential narrative configurations. Another approach could be to analyze specific playthroughs of games, as Todd Harper (2017) does in "Role-Play as Queer Lens: How 'ClosetShep' Changed My Vision of Mass Effect," an essay in which the author analyzes the evolution of a queer character's story over the course of the three *Mass Effect* video games. While this kind of approach is very useful for

examining the implications of a set of playthroughs, it has the drawback of not fully capturing the possibilities built into the game's narrative, suggesting that linear approaches might best be suited to examining only one or two potential storylines in such games.

I argue that an interactive approach to video games criticism, such as the one offered by the Twine project I created, can more effectively resolve the complication of discussing the narratives offered by such nonlinear texts. Approaches like this one allow readers to experience the game in the same way that a player might: one can not only "read" the text from a feminist or Marxist perspective, for example, but can also play the text that way. As such, the Twine project I created is able to critique different narrative outcomes of the game from different critical approaches, and those approaches are based on the user's choices. Therefore, the Twine project attempts to account for the different narrative possibilities available in *Fallout 2*, the player's influence on such possibilities, and the various critical readings that might be produced by the game.

Project Rationale

It is also worth considering whether nonlinear games such as *Fallout 2* should be discussed in the first place. Many theorists have pointed out that games are structurally different from other texts, but such structural differences alone do not necessarily justify their investigation. Critics have also discussed the potential benefits of nonlinear games in which players control the narrative, however: for example, in "Videogames of the Oppressed," Gonzalo Frasca (2004) claims that "videogames [can] indeed deal with human relationships and social issues, while encouraging critical thinking." Frasca develops the notion of using gaming to simulate real life challenges, much in the way that Augusto Boal created an "original form of theater that combines theater and simulation in order to produce social and political simulations." Boal "built his techniques based on the Marxist theater tradition developed by Bertolt Brecht, as well as on Paulo Freire's *Pedagogy of the Oppressed*." (Frasca 2004) attempting to provide a method for simulating political problems in order to find solutions to them. Frasca applies this concept to *The Sims*, arguing that players could use video games to simulate social dynamics in a similar way, learning from them in a game environment. A game like *Fallout 2* might encourage such critical thinking even further, as it places the player within a virtual world in which his or her choices often have social and even political consequences.

While choices in a video game like *Fallout 2* are made in virtual environments in which players are somewhat removed from the effects of their choices, authors have also suggested that the choices players make in video games have weight in the real world. In "Video Games and Computer Holding Power," Sherry Turkle (2003) argues that video games are distinct in that they "are something you do, something you do to your head, a world you enter, and, to a certain extent, they are something you 'become'" (p. 501). Turkle's claim – that video games affect the player – supports Frasca's by showing that the choices players make in virtual worlds "do something" to them, though what that "something" is might vary depending on the game itself. In this sense, a game like *The Sims* does something different than a game like *Fallout 2*, and more broadly, the

types of choices a player makes in the game world have different effects on the critical implications of the game's narrative.

The *Fallout* series also offers an ideal set of texts for modeling the potential political and moral implications of player choice in video games. The series' setting, a post-apocalyptic wasteland in which greed, nationalism, and military expansion destroyed the world, provides a background that suggests that the player should always question the results of his or her choices. In *Beyond Choices: The Design of Ethical Gameplay*, Miguel Sicart (2013) describes the *Fallout* world as "a gameworld in which players exist and their actions have meaning that is sometimes acknowledged by the game system" (p. 52) in different ways. The notion of making choices that have ethical implications is a common theme in the *Fallout* world, and while the *Fallout* games do not account for every choice a player might make, the games recognize most decisions through various means, such as giving the player different endings based on the choices he or she made. This example suggests that video games might be a useful way to model social, ethical, and political choices: in the *Fallout* series, players can enter detailed game worlds, make difficult decisions, see the results play out, and care about those results. In *Fallout 2*, players take an active role in such choices, such that the implications of their character's actions have meaning: players who are dissatisfied with the results of those actions might play the game again, making different choices to see if they can achieve a "better" outcome. The Twine project I created therefore models the choices available in *Fallout 2* by allowing readers to experience those choices in the same way that someone playing the game would, while also offering critical discussion of the choices the player makes.

Critical Framework

This critical framework is designed to provide an overview of useful terminology and concepts for engaging in nonlinear critical theory, and to suggest a specific answer to this project's first question: that video games do indeed complicate notions of narrative theory because of their nonlinearity. It is worth noting that this framework was originally designed to be presented within the Twine project itself so that a reader could read this information in any order, read some of it as necessary, or simply skip directly to the gameplay portion of the project if he or she desired. Since I cannot present this information in a nonlinear fashion in this essay, I present it here in a linear format.

As noted earlier, many critics have discussed the structure of nonlinear narratives in video games in the past. Since one of the goals of this project is resolve some of the complications that nonlinear narratives pose to traditional narrative theory, it is worth reviewing previous discussions of the topic within the fields of narrative theory and game studies. Because of the breadth of discussion on this topic within those fields, I focus here on a smaller subset of theoretical works that directly inform my approach to the Twine portion of this project.

Aarseth's concepts of textons, scriptons, and transversal functions

In "Nonlinearity and Literary Theory," Espen Aarseth (2003) defines three concepts that are useful as key terms for discussing interactive narratives:

Texton: "this unit... is identified by its relation to the other units as constrained and separated by the conventions or mechanisms of their mother text" (p. 767).

Scripton: "an unbroken sequence of one or more textons as they are projected by the text" (p. 767).

Transversal Function: "the conventions and mechanisms that combine and project textons as scriptons to the user (or reader) of the text" (p. 767).

These three concepts are invaluable when discussing nonlinear video game narratives, such as the one presented in *Fallout 2*, because they provide a framework for analyzing the way the text is constructed, as well as a method for translating the structure of the game into a Twine project. Like many choice-based role-playing games, the story of *Fallout 2* is primarily constructed out of "quests," which function as "textons" or individual story units within the game's narrative. Quests present the player with both small and large challenges: a minor quest might task the player with defeating a group of raiders, while a major quest like the game's main quest might require the player to save his or her homeland from extinction, a process that entails completing many other smaller objectives. Combinations of these quests / textons create "scriptons," which construct the narrative of the game itself out of a chain of textons that constitute a player's individual story. "Transversal functions" are systems within the game that combine and project these quests in different ways to the player, often creating a different experience each time: for example, *Fallout 2* uses the game's "reputation" system to limit the availability of certain quests to characters for whom they are narratively appropriate, so a character with a reputation for hostility might not be able to accept quests from a peaceful group. Taken together, these concepts suggest that the player of a game like *Fallout 2* does not experience the narrative in a traditional sense; instead of passively watching a story unfold, the player actively constructs that story out of textons, scriptons, and transversal functions. Similarly, a critical approach to such a game should require the user to actively construct the story that will be criticized: in such a way, the user engages in the same kind of effort that a player engages in when playing the game. This kind of nontrivial effort is central to the critical approach I am proposing and modeling both in this essay and in the Twine project.

Aarseth's concept of ergodic literature

Aarseth's (1997) notion of ergodic literature has become one of the central concepts in game studies; by extension, I suggest that it could be an element of games criticism itself. Aarseth describes the concept of ergodic literature in *Cybertext*: "in ergodic literature, nontrivial effort is required to allow the reader to traverse the text" (p. 1). This notion is frequently applied to video games: in *Fallout 2*, for example, the reader must do more than simply read text, as the player must also successfully play the game and make choices as he or she navigates the game world. Aarseth notes that this quality makes cybertexts different than other texts: "when you read from a cybertext, you are constantly reminded of inaccessible strategies and paths not taken, voices not heard. Each

decision will make some parts of the text more, and others less, accessible, and you may never know the exact results of your choices; that is, exactly what you missed" (p. 3). *Fallout 2* offers a clear example of this kind of narrative inaccessibility: many choices within the game are mutually exclusive, such that they can only be made once during a given playthrough because of storyline constraints.

Aarseth's terms are useful for understanding the construction of *Fallout 2*'s narrative, especially because the Twine project focuses on one particular set of textons, scriptons, and transversal functions within *Fallout 2*: the city of New Reno. The project centers on this area of the game world because it presents the player with a wide variety of quests (textons), a number of specific endgame sequences associated with those quests (scriptons), and several different ways in which those quests and sequences can be combined (transversal functions). As such, the New Reno area of *Fallout 2* provides one of the best examples of the complex ways in which nonlinear narratives can play out, while also limiting that complexity to a number of choices that can be feasibility discussed from a critical perspective.

This kind of choice exclusivity makes games like *Fallout 2* difficult to analyze with traditional concepts of narrative theory because, as Aarseth points out, "the study of cybertexts reveals the misprision of the spaciodynamic metaphors of narrative theory, because ergodic literature incarnates these models in a way linear text narratives do not" (p. 4). Narrative theory is often based on spatial metaphors and is designed to account for linear narratives; however, nonlinear texts challenge these assumptions by presenting a narrative that is variable and dependent on the person playing it, a challenge that can be difficult to account for in a linear format. As such, I suggest that one way of accounting for this challenge is to present criticism of these kinds of texts in an interactive format such as Twine, allowing a kind of ergodic criticism that captures the spatial dynamic that linear formats like the essay cannot address. Aarseth also notes that cybertexts challenge notions of authorship in narratives because players feel invested in the choices that they make in game worlds, often to the point that they feel that their choices author the narrative itself. He claims that "the tensions at work in a cybertext, while not incompatible with those of narrative desire, are also something more: a struggle not merely for interpretative insight but also for narrative control: 'I want this text to tell my story; the story that could not be without me'" (p. 4). In this sense, then, players take an active role in the choices that they make in video games, perhaps in ways that they do not when they simply read a text. Similarly, interactive criticism of such texts allows readers to feel invested in the critical choices they make and to take ownership the outcomes of their choices.

The Twine project I created attempts to model the ergodic properties of *Fallout 2*, essentially creating a form of interactive critical analysis that mirrors the structure of the game itself in order to escape the linear spatial metaphors imposed by an essay. While this kind of interactive criticism may not be a requirement for analyzing an ergodic text, it is useful for analyzing the narratives produced by such texts because it more closely matches with the ways that players experience such texts. While the Twine game might be considered less interactive than *Fallout 2* itself because the Twine game does not require player to engage in combat or other skill-

intensive gameplay activities, it requires the player to actively make choices in order to advance the story, helping to recreate the kinds of ergodic elements that are absent in a linear critical essay.

Ryan's Layers of Interactivity

In “Peeling the Onion: Layers of Interactivity in Digital Narrative Texts,” Marie-Laure Ryan lays out four “layers” of interactivity and claims that “interactivity can affect different levels” (“Peeling the Onion”). The four levels she discusses are:

Level 1: Peripheral Interactivity: Ryan describes this as when “the story is framed by an interactive interface, but this interactivity affects neither the story itself, nor the order of its presentation” (“Peeling the Onion”). This model is common in many kinds of digital media art, but less common in realms like interactive fiction or video games: it is essentially using an interactive interface to look at a static art object.

Level 2: Interactivity Affecting Narrative Discourse and the Presentation of the Story: In this level, Ryan argues that “the materials that constitute the story are still fully predetermined, but thanks to the text’s interactive mechanisms, their presentation to the user is highly variable” (“Peeling the Onion”). This is the way the story functions in the Twine project I created, and Ryan suggests that “classical hypertext fiction” (“Peeling the Onion”) typically takes this form. In this model, the user interacts with the story by determining the order in which it is presented; in my Twine project, the model allows the user to have an impact on the criticism that he or she will see at the end of the project.

Level 3: Interactivity Creating Variations in a Partially Defined Story: Ryan claims that “on this level the user [plays] the role of a member of the storyworld, and the system grants him some freedom of action, but the purpose of the user’s agency is to progress along a fixed storyline, and the system remains in firm control of the narrative trajectory. This type of interactivity is typical of computer game” (“Peeling the Onion”). This is the kind of story that is presented in *Fallout 2*: the player’s character is a member of a tribe in the game world, and the player has quite a bit of freedom in how he or she develops the main character’s story. That freedom is still restricted by the system, however: there are specific story events that the player progresses through during the game, and while the player’s choices can alter those events somewhat, the overall plot trajectory still moves through clear beginning, middle, and ending stages in each playthrough. While it might be possible to create a critical project that functions in such a way, I suggest that the necessity of maintaining critical distance would make it difficult: it would be very challenging to both maintain the user’s position as a member of the story world while also pulling the user out of that world to affect critical commentary on it.

Level 4: Real Time Story Generation: Ryan describes this level of interactivity as when “stories are not pre-determined, but rather, generated on the fly out of data that comes in part from the system, and in part from the user. Every run of the program should result in a different story, and the program should therefore be replayable” (“Peeling the Onion”). This level of interactivity is an ideal, not a reality: Ryan points out that “to this day, we do not really have a story-generating system sufficiently sophisticated to produce a wide variety of interesting stories out of data internal

to the system. Integrating the user's input in the generating process only raises the difficulty to a higher power" ("Peeling the Onion"). I would also suggest that it would be quite difficult to conduct critical analysis of such a system: one could discuss particularly configurations of the story, but since the story would be different every single time the program was run, structural discussion of the system's potential configurations would be nearly impossible.

These levels of interactivity provide a method of categorizing the kinds of narratives that are often seen in digital content and are useful as a way of comparing *Fallout 2* and the Twine project I created: the Twine project falls into Ryan's second category, while *Fallout 2* falls into the third. It is worth keeping in mind that these levels do not necessarily imply that a particular text is better than another, however: they are simply methods of describing how interactive a work is. Using my own project as an example, I would suggest that interactive criticism will typically operate on a lower level of interactivity than the source material; perhaps this reflects the necessity of maintaining critical distance when analyzing a source, allowing the critic to focus in on key details from the original material.

Ryan also discusses the concept of "metainteractivity," a notion that is useful in this framework as well: "on this level, the interactor is... designing a new level for a computer game, creating new costumes for the avatar, introducing new objects, associating existent objects with new behaviors, and generally expanding the possibilities of action offered by the storyworld" ("Peeling the Onion"). Expanding this notion to critical practice would result in a metainteractive critical work that could comment on the storyworld of a game within the game itself. Ryan argues, however, that to "constitute a genuinely "meta" interactivity, this must be done by writing code and patching up the source, rather than by using tools internal to the game" ("Peeling the Onion"): simply using creation tools built into a game itself is not enough. Since creating a Twine project based on a game is obviously not the same thing as actually adding content to the game itself, perhaps a better term for this approach might be "interactive criticism:" a method of critical practice in which a scholar expands on an interactive work by adding new critical content that a user can interact with. I would also argue that this method reflects a simple reality of analyzing digital objects: one challenge is that in many cases the source code is not readily available, so the kind of metainteractivity that Ryan proposes is often difficult to achieve in practice. In the case of *Fallout 2*, for example, modding new content into the game is rather challenging: there are only a few fan-made patches for the game, and the game's developers have never made modding tools or source code available to players. Tools like Twine instead allow for an alternative approach to metainteractivity: a critic can make a digital object that reflects the structure of the original without needing to have the knowledge necessary to modify the game or access to the source code. They also allow the critic to constrain the narrative in the original source material so that particular sequences that are important can be highlighted and focused on, a useful technique with an interactive narrative as complex as *Fallout 2's*.

Calvino's constraints of sequence

Italo Calvino (2003), a member of the Oulipo potential literature collective, provided the notion of "constraints of sequence," a concept that can be quite valuable for considering how to

model a video game narrative within a tool like Twine. In “Prose and Anticombinatorics,” the author posits the idea of a detective short story in which the reader attempts to determine the actions of four characters in a house that has burned down from accounts of twelve horrible actions taken in the house that have been written in a notebook. In this situation, at first “all the possibilities are open” (p. 184); however, reading the notes left by the house's inhabitants offers clues, such that “one then begins to eliminate the impossible sequences” (p. 185) of action. Similarly, in a video game like *Fallout 2*, many possibilities are open at the start of the game; once the player begins taking actions, however, those possibilities are constrained based on the choices he or she makes. Calvino uses this story concept to discuss the notion of constraints on the actions within the story: one can use these constraints to determine what actions happened in what order. He uses acts of murder as a key example of events that are constrained by sequence: “in each permutation, after an action of murder has taken place, the victim may no longer commit or submit to any other action” (p. 185). Constraints of sequence, then, limit a story by reducing the number of potential actions available in the story, reducing the almost innumerable narrative possibilities in such stories down to a smaller number of specific manageable outcomes that can be discussed from various critical perspectives.

Constraints of sequence are useful when considering the storyline of a nonlinear video game like *Fallout 2* because such constraints are some of the simplest methods that the game uses to determine the narrative that the player experiences; they can also be modeled easily in a tool like Twine that allows for tracking simple variables. Quests in the game's New Reno area show this type of constraint well: as the player completes quests for the city's four crime families, he or she will often be asked to help that family eliminate its rivals or might decide to do so in order to ensure that his chosen family comes out on top. Of course, killing off one family means that the player can no longer side with them any longer, and siding with a family usually means that the others will attack the player on sight, meaning that constraints of sequence are some of the most frequent that the player might encounter while playing the game. The game's endings are often determined by these constraints as well: New Reno's endings, for example, are heavily dependent on which families are still alive at the end of the game. Since video games often rely on violence in order to move the game's story forward, the concept of constraints of sequence is quite useful, especially since Calvino so closely connects the notion to death in his original discussion.

These constraints are useful when building a Twine project because they allow a critic to reduce the numerous gameplay possibilities inherent in a video game down to a more manageable number of narrative sequences that can subsequently be criticized. Since *Fallout 2*'s endings are so heavily dependent on constraints of sequence, it is possible to build a digital object that replicates that structure by carefully attending to the same constraints within the object: in the case of Twine, this is done by using variables to keep track of the user's actions. Of course, it would certainly be possible to build an object that attempts to model all of the narrative possibilities in *Fallout 2*; such a project would be immensely more complex than the one I created, however, and would make it very difficult for a critic to simply manage the variety of critical approaches that would be necessary to discuss all of those possibilities. Instead, I suggest that it is more effective

for a critic to focus on a more limited set of narratives that are constrained by sequence: this allows the critic to both effectively model those narratives and to provide the critical background necessary to analyze them.

Project Scope

While the Twine project I created is intended to analyze the challenges of accounting for the influence of player choice on a narrative by using *Fallout 2* as an example text, *Fallout 2* itself still features too many choices to catalogue all of them within a single Twine game. A typical "playthrough" of the game can take dozens or hundreds of hours, and the game presents the player with narrative choices in almost every location within the game world. Instead, my Twine project focuses on one area within the game world to provide an example of how complex such narratives can be. This project focuses specifically on one town within the *Fallout 2* game world, New Reno, for several reasons: one is that the town is small enough to discuss within the scope of this project, while also being large enough to present the wide range of possible "scriptons" that can be created in a choice-based game. Another is that the player plays a major role in the power struggles of various groups in the town, and in doing so makes a significant impact on the game world, such that New Reno's "scriptons" noticeably change based on the player's actions. Additionally, the game features multiple different ending scenarios for the town that are dependent on the player's actions, all of which can be discussed from different critical perspectives, showing the wide range of readings possible within a nonlinear video game as well as the benefits of discussing those readings in a interactive format like the Twine project. Finally, the player can simply never visit the town and still complete *Fallout 2*, which showcases an interesting property of nonlinear narratives: they often feature large amounts of optional content that the reader never has to interact with.

In order to keep the size of this project manageable, the Twine project focuses specifically on choices offered within *Fallout 2* that lead to different endings for New Reno, allowing players to play through those options. The project does not aim to model all of New Reno's quests and dialogue options, but only those that create different endings for the region. In order to keep the "gameplay" portion of the project manageable and entertaining, critical discussion of the game's narrative is mostly withheld until a player reaches the endings portion of the project; though a "Scholar" NPC exists that the player can interact with who gives the user a brief critical account of where his or her choices might lead during the current game state. During the ending portion of the Twine project, an ending from *Fallout 2* is provided that depends on choices the player made throughout the story. A critical discussion of the implications of the player's ending is also provided; however, that critical discussion cannot be effectively recreated here since it relies on choices that the player made. The inability to provide nonlinear critical discussion in a linear essay such as this helps to underscore the necessity of interactive criticism: I argue that the only way to effectively offer such criticism is through a interactive format such as a Twine game. As such, I provide here two examples of game endings from the Twine game itself with the caveat that I believe these examples cannot fully illustrate the potentials of interactive criticism. I encourage

readers to instead play through the Twine project themselves so that they can experience all of the choices that lead to these endings: readers who intend to do so might indeed want to skip this portion of the essay and proceed to the conclusion.

Ending 1 – The “Default” Ending

"The Mordino Family grew greatly in power as jet's influence spread across Northern California. Within a year, they had seized control of New Reno and expanded their empire, absorbing the Den and other surrounding areas. There was little violence in the conquest, as jet had weakened all resistance to Mordino rule" (*Fallout 2*: "Endings - Mordinos take control of New Reno, jet addiction spreads").

This ending could be considered the "default" ending for New Reno - it is the ending that the player will receive if he or she does nothing in the town whatsoever. The Mordino family automatically wins the power struggle in New Reno unless the player takes actions that determine otherwise, and automatically wins "ties" with the other families, meaning that it is very possible to side with another of the city's crime families and still receive this ending.

This ending reflects Marx's (1989) argument that "by producing their means of subsistence men are indirectly producing their actual material life" (p. 565). In this ending, the people producing and selling jet (who are often slaves, addicted to the drug, or both) are indirectly creating their own material life: it could even be argued that those producing Jet are directly doing so. Marx further claims that "the nature of individuals thus depends on the material conditions determining their production" (p. 566). As seen in the game, life in the wasteland is dangerous and difficult, and fights for resources are common; many individuals turn to occupations like drug production and distribution because of this lack of resources, and many also fall victim to the escape offered by drugs in an attempt to avoid the hardships of life. In this ending, the Mordinos are so successful that their influence spreads to other towns, transforming individuals within them into addicts, and the towns themselves into new sites of production.

Ending 2 – The “Everyone’s Dead” Ending

"The inhabitants of New Reno were slaughtered, and the city collapsed into ruin. No lights shine there now, the streets home only to packs of wild dogs and vultures. The desert tribes avoid the giant graveyard, claiming the city is haunted by evil spirits. Some say the destruction of New Reno was a judgment from a higher power" (*Fallout 2*: "Endings - New Reno: Everyone Dead").

This is arguably the darkest, most nihilistic ending for New Reno in *Fallout 2*. The player's violent actions destroy one of the largest civilizations in the game world, leaving nothing behind. The ending slide suggests that society in New Reno does not ever reform in the wake of the player's choices. In this ending, then, society is portrayed as a blight upon the wasteland, and only "judgment" in the form of destruction can repair it. This ending might reflect Nietzsche's (1954) claim that "the strongest and most evil spirits have so far advanced humanity the most" (p. 93). The phrase "evil spirits" is used in the game's ending slide, albeit in a slightly different context, and the concept of "judgment from a higher power" implies a potential advancement: the region simply might be better off with New Reno gone. Nietzsche also argues that "evil urges are expedient and indispensable and preserve the species to as high a degree as the good ones" (p. 94),

and while the destruction of a city might not at first seem to promote the preservation of the species, New Reno could be seen as a negative force within the *Fallout 2* game world. The city's harmful influence can mostly be seen in the game's other endings for the area; in many, the player sides with one of the city's crime families, which expands their power throughout the wasteland. This expansion often comes at a cost: gang wars are fought in New Reno's streets, other towns are outright absorbed by the city, or one of many other potential outcomes with negative circumstances occurs. Considering these other options, one might agree with Nietzsche's argument that the "land is finally exhausted, and the plow of evil must always return" (p. 93); perhaps the best way to fix New Reno is simply to destroy it so that its negative influence is gone.

Conclusion

The discussion of *Fallout 2*'s endings provided above highlights some of the limits of this essay: it offers a theoretical discussion of an interactive Twine project that is a hybrid of a game and a critical essay but cannot fully capture the ergodic qualities of the criticism offered in that project. As such, I suggest that this essay implicitly answers the second question I outlined earlier by highlighting the limits of linear critical analysis.

Linear critical essays can accomplish much, but interactive criticism can resolve many complications faced by narrative theory, especially when that theory is applied to nonlinear texts like *Fallout 2*. The Twine project I created presents much of the material found within this essay, though I have modified some of that material here to present it more effectively in a linear format. I suggest that readers play the Twine project itself to get a much clearer picture of the ways that interactive criticism can resolve the issues I have discussed here; I also suggest that other theorists engage in this kind of criticism: Twine is a platform that almost anyone can use, as it is specifically designed for beginners without a background in coding or game design. While the linear essay is still quite valuable, interactive criticism is a quite useful approach for the future of game studies, as it allows for ergodic criticism that directly instantiates many elements of gaming itself.

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