

Running Head: LUDONARRATIVITY AND PLAYER AGENCY

THE GAME'S AFOOT: LUDONARRATIVITY AND PLAYER AGENCY IN SCIENCE

FICTION CRIME GAMES

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Abstract

THESIS: The Game's Afoot: Ludonarrativity and Player Agency in Science Fiction Crime Games

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When it comes to interactivity, detective plots in video games encounter an interesting barrier: the game must guide the player to a predetermined solution, since the narrative can't continue without some sort of conclusion, but limit the player's access to information to keep them in suspense. This study analyzes the intersection of story, setting, and gameplay: how do games use the reconstruction of a crime as a functioning, player-controlled narrative? How does the science fiction setting allow designers to use more interactive gameplay techniques? This study focuses on the analysis of narrative and gameplay techniques in *Trauma Team* (2010) and *Detroit: Become Human* (2018), specifically how the crossover of genres impacts a player's ability to control the narrative rather than follow the typical linear problem-solving process of crime games. Using literary theory, flowcharts, and coding techniques as a basis for analysis, this paper examines a way to map narrative theory to gameplay techniques in crime games. Overall, analyzing these narrative nudging techniques will help designers better understand how to combine narratology and interactive story-building to design games that make players feel more in control of reconstructing narratives.

Keywords: crime fiction, detective games, narratology, problem solving, puzzle, science fiction, storytelling, video games

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“As the technology has evolved, we have the opportunity to make the player the hero. That’s something movies and television can’t do. But it begs the question, what is the player doing to attain that status? The way to do that is through story. You build a narrative arc and let the player play through it” —Phil Spencer

CHAPTER ONE: Introduction

Some of the most familiar detective stories can be summed up in a simple sentence: “It was Colonel Mustard, in the dining room, with the candlestick!” *Clue* was perhaps one of the first games to introduce interactivity into the detective story—you’re not simply watching a crime story unfold but actively searching for clues to find a murderer. Interestingly enough, the narrative has already occurred by the time players actually start the game: as soon as the three clue cards are hidden in the envelope, before players even take their first turns, the primary narrative arc has already “happened.” Through the rounds, the *second* narrative develops as players uncover the remaining clues and attempt to disprove others’ theories. Though the first narrative of a crime can be fairly easily replicated from game to game—simple chance dictates which three cards end up in the envelope—the interactions between players as they move toward uncovering the culprit create a unique narrative that is harder to repeat in subsequent games. Players facilitate their own discovery mediated by the board game.

Similar modes of interactivity come into play when we interact with detective games in the digital realm, specifically in video games. Players should feel in control of how they go about uncovering the story of the crime. However, this second narrative cannot be as freeform, as it is mediated through the player character. These stories also require more narrative depth than the typical game of *Clue*, including motive, character backgrounds, and a more complex set of clues. For this type of crime story, the audience wants a narratively complex plot that leaves them on

the edge of their seat but still makes logical sense when the protagonist finally uncovers the story of the crime.

Moreover, readers are in it for the twist when it comes to crime fiction. Detective writer aficionado G.K. Chesterton famously noted that “the detective story differs from every other story in this: that the reader is only happy if he feels a fool.” Similarly, crime novelist S.S. Van Dine (1928) claims that “after learning the explanation for the crime, should [he] reread the book, he would see that the solution had, in a sense, been staring him in the face.” But how can a player both solve the crime *and* feel the fool? Recently, popular culture has been filled with true crime and detective stories, from podcasts and novels to documentaries and movies. However, video game crime and detective plots can struggle to incorporate player agency into their narratives. If the gameplay is too complex or confusing, players have difficulty progressing the narrative. A game that is too straight-forward or obvious in its puzzle-solving techniques, however, lacks the challenge needed for players to feel accomplished. This issue primarily occurs because players are reconstructing a set narrative within a larger narrative. The end result cannot be altered, something typically used to incorporate player agency, since the narrative in question is over by the time the player enters the story arc. As such, critics argue that games with detective plots are not narratively flexible enough for a player to feel in control of her gameplay experience (Ogilvie, 2019). To combat this issue, certain games have integrated science fiction (sci-fi) elements into their storyworlds to increase the player’s control of the problem-solving process.

Though not numerous, detective and crime scene investigation games have been on the market for many years. Games in the detective and crime scene investigation category typically use a “point-and-click” input method to move through scenes and dialogue. Unlike third-person

games, players do not move an avatar through a 3D-space; instead, players interact with the system by clicking on objects. Additionally, these games tend to draw on existing intellectual property (IP) as a starting point for adding interactivity, like the *Nancy Drew* series (Her Interactive, 1999), *Agatha Christie* (AWE Games, 2003), *Sherlock Holmes* (Frogwares, 2002), and *CSI: Crime Scene Investigation* (369 Interactive, 2003). As such, the majority of the settings are either familiar to the player or easily established from the source material. Likewise, most games take place in the past or present day. The gameplay techniques are meant to simulate familiar investigation techniques, like collecting physical clues, interviewing suspects, and performing autopsies. As game scholar Clara Fernandez-Vara (2013) notes in her design analysis of the *Sherlock Holmes* adaptation, these games tend to be “less procedural (i.e. figuring out the clues and solving the case) and more spatial (the player has to follow the cues in the space to go where the detective would)” (p. 8).

Games such as *Heavy Rain* (Quantic Dream, 2013), *L.A. Noire* (Team Bondi, 2011), and *Murdered: Soul Suspect* (Airtight Games, 2014), which do not adapt pre-existing intellectual properties (IPs), still tend to follow these conventions in terms of setting but go beyond point-and-click interactivity. *L.A. Noire* in particular was praised for allowing the player to intimately investigate crimes in the game; a large portion of the gameplay is based on noticing very minor details in the environment and in interviews, which require the player to “think less like a gamer and more like a sleuth” (Goldstein, 2011, p. 1). This game is also score-based, rather than choice-based. The player has the freedom to investigate whatever she finds interesting, but the effectiveness of the investigation is ultimately judged by a numerical score at the end of the level. Rather than making the player feel like they are the sleuth, then, the rules are still focused on gamification; the score compares the player to the “ideal” detective. Likewise, these original

IPs stick to realism or, at most, introduce supernatural elements to add intrigue to the story (particularly in games like *Murdered: Soul Suspect*). This marketplace trend is intriguing to me because the integration of other genre conventions has the potential to expand the choices and narrative in a game's storyworld.

Particularly, I wanted to better understand how games in this sci-fi detective genre, specifically developed through new IPs, might use unique gameplay methods to tell a story in which players can feel even more involved. By not limiting investigation to classic *Sherlock Holmes* methods (observing crime scenes and interviewing suspects), how could these games provide players with even more control of their investigation process? To uncover the traits of this genre blend, I asked the following questions:

RQ1: How do *Trauma Team* and *Detroit: Become Human* use the reconstruction of a crime as a functioning, player-controlled narrative?

RQ2: How does the science-fiction setting of these influence the gameplay techniques used?

RQ3: How do gameplay techniques in science fiction crime games act as vehicles for narrative?

To analyze the current state of player choice in this genre, I studied two games with gameplay chapters dedicated to forensics and crime scene investigation: Atlus's *Trauma Team* (2010) and Quantic Dream's *Detroit: Become Human* (2018). These two games, while incorporating characters and tropes associated with traditional detective arcs, work in different ways; *Trauma Team* works in a unilinear design (as defined by Domsch, 2013) with a single plot, while *Detroit: Become Human* is highlighted as being non-unilinear with branching player choices. However, both games incorporate sci-fi elements to expand the available number of player choices in the

narrative. Through this study, I aim to identify what traits and gameplay mechanics are used to increase narrativity and player interest, and how they contribute to reconstructing an existing story in both branching and non-branching detective games.

CHAPTER TWO: Literature Review

Currently, most research into video game narrative focuses on single-narrative forms, where the player follows a linear arc throughout the entire game that does not change in subsequent playthroughs. These narratives are most similar to novels, making it easier for researchers, particularly literary scholars, to apply traditional narrative analysis techniques. In contrast to game narrative, there is an abundance of research on the analysis of literary and cinematic detective and crime stories. However, little research has been done on how the traditional detective narrative structure translates into the gameplay mechanics of detective games. In order to better understand the two-arc structure of detective stories and their function in games, the following review of literature looks at both detective fiction structures and the concepts of video game agency.

Literary Approaches to Detective Fiction

Detective fiction, unlike other genres of literature, innately has a double-plot structure. According to narratologist Peter Hühn (1987), the crime itself acts as one story, while the novel's actual plot revolves around attempts to decipher the gaps in that story. In "The Typology of Detective Fiction," literary critic Tzvetan Todorov (1977) argues a similar point: "the first story, that of the crime, ends before the second begins. But what happens in the second? Not much. The characters of this second story, the story of the investigation, do not act, they learn" (p. 44). This formula for detective fiction creates an entry point for readers to take on the role of detective. The reader, much like the protagonist, searches for gaps in the story to uncover the narrative within the narrative. The genre itself predisposes readers to seek narrative meaning in any aspect of the text. Crime fiction critic George Dove (1990, p. 32) posits that "it is the detection formula that modifies the reader's ideational activity to the level at which textual signals are interpreted"

to search for signals in the text, rather than just absorb the narrative. The formulaic analysis of the detective genre helps uncover themes that apply across the double-plot structures.

Critics of this genre often reference the five codes of narrative, developed by narratologist Roland Barthes in *S/Z* (1970). In this work, Barthes argues that there are five primary codes woven into all pieces of literature: proairetic, semantic, symbolic, culture, and hermeneutic. In terms of detective novels, the hermeneutic code is the most relevant. Barthes describes the hermeneutic code as the use of an element that is not explained to the reader, creating an enigma that must be decoded. These mysteries are meant to keep readers engaged with the text, asking them to read into different elements in order to “solve” the enigma. Barthes addresses the specific breakdown of coded morphemes—defined in linguistics as a unit of language—that revolve around the concept of the enigma, which he divides into ten different stages:

(1) *thematization*, or an emphasizing of the subject which will be the object of the enigma; (2) *proposal*, a metalinguistic index which, by signaling in a thousand different ways that an enigma exists, designates the hermeneutic (or enigmatic)' genus; (3) *formulation* of the enigma; (4) *promise of an answer* (or request for answer); (5) *snare*, a pretense which must be defined, if possible, by its circuit of destination (by one character for another, for himself, by the discourse for the reader); (6) *equivocation*, or double understanding, the mixture in a single statement of a snare and a truth; (7) *jamming*, acknowledgment of the insolubility of the enigma; (8) *suspended answer* (after having been begun); (9) *partial answer*, which consists in stating only one of the features whose total will form the complete identification of the truth; (10) *disclosure*, decipherment (Barthes, 1970, p. 209-210)

Additionally, Barthes notes that the key to this code is that it is irreversible—once the enigma’s secret is revealed, there is no way to undo the revelation. This trait impacts a readers’ ability to reread a detective piece, as their understanding of the crime (i.e. the enigma) cannot be undone

once they have finished reading the story. The above traits are typically included in detective stories in some form, the implications of which have been the subject of previous detective video game studies (Ramirez, 2012). The hermeneutic code serves as a basis for the analysis of narrative components in these two games. Showing what gameplay elements are potentially associated with a certain code can contribute to understanding how narrative is innately incorporated in interactivity.

Another popular method for studying detective fiction is through the lens of the reader's journey. Developed by Wolfgang Iser (1978), the reader-reception theory states that text is a mediated conversation between the author and the reader. As a reader interprets the text, she performs the "ideational activity" of creating individual meaning (Dove, 1990, p. 27). The differing interpretations between readers of a text innately comes from the gaps in the text, which Iser calls "structures of indeterminacy," that readers must bridge (p. 56). Particularly in detective fiction, these gaps are critical to letting the reader confront a mystery without direct intervention from the novel's protagonist. Iser's theory helps close the gap between literature and games; much like playing a game, reading a novel is an active process rather than a passive one. As the text leaves gaps for the reader to interpret, games bring players into a narrative by allowing them varying degrees of ideational control.

This theory slightly differs from Jauss's reader-reception theory, which recognizes that readers actively build a narrative as they are reading a text (1982). I chose to focus on Iser's reader-reception theory over Jauss's often-cited reader-response theory for two reasons: (1) Iser's theory deals with phenomenology, which works with Barthes' hermeneutic code, and (2) Iser focuses on the individual reader and how she appears in the text, which is key to successful

agency in video games. The analysis of player agency does not necessarily require an analysis of the player community but rather the individual player's interaction with the system.

Agency and Mechanics in Video Games

The term "player agency" frequently appears in recent video game research. Agency is understood as the freedom a player has to make different choices within a game and how much (or how little) those choices impact the system. I apply Janet Murray's definition from *Hamlet on the Holodeck* (1997): "Agency is the satisfying power to take meaningful action and see the results of our decisions and choices" (p. 123). It is not just the opportunity to make a choice that is important, but the possibility of that choice having an impact on the game. This concept is particularly interesting in games that emphasize narrative, as each choice a player makes has the potential to create branching changes, leading to a massive script and a large number of possible playthroughs. Typically, games that employ branching narratives, like TellTale's *The Walking Dead* (2012) and Dontnod's *Life is Strange* (2015), heavily emphasize their choice-based features in their marketing. These games use combinations of player choice to generate different scenes and endings for the narrative.

However, vast choice does not necessarily lead to a great sense of player agency. In her work *Avatars of Story*, narratologist Marie-Laure Ryan (2006) warns that "an overabundance of choices is more likely to lead to confusion, frustration, and obsession with the missed opportunities, as well as logically inconsistent sequences of events, than to give the user a sense of freedom and empowerment" (p. 123). Likewise, Murray herself qualifies the definition of agency to state that "interactors can only act within the possibilities that have been established by the writing and programming," ruling out a game that programs an infinite number of outcomes to accommodate a player truly making *any* choice (Murray, 1997, p. 152). This is the primary

reason I chose to analyze choice-based agency *and* the illusion of agency. The illusion of agency is most common in video games. This definition recognizes that a game is interactive and allows players to act on the system by choosing from a set of actions, but these actions can only lead to a single, linear narrative outcome (Stang, 2019). Choice-based agency, on the other hand, lets players directly impact a narrative and change the course of the narrative, which is most reminiscent of Murray's original definition. As previously mentioned, this type of agency is typically found in branching, choice-based games.

For complex narratives, like these branching games, too many choices can create an inconsistent storyline and, as Ryan noted, put too much pressure on the player to uncover the "true" story. Rather than design sprawling narratives, some games give players a sense of control simply by acknowledging their ability to perform certain actions. Fendt et. al. (2012) found that players reported feeling a similar sense of agency in both games that had a true branching narrative and games with a linear narrative. The latter game had choice points that were acknowledged by the system but did not change the storyline, creating an illusion of meaningful action. Essentially, researchers found that simply allowing players to make choices and having the game respond to those choices, even without altering the overall narrative, could still create a sense of agency. The two games presented in this study represent examples of choice-based agency via branching narratives (*Detroit: Become Human*) and illusory agency via system response (*Trauma Team*).

Ludonarrative Resonance. In the realm of video game research, authors normally focus on either a narratological or ludological approach. Narratologists concentrate on analyzing games from a narrative perspective, focusing on how a game tells a story through immersion and player agency rather than the gameplay. In contrast, ludologists emphasize how a game is played and even how surrounding cultural influences impact gameplay. Rather than focus on one academic approach, I focus on analysis through ludonarrative resonance, which linguist Toh Weimin (2015) defines as requiring “the presence of a narrative which the player wants to believe in and the presence of a gameplay which gives the player enough freedom to feel involved, but does not undermine the narrative” (p. 242). Ludonarrative resonance in simulation games like *Trauma Team* is especially important, as the gameplay aims to mimic real-world procedures that occur in the story. Further, because players should be able to perform detective work in these universes to uncover the crime, the worldbuilding should be believable enough as to not impede the detection story. Though both *Trauma Team* and *Detroit: Become Human* are set in fictional universes containing science fiction elements, I will still analyze whether or not these elements are successfully and believably translated across gameplay mechanisms.

Regarding games based on “unrealistic” settings, like science fiction universes, Domsch (2013) explains that resonance is achieved by “narrativising” the rules—or mechanics—of the game itself. Domsch states that these rules are “important for creating the game’s specific gameplay experience [...] and are in no necessary way connected to realism, and yet they are increasingly naturalized so they can be experienced as part of a coherent storyworld” (p. 23). For truly narrativized mechanics, the game should not use mechanics alone as an explanation (e.g. the player character has multiple lives so the player can retry a level) but incorporate the lore of the storyworld into that explanation (e.g. a scientist has discovered a way to resurrect humans).

For *Trauma Team* and *Detroit: Become Human*, these narrativized rules are important for both worldbuilding and rationalization. These mechanics, while based on simulated actions, are enhanced by the science fiction universe. Narrativized mechanics help both explain the way these science fiction elements can appear in the setting as well as build the setting itself, as these games are the source material for these worlds.

Gameplay Mechanics. These two games are the subject of this analysis because of their similar settings but opposing gameplay frameworks. Both of these games land in the intersection of internal-ontological narratives and internal-exploratory narratives. Ryan writes, “as long as the story of the investigation and the investigated story remain strictly separate, the role of the user is clearly exploratory” (p. 122), which closely aligns with the problem-solving nature of *Trauma Team*. While the player can choose the order in which she plays the levels (which will be discussed in later sections), the story does not change based on those choices, and the primary game mechanic is still exploring pieces of the narrative. On the other hand, “when the result of the investigation has a lasting effect in the virtual world, the two narrative threads will merge into an ontologically meaningful development” (Ryan, 2006, p. 122), reminiscent of the branching narrative in *Detroit: Become Human*. This game is also considered non-unilinear because the story that unfolds before the player changes based on the player’s major choices. Because of the similarities and differences in these game design styles, these two games use different techniques to increase the presence (or illusion) of player agency and the methods used as vehicles for narrative.

CHAPTER THREE: Methods

This paper takes a ludonarrative approach, attempting to analyze the intersection of narrative and gameplay in these two games. The format of this paper incorporates a formal analysis with a particular focus on narrative integration. As such, I focus on the following major sections for each case study: an explanation of the science fiction settings used, a coding of gameplay techniques used in the particular chapters, and an analysis of how the combination of these techniques in a science fiction setting improve player agency via narrative.

This paper analyzes the following questions:

RQ1: How do *Trauma Team* and *Detroit: Become Human* use the reconstruction of a crime as a functioning, player-controlled narrative?

RQ2: How does the science-fiction (sci-fi) setting of these influence the gameplay techniques used?

RQ3: How do gameplay techniques in science fiction crime games act as vehicles for narrative?

To analyze these two cases and uncover similar themes, I used a formal analysis approach typically used in game studies. According to Lankoski and Bjork (2015), formal analysis for video games encourages researchers to view games as artifacts with specific elements to examine. Formal analysis in video games considers games “independent of context” (Lankoski and Bjork, 2015, p. 23), meaning that the demographics of specific players and specific instances of gameplay are not included in the process of data collection. This method supplements this study for several reasons: (1) the research questions deal with agency as a function of the system itself, rather than the feeling it creates in an individual player, thus removing the need for individual player studies, (2) formal analysis works by defining individual elements within the

system, which creates a basis for coding narrative and mechanics in these games, and (3) typical studies using formal analysis select a part of the game of study, rather than the overall game. The entire system as an artifact is typically too large for in-depth examination.

Lankoski and Bjork also define the elements of games as *primitives*, or the “the basic building blocks of games” (p. 25). These primitives include components, actions, and goals. Particularly, this technique of dividing elements into primitives mirrors that of coding literature by morphemes, which are defined as the smallest meaningful units of language. To address the relationship between these components, I categorized each component based on its place in the narrative arc, particularly in the concept of the investigation process; these categories are discovery, analysis, and resolution. My primary principle of design—reconstruction of narrative—is covered by coding each component in the way it matches one of Barthes’ hermeneutic codes. This code does not necessarily remain the same for each instance of a component, as a certain component may be used for multiple narrative purposes. However, because of the interactive form, I do not use the “snare” code, as it relies on narration from either the protagonist or a narrator (which, as the player “writes” the story herself, is hard to incorporate a deliberate subversion of the truth). Finally, to address the role of the primitive in the system, I code each instance in the way it relates to my research questions: the use of science fiction elements and the type of agency it incorporates (if at all). Table 1, below, illustrates the coding scheme.

Component	Category	Narrative Code	Science Fiction Integration	Player Agency
<i>Particular gameplay mechanic being used</i>	<i>Purpose of component (discovery, analysis, or resolution)</i>	<i>One of ten of Barthes' hermeneutic codes</i>	<i>Does the component integrate elements of the game's setting?</i>	<i>Illusory, choice-based, or no agency</i>

Table 1. Coding scheme for components with descriptions of each category.

For this study, I used a combination of personal gameplay experience, recorded playthroughs, and written walkthroughs to list the coded components. First, I played each level one time to understand the essential narrative arc and the basic gameplay mechanics. Then, to thoroughly record the number of individual components, I watched recorded playthroughs by other players of each level (Karin's Channel, 2013; VGS - Video Game Sophistry, 2018), allowing me to pause and note any necessary information without worrying about in-game timers. I selected these playthroughs based on their levels of completion; each video went through each possible choice and ending, which was especially important for *Detroit: Become Human*. I named each component by one of the predetermined mechanics (outlined below) and wrote a brief description of the component component's narrative placement (e.g. "Multiple choice question—the two things used to start the fire were the ceiling fan and the rope"). Based on this information, I described which of Barthes' codes it went with and whether or not any sci-fi elements were used. Then, I cross-referenced the coded actions with two written walkthroughs (Let's Play Archive, 2011; PowerPyx, 2018) to note in the "agency" section whether or not there were prerequisites for performing the action or if the player could complete a set of actions in any order.

After coding each individual component for its narrative code, type of agency, and sci-fi integration, I created flowcharts of the relationships between actions. Especially in *Trauma Team*, this allowed me to group similar sets of actions (like reviewing multiple pieces of evidence on the computer) to create a more narrative understanding of the gameplay mechanics. In these flowcharts, rounded rectangles represent linear events, pentagons are events that can be performed in any order, and circles are optional actions. Each shape was colored to match the narrative code associated with that component. These flowcharts were used alongside the total instances of each narrative code to analyze how gameplay constructs narrative in these two chapters.

Component Definitions

To categorize the different types of gameplay mechanisms, I identified key aspects of the problem-solving process that are conveyed via game mechanics across these two games. Though these mechanics may have different user interfaces or designs, the base mechanic is the same.

Discovery. Akin to Barthes' "enigma" phase, the discovery phase focuses on uncovering elements, usually physical, that create the points needed to uncover the story arc. This phase is somewhat iterative; players can begin to analyze the clues at any time, but they may have to return to the discovery phase to look for missing information.

Autopsy. At the beginning of the investigation process, players are asked to perform an autopsy on the victim's body and examine personal effects to collect information. These autopsies give the player initial clues about the nature of the crime.

Crime Scene Investigation. Another major portion of each investigation is visiting and analyzing crime scenes. These discoveries are combined with small clues from the FBI to create pieces of evidence for the player to manipulate.

Testimonials. Many times, witnesses to the crime can provide further information on the situation through audio or video testimonials. Depending on the situation, players can ask specific questions to better understand pieces of the timeline or previously gathered clues.

Analysis. The analysis stage—similar to Barthes’ “delay” stage—normally begins after players have collected enough evidence to begin piecing together the clues and visualize the overall narrative of the crime.

Assistant. Assistants are very common in detective fiction, since they serve an important functional purpose; Hühn (1987) explains the assistant figure normally does not understand the detective’s problem-solving process, so he bridges the gap between the detective’s process and the reader’s understanding. Much like the need for Sherlock Holmes to interact with John Watson, having an assistant gives an in-game reason for the player character to explain their deductions and conclusions. This mechanic gives writers a failsafe in case the clues and their connections are not obvious to the player.

Dialogue Options (Detroit: Become Human only). During the investigation process, the player encounters opportunities to make dialogue choices when interacting with non-player characters (NPCs). Typically, players can choose from four options that convey different emotional responses. In turn, these responses change the player character’s personality and relationships with non-player characters.

Reconstructions (Detroit: Become Human only). Because of android capabilities, part of the gameplay in *Detroit: Become Human* revolves around visibly reconstructing the actions of a crime. When a player has collected and analyzed enough physical evidence around the scene, Connor (the player character) prompts them to use a timeline to recreate a sequence of actions. The player controls the timeline and the camera, moving “figures” around the scene to connect the pieces of evidence into an action.

Evidence Cards (Trauma Team only). Evidence cards are a running list of the evidence collected in each level of *Trauma Team*. Each clue the player discovers creates an evidence card with a number of empty stars on it—once all the stars have been filled, the player knows the clue has been thoroughly examined.

Resolution. Finally, as with Barthes’ stage of the same name, the resolution stage occurs when the player collects enough pieces of evidence to reconstruct a full narrative. This phase is normally initiated by the system, either through verbal affirmation from the player character or by entering a specific conversation.

Multiple Choice Questions. To solve the crime, players are often given a series of multiple-choice questions to confirm she understands the narrative of the crime. These questions can appear at any point in the narrative but are typically focused on the resolution stage.

End States (Detroit: Become Human only). In *Detroit: Become Human*, crimes can, in fact, be left unsolved. If a player makes too many mistakes or comes to the wrong conclusion, she can be penalized by having the main story arc progress without knowing the answer to the crime.

Each subsection of the enigma arc—discovery, analysis, and disclosure—addresses a section of interactivity that creates both narrativity and agency. In the discovery phase, writers

use the action of searching different pieces of the crime as a way to build both the internal arc (i.e. the story of the crime) and the external world (i.e. the setting of the game itself). The analysis phase, which uses time-based actions and elements contingent upon previous choices, allows designers to organically pace the way the player moves through the reconstruction of the story. Finally, the disclosure section, which reveals the mystery itself, impacts the replayability of a game and presents ways in which designers can re-engage players after they discover the culprit.

CHAPTER 4: Case Analysis of *Trauma Team*

Released in 2010, *Trauma Team* is a medical simulation title produced by Atlus for the Nintendo Wii. The game is a continuation of the *Trauma Center* series, introducing five new characters to the narrative world. Structurally, the gameplay is divided into six sections—first response, endoscopy, surgery, orthopedics, diagnosis, and forensics—and each section has a unique narrative that later intersects with the game’s overall plot. While the first response, endoscopy, surgery, and orthopedics levels closely mirror the simulation-style gameplay of the previous titles in the series, the diagnosis and forensics levels rely on a visual novel style of storytelling and gameplay. Gameplay is an interesting area for analysis in this game, as it was specifically designed to combat the player fatigue developers saw in the previous titles, which only used one type of simulation gameplay (Kanada, 2009).

Setting

Set in the year 2020, *Trauma Team* expands on the *Trauma Center* universe. First introduced in *Trauma Center: Second Opinion* as assistant to the game’s antagonist, Dr. Naomi Kimishima, the player character for forensics missions, appears on the side of the “good guys” in *Trauma Team* as she begins her work at the Cumberland Institute for Forensic Medicine. As previously mentioned, Dr. Kimishima’s missions have self-contained narratives in each level: she is called to the crime scene as an investigator, and the entire mission centers around solving the crime. She works alongside the FBI and her assistant, Little Guy, to gather evidence and reconstruct the stories behind various crimes.

Until this point, the *Trauma Center* series created its science-fiction setting in two ways: complex bioterrorism plots from antagonists and advanced medical methods used to combat those viruses. The original *Trauma Center* games focus on fighting bioterrorism agencies and

their highly contagious viruses: GUILT, Neo-GUILT, Stigma, and finally, Rosalia, which is featured in *Trauma Team*. The Rosalia virus, which appears in the last half of the game, is described as being a viral hemorrhagic fever similar to Ebola or H1N1 (Atlus, 2010). Its highly contagious nature makes it the primary “antagonist,” impacting the missions of all six doctors near the end of the game. The gameplay, then, hinges upon the use of advanced medical technology to adjust the difficulty of gameplay. For example, most surgeries use antibiotic gel, which can automatically heal minor wounds. Dr. Kimishima’s missions also rely on technology: 3D-image scans are used for performing autopsies, luminol spray and advanced light sources (ALS) for gathering evidence, and a computer for sorting evidence and making deductions. Additionally, supernatural abilities of the player characters in the *Trauma Center* series, such as the “Healing Touch,” serve to help players complete the gameplay levels while also giving them a narrative explanation. Dr. Kimishima’s additional supernatural ability is the origin of her nickname “The Corpse Whisperer.” At the beginning of each investigation, she receives a phone call that reveals the victim’s last words. This call is the narrative starting point for the investigation process and also creates an evidence card in the player’s menu screen.

***Trauma Center* and Visual Narrative Style.** Atlus’s *Trauma Center* series uses a “visual novel” style of storytelling. These games are typically narrative-focused, going through scenes and dialogue in frames like a comic book. The narrative action, as well as the player input, relies on conversations and puzzle-solving, which explains the style’s consistent appearance in the simulation genre. Likewise, the stories in these games rely heavily on dialogue and set design, making them easy to break down by mechanic.

This game also uses a technique called guided inference, which pauses progression at certain points to allow the player to infer the connection between objects and the scene. This is

the game's primary use of linear/guided gameplay: the player can deduct things for herself throughout the scene, but these questions ultimately point the player in the direction that progresses the plot. Unlike in novels, where the author can give readers an overview of how the crime was committed, game makers must direct players in a way that leads them to the story's logical conclusion. As I will discuss in later sections, leading player input through guided inference allows the player to make decisions as they sequentially understand them while also pacing the overall plot in a linear way.

Coding Narrative and Gameplay in “Locked-Room Mystery”

As shown in the flowchart (Fig. 1), this game follows what Thoss, Ensslin, and Ciccoricco (2018) call a critical story path, where “branching choices are often channeled into a bottleneck structure that will ultimately lead all optional paths back into a largely linear story arc” (p. 637). Game critics have noted that, because of this rigid story path, it is impossible to “move forward without doing every single task in the diagnostic and forensics modes” (Bale, 2010), even if the player can reach the logical conclusion without finding those other pieces of evidence. However, these flowcharts illustrate how the path to uncovering different elements can vary.

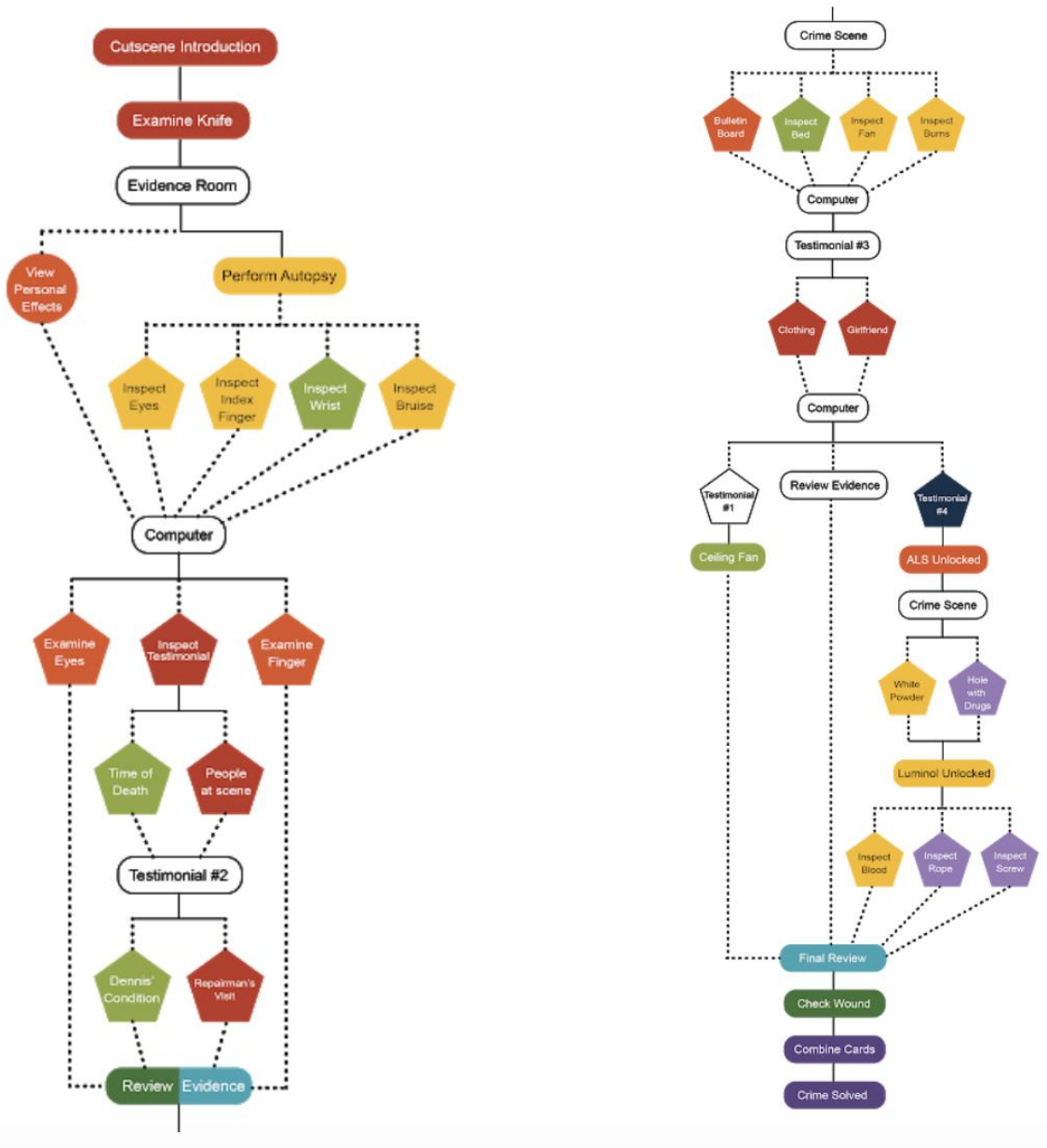


Figure 1. Flowchart of the “Locked-Room Mystery” chapter

The first forensics mission in the game, “Locked-Room Mystery,” begins with a cutscene introducing Dr. Kimishima, whose presence has been requested by the FBI on a new case. The cutscene takes the player through the basic information about the crime: the victim, Dennis Taylor, was found after a fire started in his apartment and a neighbor called the police. The police explain a knife in the victim’s hand matched the cuts on his wrist and the door was locked

from the inside, making them believe it was a suicide. Near the end of the cutscene, Dr. Kimishima receives a phone call containing the victim's last words: "S-Stop! You...!?! NO!" These words become the player's first evidence card. The cutscene also introduces Special Investigator Navel ("Little Guy"), an FBI liaison that reveals he used to work with Dr. Kimishima in the past.

Previously introduced in *Trauma Center: Second Opinion*, Little Guy is Dr. Kimishima's investigative assistant. He is available in Dr. Kimishima's office for contact at any point in the game, performing analysis and filling in narrative gaps that may appear due to lack of player knowledge (e.g. assuring the player that a body would not have been damaged in transport after discovering a posthumous fracture). The assistant also can stand in for the player—if Dr. Kimishima makes a deduction that is not immediately obvious to the player, the use of an assistant gives the space for character dialogue and further explanation. The assistant mechanic is used throughout the discovery and analysis phases of the game to lead the player's ideational activity.

After the cutscene and the initial briefing from Little Guy, the game leads the player to the first area to perform the autopsy. The player can manipulate the view of a 3D-rendered silhouette of a victim's body using the Nintendo's Wiimote. Players can zoom in on relevant parts of the body, such as wounds and bruising, to do a thorough inspection and note any clues that may assist in solving the crime. For this particular case, the autopsy mechanic resides primarily in the formulation phase and allows the player to begin positing how the evidence cards might be connected. The autopsy phase also integrates illusory agency by allowing the player to investigate parts of the body in whatever order she chooses, as well as even skipping certain items (the player can return to this area at any time). As shown in Figure 2, the player

does not have to investigate the personal effects and can return to them at another point in the level. To ensure that the player does not spend too much time in this step of the investigation process, the game provides a narrative cue from the player character (“That should wrap up what I can learn from here”) to lead them back to the computer to process evidence. This serves as the first instance of a bottleneck in the narrative, as all steps ultimately lead back to Dr. Kimishima’s office.

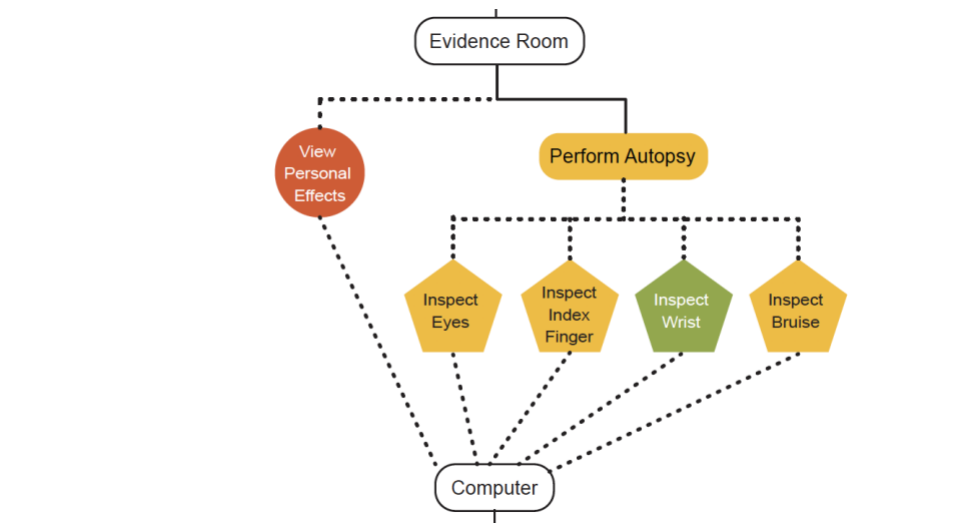


Figure 2. Choice points and bottleneck in the first section of the game.

Once the player returns to the computer, she is presented with the first opportunity to analyze the evidence she has found so far. For *Trauma Team*, the primary mechanics for analyses are evidence cards and multiple-choice questions (81 coded items). The game gives players multiple-choice questions as a guide to progress the story—these questions can deal with pieces of evidence, dialogue, or connections between evidence cards. The player only gets ten incorrect choices before the level restarts but can skip a question and return to it. The level only progresses, however, when all correct answers have been selected. This technique is the most commonly used mechanic out of all coded pieces (53 out of 120), with most of the codes in the formulation phase. These questions appear after the player has started an investigation point

(selecting something from a crime scene, combining evidence cards, etc.) and prompts the player to decipher the pieces of the enigma and leads them through their ideation. These questions are used to ensure that the player is making the correct “assumptions” about the evidence they find, essentially nudging the player’s ideational activity, as per Iser (1978). As previously discussed, authors of non-interactive detective stories can rely on literary techniques (internal monologues, characterization, foreshadowing, etc.) to lead the reader’s ideational activity, as well as directly give the reader the correct information. Here, designers can add a layer of interactivity through these multiple-choice questions, which let the player ideate on the information at hand without receiving the information outright.

Evidence cards, the next major portion of this section of gameplay, ensure the player has all necessary details needed for them to successfully uncover the crime. To view, analyze, or fuse existing evidence cards, the player can visit the computer at any time. Fusing two associated cards together can create a new clue, and new cards can also be sent to other investigators to “analyze” and gain more insight on them. Once an evidence card is finalized, it creates “Solid Evidence” that the player will use in the final disclosure stage (Fig. 3).

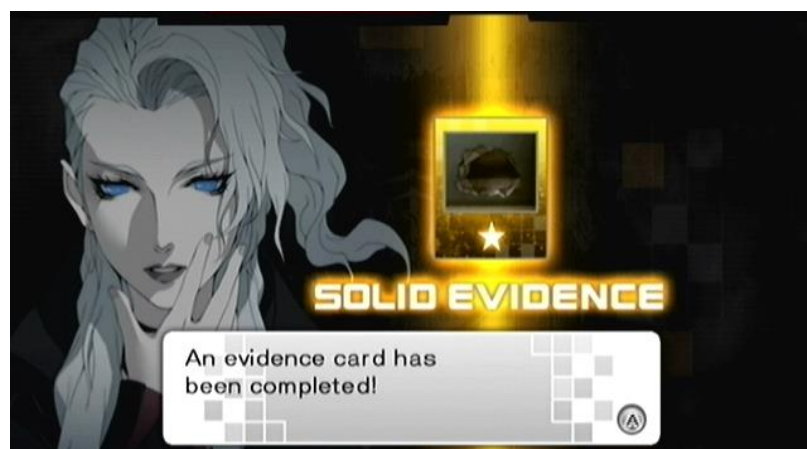


Figure 3. Completed evidence card (from The Let’s Play Archive, 2011).

As shown in Figure 4, the designers lead the player to the necessary steps by limiting their access to subsequent pieces of the narrative. In order to ensure the player sees all necessary pieces of evidence, the game blocks them from the next part of the investigation (in this case, visiting the crime scene). To progress, they must send over two pieces of evidence for additional investigation (coded as request of an answer) and inspect the testimonial, which Little Guy informs them has been added to the computer. The player can perform these actions in any order, but all three must be completed before the player gains access to the crime scene. Narratively, the player character explains that a necessary amount of evidence is needed to warrant a trip to the crime scene. Dr. Kimishima notes that the collected evidence from the autopsy is reminiscent of a suicide, which does not require a visit to the crime scene to confirm. However, the three mechanics in this section begin to propose different possibilities: The spots on the eyes are commonly found in asphyxiation victims, the broken finger shows no signs of healing (occurred after death), and the witness testimonial from the neighbor reports a repairman visited the scene before the victim's death (Fig. 4). These pieces are later used to rationalize further investigation.

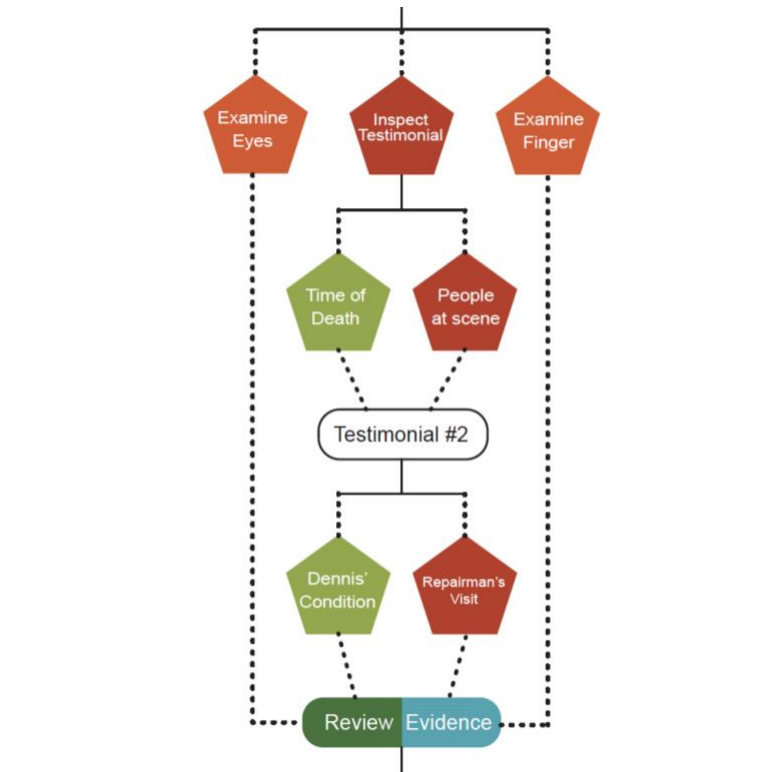


Figure 4. Inspecting evidence and witness testimony

Instead of directly having conversations with witnesses, investigators send audio files of interviews to the computer. These testimonies are divided into different lines of dialogue, and players must pick pieces of audio that appear relevant to the case (Fig. 5). Players can fast forward and rewind the recordings, as well as pause the recording and return to it at a later time. Each audio testimony contains at least one piece of dialogue that unlocks related evidence via additional interviews or evidence cards. Rather than the classic interview method, this integration of technology with the recorder allows for more player flexibility in uncovering clues in the interview. Previous detective games in historical settings, like *L.A. Noire*, require the player to make decisions in real-time during interrogation scenes, and correct or incorrect choices impact the player's overall score in the level (Ramierz, 2012). Introducing the recorder allows the player to move between pieces of dialogue and uncover relationships, if any, between the phrases and

existing evidence. This technique, while perhaps not as robust as the interrogation mechanic in *L.A. Noire*, gives the player more chances to independently investigate pieces of dialogue.

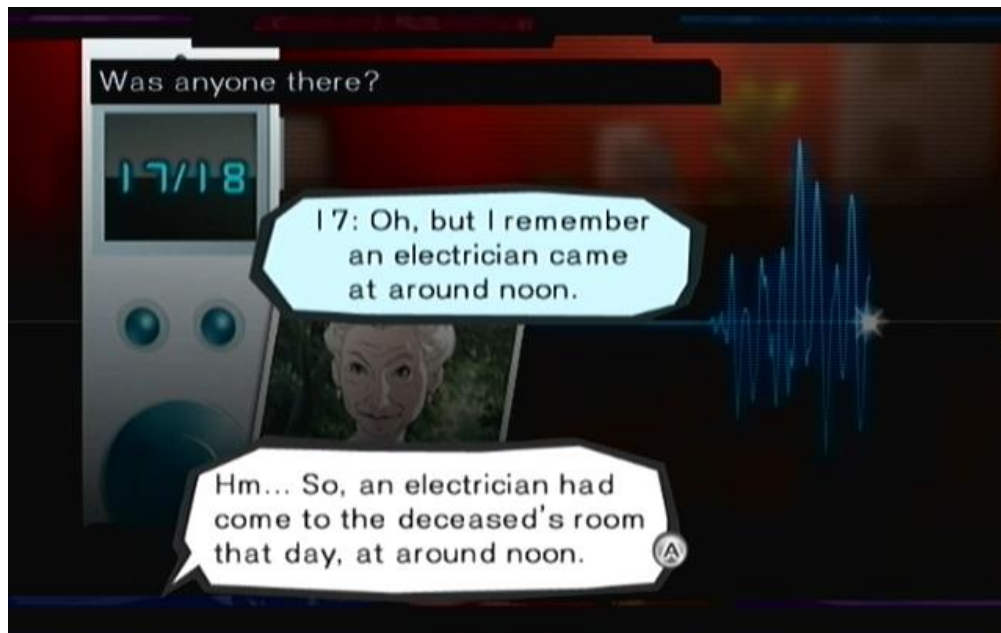


Figure 5. The audio testimony mechanic (from Let's Play Archive, 2011).

With 6 out of a total of 8 coded testimonial mechanics, audio testimony most often falls in the “request of an answer” category. Because the player character is removed from the interview (i.e. not deciding what questions to ask and record), these responses are set up to prompt the player to find information they already know that adheres to or contradicts witness testimony. In this particular section, for example, the neighbor’s statement that the electrician visited the apartment around noon prompts Dr. Kimishima to request an additional interview with the electrician. Then, when investigating the electrician’s testimonial, the statement about the victim’s mental health encourages the player to begin putting the existing evidence together to understand what doesn’t fit. This evidence review, prompted by the request code, is another bottleneck that gives the player access to the next mechanic of the game: crime scene investigation (see Fig. 6).

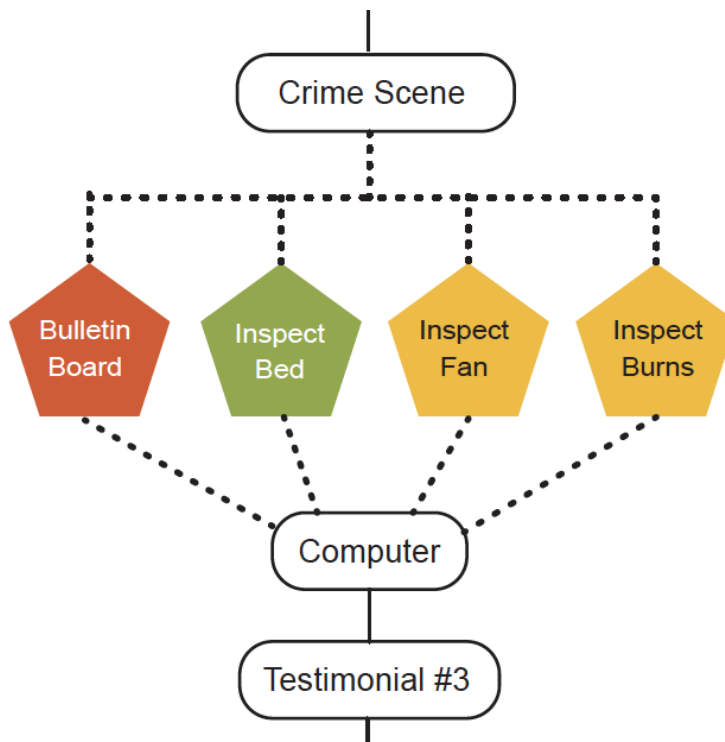


Figure 6. Evidence discovered through CSI

The crime scene in this level is the victim's apartment, rendered as a static illustration. Players use items like a magnifying glass, fingerprint powder, and a blacklight to observe different areas of the scene. At this point in the game, however, players are only given tools that directly relate to the evidence they have already collected. Not only is this a way for designers to pace out the acquisition of evidence, it also prevents the player from collecting too much evidence at once. Typically in detective stories, the reader is asked to separate the "relevant signs from the mass of nonrelevant facts around it," (Huhn, 1987, p. 455) as a part of their ideational activity. However, in a game setting, where the player is leading the investigation rather than witnessing it, the oversaturation of signs (both relevant and irrelevant) can impede the investigation process. Games that include point-and-click investigation at crime scenes, like *Ace*

Attorney (Capcom, 2001), rely on finding evidence that can be used to support or contradict existing statements—however, the *Ace Attorney* series has been criticized for being too linear and demanding leaps in logic to successfully win a case (Ogilvie, 2019). Limiting the number of available clues to uncover at one point, even if all pieces are technically on the scene when the player first enters it, allows designers to lead the investigation indirectly and lessen the logical leaps needed.

The crime scene mechanic most frequently appears in the formulation category (8 out of 9 coded uses), as the pieces of the crime’s nature are directly linked to objects found on the scene. While these pieces individually carry strands of narrative (led by the multiple-choice questions asked after each discovery), the player must return to the computer to connect the narrative pieces together via evidence cards.

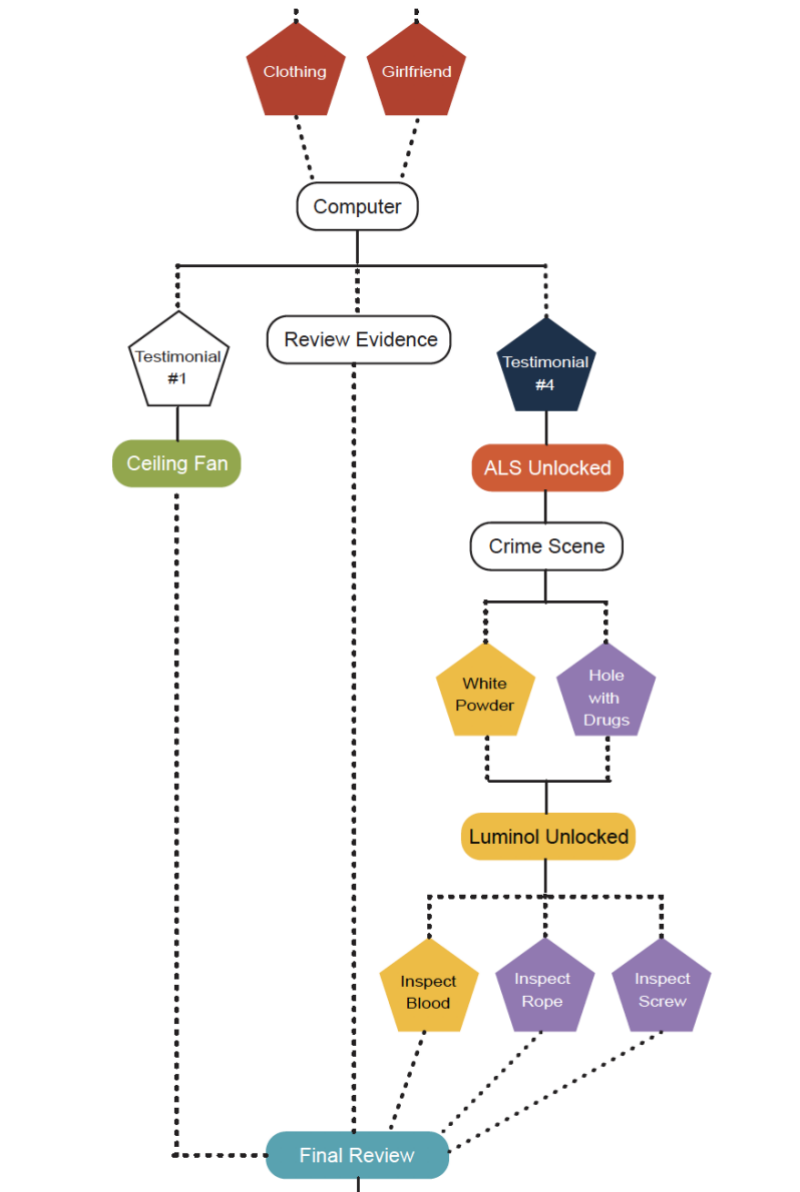


Figure 7. The final branching choice in the level

The final section of gameplay in this level highlights two examples of narrative acting as a pacing mechanism (Fig. 7). Testimonial #3, an interview with the victim’s friend, is not unlocked until the player sees the friend’s photo on the bulletin board at the crime scene. This interview contains two important pieces of the formulation code: the clothing the victim was wearing on the day of his death and the victim’s relationship with his ex-girlfriend. These pieces

again give the player three options as to what piece of evidence to explore first. If the player inspects the new testimonial from the ex-girlfriend, they learn about the victim's history as a drug dealer, unlocking the option to use the Advanced Light Source (ALS) to look for drugs at the scene of the crime. The powder traces found by the ALS also ultimately unlock the luminol item, which the player can use to search for blood stains at the scene. As previously stated, these tools are not available for the player to use until they have found necessary evidence that warrants their use (drug history for the ALS, the bloodstains not being large enough to infer bleeding out for the luminol). This way, the game has a narrative reason for leading the player's investigative process. From a design standpoint, this ensures that the player does not find the evidence of drugs or bloodstains too early, which would change the narrative course, potentially negating the need for the girlfriend's testimonial or the analysis of the amount of visible blood left at the scene.

After revisiting the first testimonial (noting the electrician stated he was fixing the air yet the ceiling fan was broken), the player is prompted to begin the final review process. Several partial answer codes are generated from multiple-choice questions at the scene (missing drugs, bloody rope, and bloody door screw), which generate solid evidence cards. This game's example of the equivocation code (10 coded items) comes from statements of skepticism from Dr. Kimishima. At this point, she will note that "something doesn't add up:" the wound from the murder weapon does not show up on the victim's clothes. With this knowledge in mind, the player can now reanalyze the victim's personal effects (the first stage of the level) to search specifically for evidence of the wound (Fig. 8). This return to a previous stage could be a point of frustration to some players—if this connection is not immediately seen as the discovery needed to uncover the next step, a player could get stuck helplessly trying every possibility to progress

the plot. This frustration is not isolated to an interactive narrative; as Iser states about interpreting texts, each new sentence has the possibility to change the way a previous sentence is understood, but “the text itself does not formulate expectations or their modifications” (p. 111). The reader is still in charge of performing this ideational activity. For an interactive narrative, then, this process of “trial and error” to find the correct next step can be an example of ideational activity.

When the player discovers the missing wound (unlocking the narrative of the murderer changing the victim’s clothes), they are prompted to find fingerprints somewhere on the effects. Once the player extracts fingerprints from the shirt buttons and all evidence cards have been combined into solid evidence, Dr. Kimishima walks the player through the sequence of rebuilding the narrative of the crime.

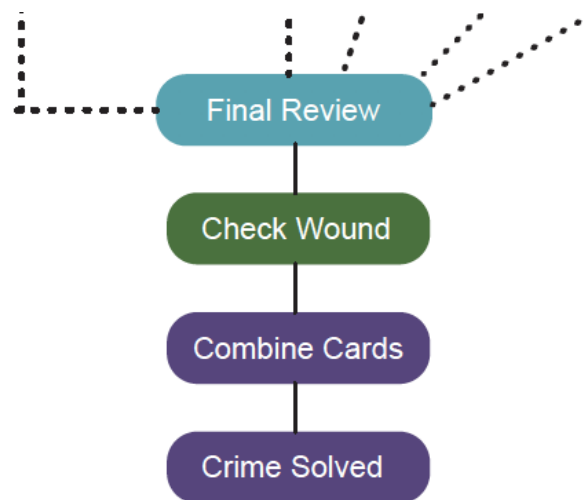


Figure 8. Linear narrative arc in the final section of the level

To disclose the true narrative of the crime, the player is asked to select evidence cards that fit the presented narrative (7 out of 7 instances of the disclosure code). This is another way the game can check the player’s ideational activity. Dr. Kimishima begins to retell the narrative

as she understands it, prompting the player to select a card at certain points that match the information in her statement (Fig. 9). Once selected, that card disappears from the list of options until the final card remains. To wrap up the cyclical nature of these two intersecting plots (the crime and the reconstruction), the final card contains the victim's last words.

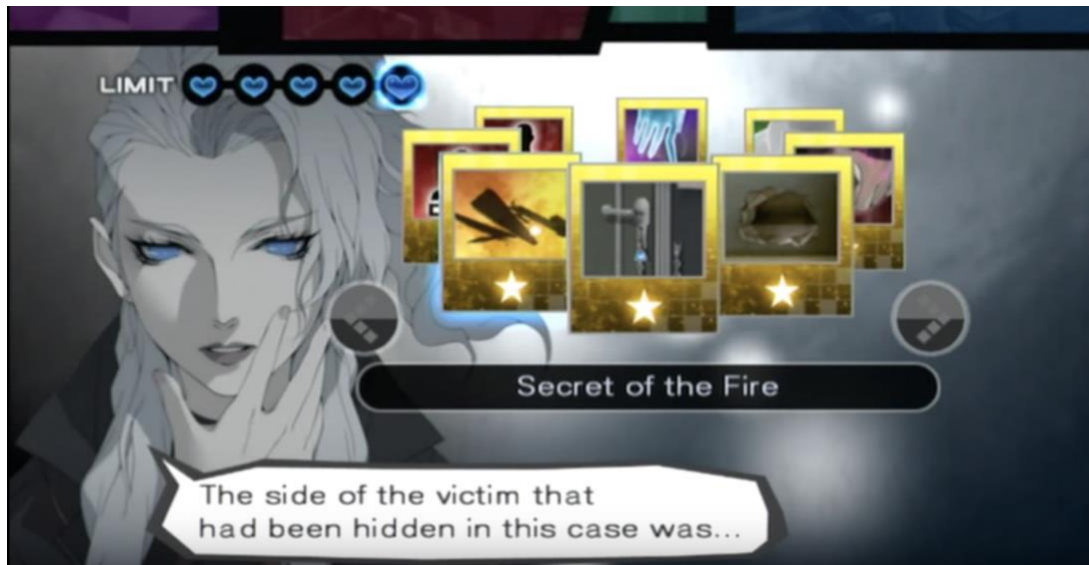


Figure 9. The final card selection sequence (from Let's Play Archive, 2011)

Analysis

The following distribution table (Table 2) outlines the appearance of each narrative code within each mechanic in this level. While the codes appear fairly distributed—each of the narrative codes appears at least once in the level—most of the codes are concentrated in the discovery phase. A total of 120 mechanics was coded across the level, which runs at approximately 2 hours of playtime.

	Thematization	Request of an answer	Formulation	Proposal	Equivocation	Jamming	Suspended Answer	Partial Answer	Disclosure
Assistant	2	0	9	3	0	1	0	0	0
Evidence card	2	4	10	3	1	0	0	1	7
Autopsy	0	1	5	1	0	0	0	0	0
Multiple choice	0	1	29	5	9	2	1	6	0
Testimonial	3	3	0	1	0	0	1	0	0
CSI	0	1	8	0	0	0	0	0	0

Table 2. Frequency distribution of codes in *Trauma Team*

Suspended answer has the fewest coded responses (2 out of 120 coded), closely followed by jamming (3 out of 120). These numbers make sense in terms of interactive narrative, as these are states of being rather than direct actions; these events occur in response to other discoveries (or lack thereof). The next narrative codes—thematization, request of an answer, proposal, equivocation, partial answer, and disclosure—share similar percentages of the total coded items (5-10% of gameplay). Though these 8 narrative codes are somewhat evenly distributed across the chapter, formulation is clearly the most frequently coded narrative piece in this chapter (see Fig. 10). The formulation code, which makes up over 50% of the coded mechanics, stands out for two reasons: (1) it is the only code to have over 5 coded instances in five out of six game mechanics, making it well distributed across the different modes of player input; and (2) it is the highest percentage of coded instances in the multiple-choice question mechanic (over 50% of this mechanic, which was the most frequently coded mechanic in the level), as it is commonly used to make connections about evidence collected by other mechanics.

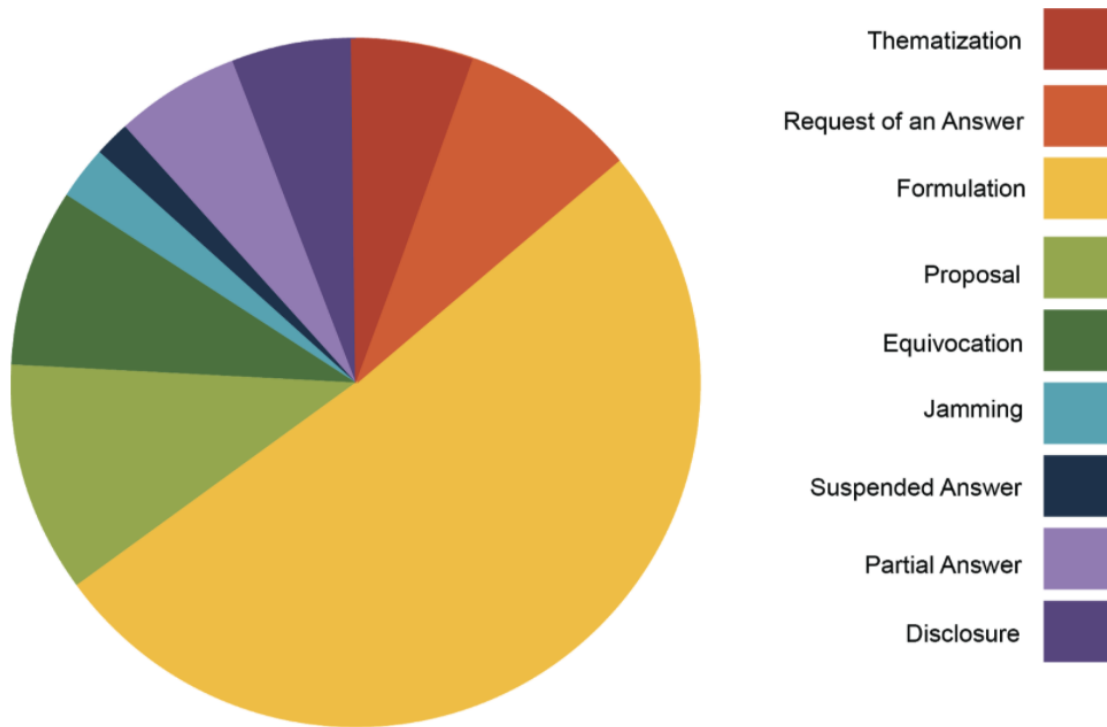


Figure 10. Percentage of each narrative code across 120 coded elements

In terms of mechanic frequency, multiple choice questions and evidence cards make up the majority of player input (44% and 23%, respectively, see Fig. 11). These two mechanics set the standard of player input in these two levels. The visual novel game design limits the player to point-and-click input (or click-and-drag in the case of evidence cards). Likewise, these two mechanics directly check the player's ideational activity: multiple-choice questions characterize an individual element of the crime, and the evidence cards check the relationship between pieces of evidence. The assistant, CSI, testimonial, and autopsy mechanics are fairly distributed across the level (~5-10% for each mechanic). The large difference in frequency can again be explained by the use of multiple-choice questions to ideate on the evidence found through the other mechanics.

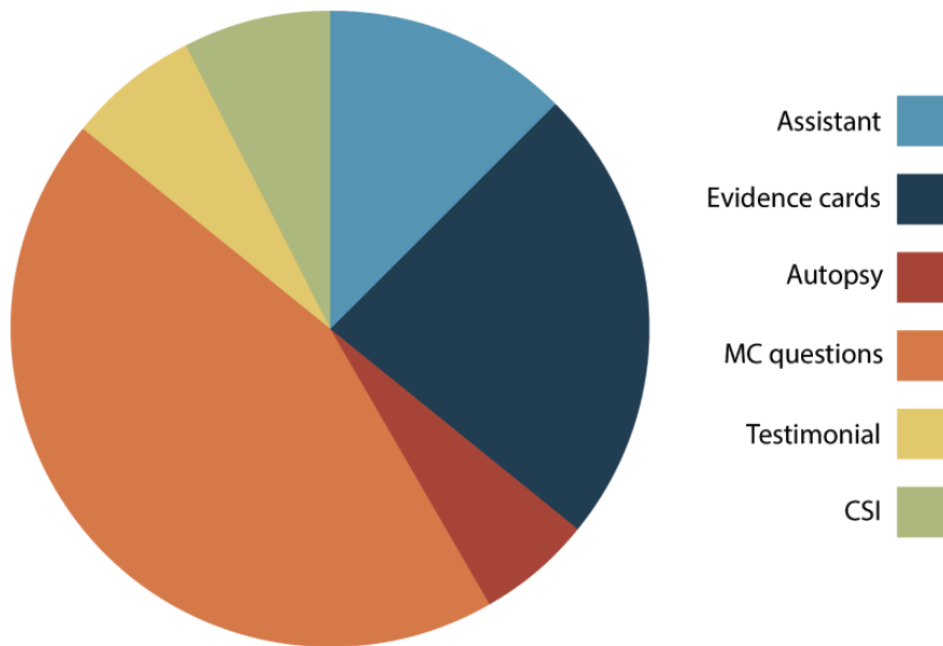


Figure 11. Percentage of each mechanic across 120 coded elements

RQ1: Player-Controlled Reconstruction of a Crime. Somewhat limited by the visual novel style of game design, player input relies heavily on the discovery phase, as in other point-and-click games (*Ace Attorney*, *Nancy Drew*, etc.). The player is given a static image or object and asked to deduce relevant information from it. For this chapter, 99 of the 120 coded mechanics are marked as incorporating illusory agency. In this game, the illusion of agency—as defined by Stang (2019, p.8)—is primarily presented in two ways: multiple-choice questions (53 total instances) and the sequence in which a player can investigate objects. Though each question has four options, only the correct option will lead a player onto the next step—this limits the agency to being only an illusion, as any incorrect answer will cause the system to respond but not move forward. Sequencing, however, is a more in-depth way for designers to add a sense of agency into the story. By allowing the player to move through a select number of steps in any order, they can more naturally follow their own ideational pathway, which hinges on how they see the pieces of the crime fitting together.

As shown through the previous flowcharts, there are approximately five major bottlenecks in the narrative that keep a linear narrative flow. Typically, these bottlenecks are signaled by a change in location after collecting a set number of items (e.g. Naomi prompts the player to return to her office after collecting all the evidence at the crime scene). Because of the game's visual design and limitation on movement, these bottlenecks can be naturally incorporated into the gameplay sequence, as the player can move between locations but not physically within those locations (see Fig. 12). However, the limit on spatial exploration does limit the number of possible choices a player can make at any time. Unlike *Detroit: Become Human*, where the crime scene is 3D-rendered and the player moves their character through the space, the flat, point-and-click design of the scenes limits the spatial freedom a player has to explore. Using static images instead of a rendered space means the player loses a range of motion, making it easier for the designers to focus them on the needed spatial element. For a game with a heavy narrative arc, this design choice does make it easier for designers to keep the player more focused on the overarching narrative. However, it can reduce the player's sense of "exploration."

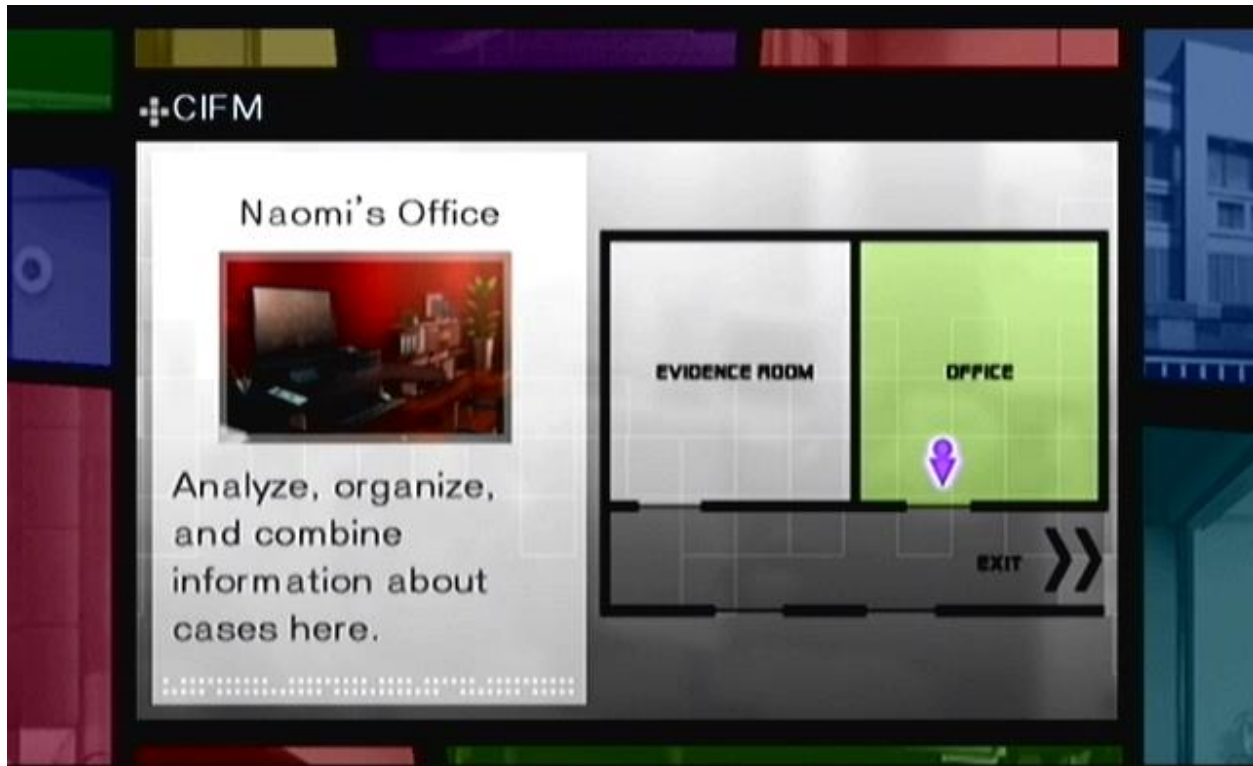


Figure 12. The level map for “The Locked Room Mystery” (from Let’s Play Archive, 2011).

For the thematization phase, the game takes a “no agency” approach by using the assistant (a mechanic coded as “no agency” in all instances) to relay information directly to the player. This step is fairly typical of any game narrative (e.g. an establishing shot or introductory cinematic) because it is an opportunity for worldbuilding and immersing the player into the enigma of the narrative. Because this is a pre-structured narrative, rather than an emergent one, worldbuilding necessarily does not incorporate agency; the basic structures of the storyworld will not change in subsequent playthroughs. Though it does impact the game’s overall available player agency, the lack of agency in thematization is consistent with the game design.

Overall, *Trauma Team* does not incorporate choice-based agency into its gameplay. Because the narrative does not introduce true choices in its mechanics, the sense of control the player feels only comes through the way they select the sequence of events. However, this more

linear style of gameplay does allow for a more complex narrative: NPCs (and even the player character) can have ulterior motives or complex backstory because the narrative does not have to be designed around the way the player “creates” these characters (as will be discussed in the analysis to *Detroit: Become Human*). This space for a more complex narrative arc, then, allows the game to more so mirror those traditional detective story arcs, though somewhat at the cost of the sense of agency.

RQ2: Science Fiction Influence on Gameplay. According to Domsch (2013), the worldbuilding in a game depends on four factors: “the back story, the world state, the events, and foreshadowing” (p. 28). In this game, because it is a continuation of a pre-existing storyworld, the description of the world state does not have to be as complex—however, designers do have to take into account that this game can stand alone (especially with the introduction of five new characters). To successfully integrate this game with the rest of the series while also leaving space for new players to explore the storyworld, the world state of being a futuristic narrative, as well as the backstory, needs to be directly incorporated into the narrative and gameplay.

To do this, this game uses science fiction elements to allow the player to interact more directly with different aspects of the investigative process. In typical detective fiction (and most games), the role of the player is that of the detective—they must search for clues and ask questions that will lead them to reconstruct the crime. However, the science fiction aspect creates a sense of immediacy, where the player can look at a piece of evidence and quickly discover its purpose via scanning or connecting to a database. This immediacy, then, creates a different pacing technique for the game designers. In *Trauma Team*, designers can use process delays to pace out the game; sending something for analysis, for example, pauses the progression of that object and allows designers to select the point at which the player receives that additional

information that will move the investigation forward. Likewise, during the player's first visit to the crime scene, not all investigation tools are available for use. Players must find evidence that would require a need for special tools (in this case, the player must find out the victim was a drug dealer before gaining access to the advanced light source tool) before being able to fully investigate the scene.

More than half of the coded items incorporate some piece of science fiction technology (62 out of 120). Some gameplay mechanics innately incorporate technology: the evidence cards (computer-generated items), autopsy (3D-rendered corpse), testimonial (digital recording), and certain pieces of crime scene investigation (ALS and luminol). The percentage of science fiction elements, then, is directly correlated with the number of times these mechanics were coded. This shows that, to some degree, technology is directly woven into the game itself, marking its place as a sci-fi detective story. Those mechanics that do not incorporate science fiction (primarily dialogue with the assistant and multiple-choice questions) again focus more on narrative building rather than worldbuilding. The distinction between these two types of mechanics can help designers maintain balance between the inner narrative of the chapter and the outer narrative of the game itself. Reserving elements that do not incorporate science fiction for the inner chapter narrative (i.e. that of the crime) and using the integration of science fiction in worldbuilding (i.e. sending things to the FBI, learning about ALS and luminol, etc.) refocuses the player on the rules of the game and the gameworld itself.

RQ3: Gameplay as Vehicles of Narrative. These gameplay mechanics can be used to narrativize the rules of the gameworld and develop the surrounding pieces of narrative (including characterization, setting, and plot) at the same time. In this game in particular, where the process of problem-solving may not be as familiar (e.g. the use of evidence cards, the 2D approach to crime scene investigation), game designers must rationalize these gameplay choices through relevant narrative pieces. To do this, designers again use what Domsch refers to as “narrativising” rules of gameplay, which can also be used to construct the narrative for the player.

Despite being her second appearance in the *Trauma Center* series, this is the first game where players get to see Dr. Kimishima’s true identity as a forensic scientist working with the Cumberland Institute. Likewise, her increased involvement in the main plot—rather than simply appearing in the optional “Z missions” in *Second Opinion*—adds the opportunity for designers to develop her character further. Because she is the player character, her character can be developed through external and internal dialogue, which frequently appears in the multiple-choice question mechanic. The questions themselves help develop Naomi’s thought process and investigation style, since they are based around evidence, while giving the player an opportunity to act on the system by selecting an answer. Naomi’s response to the player’s selection, then, helps develop her character’s voice and tone, as well as express her knowledge of the investigation process. For example, when the player discovers that the white powder on the ground contained footprints of the police officers and firefighters at the scene, a multiple-choice question prompts the player to answer that the powder must have fallen “when the fire started.” After selecting the correct response, Naomi goes on to explain that if the powder had fallen before the fire started, it would have contained the deceased’s footprints as well. These questions allow for player input as well

as create an avenue for externalizing the player character's problem-solving process, similar to a soliloquy.

The use of the assistant mechanic also helps develop Naomi's character, as well as Little Guy himself. Because of the game's design and limited use of cutscenes, there is little dialogue outside of the conversations between Naomi and Little Guy on her computer. Little Guy is the primary avenue for Naomi to receive information about the case, as he is her liaison with the FBI. The assistant mechanic, therefore, filters information from the storyworld as a whole into pieces that are relevant to the current narrative. These conversations also narrativize the game's outer arc as well—the power dynamic between Naomi and Little Guy during their dialogue carries throughout the rest of the game and characterizes their working relationship. Because Little Guy is available on Naomi's computer at all times, the frequency with which the player interacts with him can actually change the player's understanding of their relationship. The more a player sends evidence to him and asks questions about the case, the better their understanding of their dynamic.

Evidence cards are also a way for designers to convey information about the narrative to the player. For example, the first evidence card contains the victim's last words, which Naomi hears on her cellphone. This card introduces the player to one of Naomi's nicknames, "The Corpse Whisperer," which she obtained because she receives a phone call containing the victim's last words when she takes on a case. This mechanic also directly weaves information about the case into the gameplay itself. Most conversations about evidence stem from a player's interaction with the card, whether that be through fusing two cards or sending a card to the FBI for further investigation. By having the player interact with the system, rather than just giving them the information through dialogue or a cutscene, more seamlessly integrates the narrative into the

player's hands. Likewise, because these actions can be done at any time in the level, the player can interact with this information as it makes the most sense to them in the investigation process.

Finally, the murderer's attempt to hide the crime's true nature is consistent with plots of classic detective novels. Hühn (1987) describes that a criminal attempts to disguise the evidence "so that they point to no coherent story at all [...] or to a different story (suicide, accident, murder by some other person)" (p. 454). In this case, the criminal has attempted to plant evidence to point toward a suicide: the locked room, timing of the event, even the victim's mental state. Hühn further describes this technique as the criminal writing "the secret story of his crime into everyday 'reality' in such a form that the text is partially hidden" (p. 454). This hidden plot is revealed through the pieces of evidence available to the player—by limiting the knowledge the player acquires early in the level to the signs that made the FBI believe the murder was actually a suicide, the player can better understand their point of view. Then, as the players uncover elements that do not follow this narrative, the player can begin to formulate other possibilities, such as this archetype of a hidden/secret story.

Trauma Team does a good job of weaving the storyworld and the narrative of the level into the gameplay mechanics. Rather than focus on conveying story through scripted narrative (like cutscenes), this game emphasizes interactivity during the investigation process, making it feel more like the player *is* the detective rather than simply watching her work.

CHAPTER 5: Case Analysis of *Detroit: Become Human*

Quantic Dream's *Detroit: Become Human* is an adventure game released for the Playstation 4 by Sony Interactive Entertainment in 2018. The narrative centers around the stories of three different androids: Kara, a housekeeper in an abusive household; Markus, a caretaker for a world-renowned artist; and Connor, an investigator sent to the Detroit Police to assist with the investigation of sentient androids. Much like *Trauma Team*, the game is divided into sublevels based on the three main protagonists, with the three plots intersecting near the end of the game. Gameplay is reminiscent of most third-person adventure games; however, players are forced to make action-based choices through quick-time events that can heavily impact the game's narrative. Because of these choices, each level ends with a visual overview of the decisions the player made via a flow map, emphasizing the number of choices that can be made and the multiple ways a level can end. Though players can restart a level immediately afterward to make new choices, the game's creators encourage at least one playthrough without reversing any choices to promote the importance of choice in the game.

Detroit: Become Human is unique in this use of a level flow map, as it makes it clear to players exactly which player choices lead to branching pathways. This narrative flow, because of its emphasis on decision making, seems to combine two types of Ryan's (2006) interactive architecture models. The first is the flowchart, where "the strands of plot are allowed to merge, thereby limiting the proliferation of branches. Here the horizontal axis stands for time, and the vertical axis for different ways to reach a certain point" (p.105). Pathways tend to converge based on players' decisions, while reconvening at certain plot points. However, this game's reliance on differing outcomes of each level could be seen as a representation of Ryan's tree diagram, where "branches grow in a steady direction, are kept neatly separate" and "are

particularly efficient at modeling the decisions that await characters at various moments in their lives” (p. 105). The limitation of this branch, Ryan notes, is the fact that being unable to converge back to a central plot point, creating the need for a seemingly infinite number of plots to write.

Writers, therefore, cannot just rely on creating an infinite number of pathways to add interactivity and a sense of a “unique” player experience—they must use other methods of narrative creation to increase the amount of agency the player feels. *Detroit: Become Human* instead exemplifies what Ryan calls internal ontological interactivity, where a player’s decisions “determine which possible world, and consequently which story, will develop from the situation where the choice presents itself” (p. 108). Though the possible plots are technically limited by the number of designed mechanics, the player can still select what actions occur in those worlds.

Setting

Set in the city of Detroit in 2038, *Detroit: Become Human* takes place in a world where the major technology corporation CyberLife has started to market androids to the general population. CyberLife has just developed the “Connor” model, a complex android specifically designed to assist police investigations; one particular model is sent to the Detroit Police Department to begin field tests for effectiveness. The player, as Connor, has been specifically instructed to investigate cases of sentient androids and androids that are slowly gaining individual awareness. Connor works alongside the reluctant Lieutenant Hank Anderson, a Detroit detective with a particular distrust and dislike of androids. Connor’s chapters particularly focus on the rising tensions between CyberLife and the androids that are gaining sentience, named “deviants.” Throughout these chapters, players are asked to make decisions that place Connor either on the side of CyberLife or closer to becoming a deviant himself. Critics have

praised the game's ability to create branching choices that have "immediate impact as well as twists that don't occur until much later" (Hetfied, 2019), but some reviewers note that the branches can feel like mere alternates to the primary story (Hamilton, 2018).

Narrative and Gameplay in "Partners" and "The Interrogation"

"Partners," Connor's second chapter in the game, opens with the player heading to find Lieutenant Hank Anderson, who has been requested at a crime scene but not responded to the department's call. Connor searches the bar and, through either aggressive coercion or patience (depending on the player's choice), Hank drives Connor to the crime scene. This is Hank's first introduction, the primary vehicle for the assistant mechanic. Hank visits most crime scenes with Connor, giving him verbal clues and responses to the objects Connor finds. Much like Little Guy, Hank's feedback helps Connor bring together the clues he has already uncovered. At this stage, Hank helps with the thematization of the enigma (2 coded instances). Once at the scene, the chief of police gives a basic overview of what is currently known about the crime: Carlos Ortiz, the victim, was discovered dead at the scene when his landlord came to demand overdue rent. He was not very social with his neighbors, and the chief reports there were no signs of breaking and entering. After this briefing, the player has several options as to what step to perform first, giving us the first example of how designers can use pacing mechanisms, like checklists, to filter relevant information (see Fig. 13). The GUI prompts the player to listen to the briefing, examine the victim, and find ten pieces of evidence. In order to progress the level, players must complete the objectives, but they can do so in any order. There are twelve mandatory and two optional elements in the first sequence, allowing players to temporarily take control of the game's pacing. Like the evidence cards in *Trauma Team*, this system ensures that players have the necessary information to reconstruct the crime at the end of the level.

Detroit: Become Human
Chapter: "Partners"

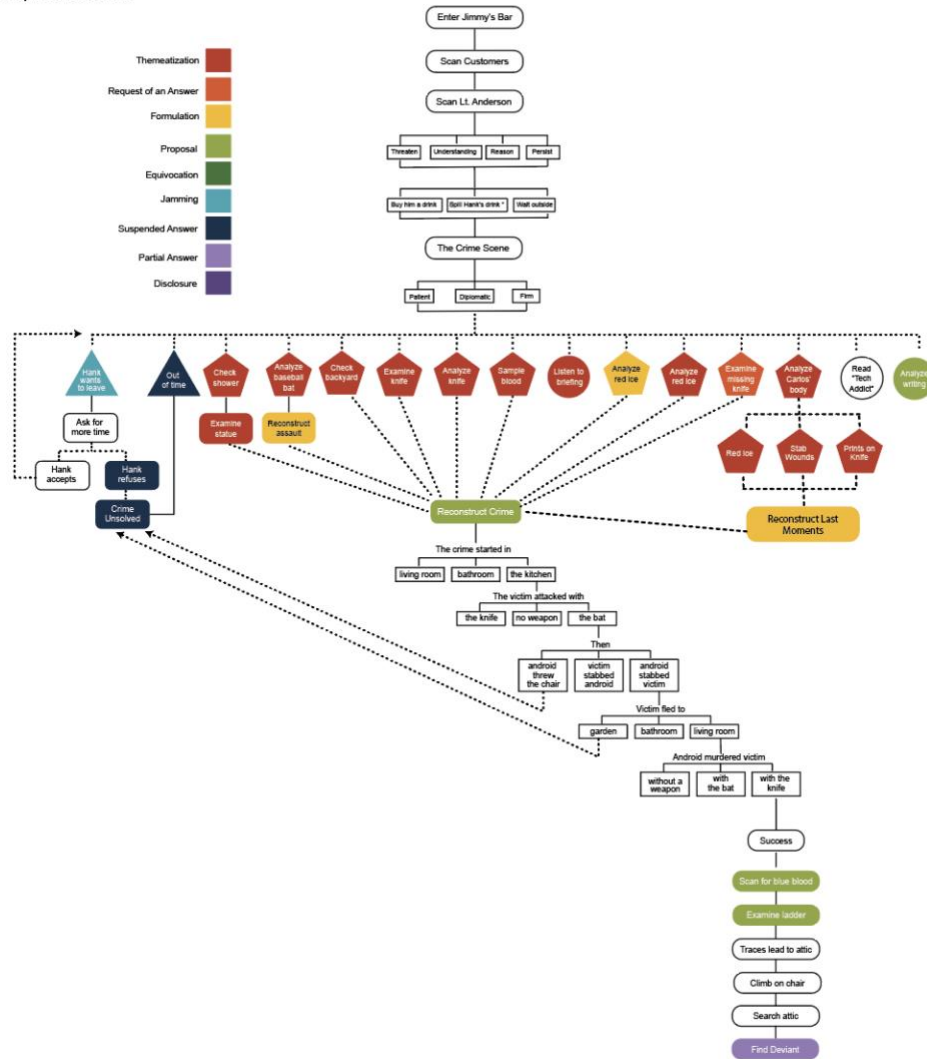


Figure 13. The full flowchart for “Partners”

In one option—autopsy—players use Connor’s android enhancements to zoom in on parts of the victim’s body and quickly gather information on their wounds and personal history. The autopsy stage reveals three pieces of evidence: traces of drugs, stab wounds, and the fingerprints on the knife (Fig 14). All pieces are necessary to continue to the next step, but players can choose what order to further analyze the items in. Items in the autopsy phase are all coded as thematization (4 coded items), pointing out one of the major differences in mechanics

and characterization in this game. In *Trauma Team*, Dr. Kimishima was one step removed from the FBI database, meaning items that required further analysis by a third party were coded as “request for an answer.” Connor, on the other hand, has direct access to the FBI database; as soon as he scans an item, he can uncover relevant information like blood type and the chemical makeup of substances. Therefore, the player gets a large amount of information immediately after finding a piece of evidence, quickly thematizing and formulating narrative almost within the same gameplay mechanic.

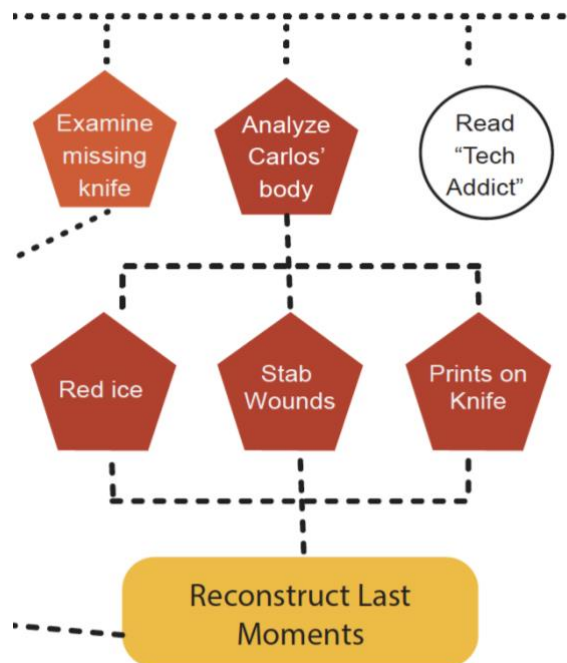


Figure 14. Evidence uncovered through autopsy lead into reconstruction

After finding all pieces of evidence through autopsy, the player is prompted to perform a reconstruction. Using the evidence, the player manipulates an outline of the victim to deduce how he ended up at the crime scene. In this sequence in particular, the player uses the stab wounds and the bottles scattered on the floor to deduce that the victim came from the kitchen and

was stabbed in the living room. The second reconstruction in this level is in the kitchen. After analyzing the fingerprints and the dent on the baseball bat, Connor can reconstruct how the deviant was initially attacked by the victim (Fig. 15). Both reconstruction events in this chapter were coded as formulation—this is possibly the most concrete gameplay example of formulation, as the player can use the sci-fi elements to visually reconstruct the course of the crime, almost creating an interactive analepsis. Additionally, Connor adds his own pieces of speculation into the reconstruction process; after deducing that the deviant was attacked by its owner, he notes that the android was under “emotional shock.”



Figure 15. Reconstructing the crime (from IGN, 2018).

Another option the player can perform before the first bottleneck is crime scene investigation through Connor’s “scan” function. Players move Connor through the scene of the crime and surrounding areas, using the “scan” feature to look for items they can interact with (Fig. 16). When scanning an area, time is temporarily suspended and a blue overlay appears to signal that the player has activated this function. The scan functionality is available for use at any

time, but players can only select certain items. Scanning over items that can be investigated further initiates an “analyze” prompt, which lets the player see more information on the item. All crime scene investigation items (13 coded items) and autopsy items (4 coded items) must be completed before the player is prompted to reconstruct the entire crime.



Figure 16. The scan overlay in the crime scene (from IGN, 2018).

If the player takes too long to discover the necessary clues, the assistant mechanic kicks in: Hank insists that they have spent enough time at the crime scene, and they should leave. Depending on the amount of time, two options can occur: either the player can successfully ask Hank for more time (giving the player more chances to investigate), or he can refuse, thus ending the level (Fig. 17). This is the first example of the end state mechanic in these levels (8 total coded out of two chapters). Like the other end state examples in the chapter (which will be discussed later), this end state has a cross-chapter impact. By not solving the crime and finding the culprit, the player is not able to perform the interrogation, thereby skipping an entire chapter. Though the game does not let this happen easily (the time limit on this chapter is rather long, as opposed to the tighter time limitations on later levels), this feature has one of the strongest

impacts from a narrative sense: an unsolved crime prevents the player from discovering any information that might later appear within this narrative thread, which in turn impacts the overall understanding of the main plot arc.

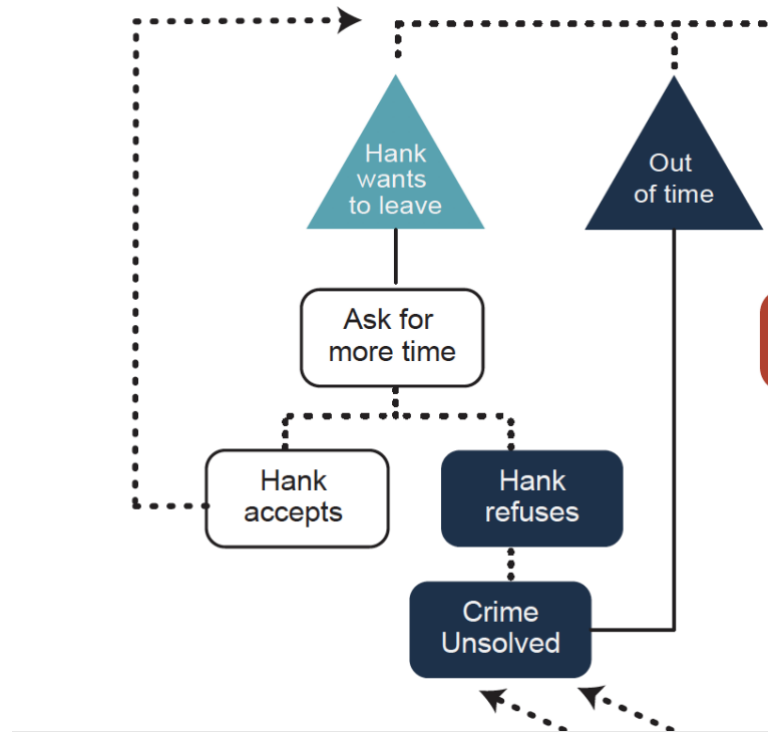


Figure 17. Optional end states for the “Partners” level.

For players who do perform all necessary actions before the bottleneck (all CSI, autopsy, and reconstruction codes), Hank will prompt them to reconstruct the crime through multiple-choice questions. Hank asks Connor to walk through the entire narrative of crime, using the pieces of evidence he previously discovered (Fig. 18). This step is very similar to the questions Naomi gives the player in *Trauma Team*; these questions deal with specific places or items that help mediate the player’s ideational activity. At this stage, the multiple-choice questions are all coded as disclosure (5 out of 5 coded items), giving the player the entire overview of the crime. The way the player answers these questions is another example of end states: if the player

answers too many questions incorrectly, Hank will deem the case unsolved and leave the scene. Though it is possible to incorrectly reconstruct the story, the game gives the player several chances to correct her mistakes in rebuilding the narrative before instituting the failure state. Likewise, the sheer amount of evidence, as well as scripted audio from the player character, makes it less likely that the player would completely miss the solution to the crime. However, this is not the final step in the investigation—as Hank points out “this doesn’t tell us where the android went.” The player has only discovered how the crime happened rather than *why*. Because of the game’s worldbuilding and their suspicions of deviant androids, Connor is asked to do some further investigation.

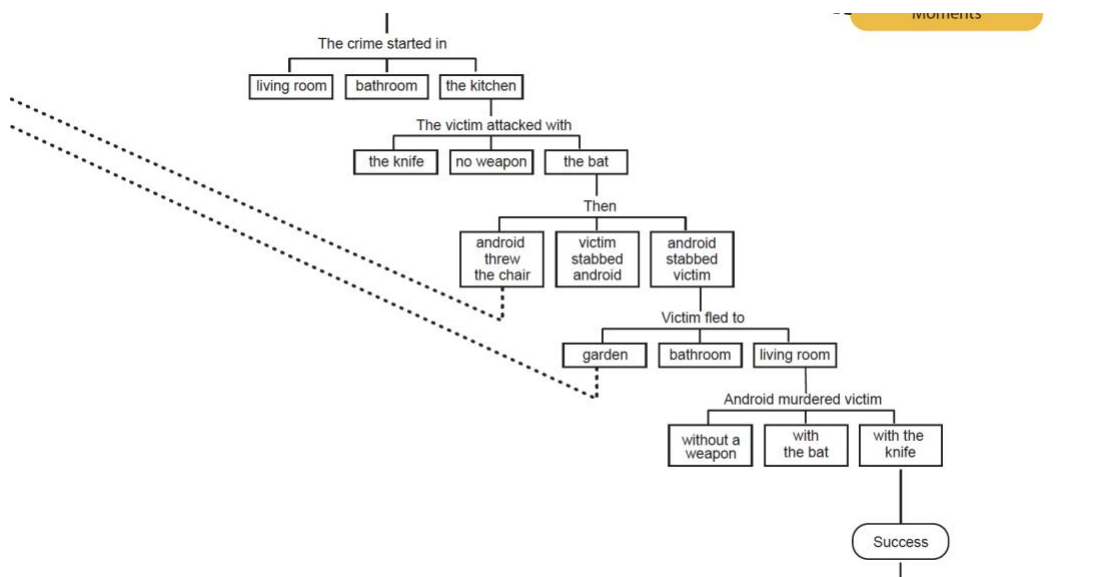


Figure 18. The multiple-choice tree conveyed via dialogue options

The remainder of the “Partners” chapter contains more crime scene investigation and is rather linear (Fig. 19). The CSI mechanic, now framed with searching for the deviant itself, is now coded as proposal (2 items) since the player is trying to uncover its possible location. Finding the deviant, which is done by following the traces to the attic, moves the player onto the next chapter with a final partial answer code.

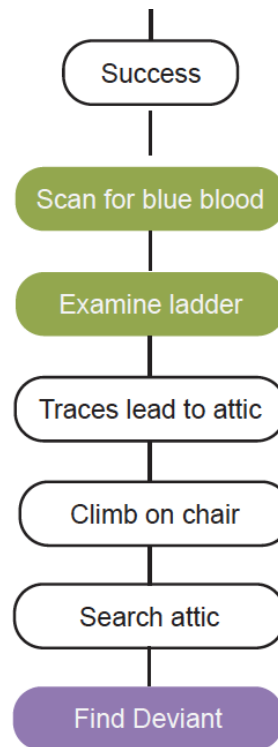


Figure 19. The linear plot path to the end of the “Partners” chapter

The second chapter in this detection arc, “The Interrogation,” focuses primarily on investigating the crime’s motive (Fig. 20). After discovering the android in the victim’s attic, the player moves to the police department to watch Hank question the suspect. The player’s role in this level starts after Hank gives up on his interrogation process (coded as jamming) and prompts Connor to take over.

Detroit: Become Human
Chapter: "The Interrogation"

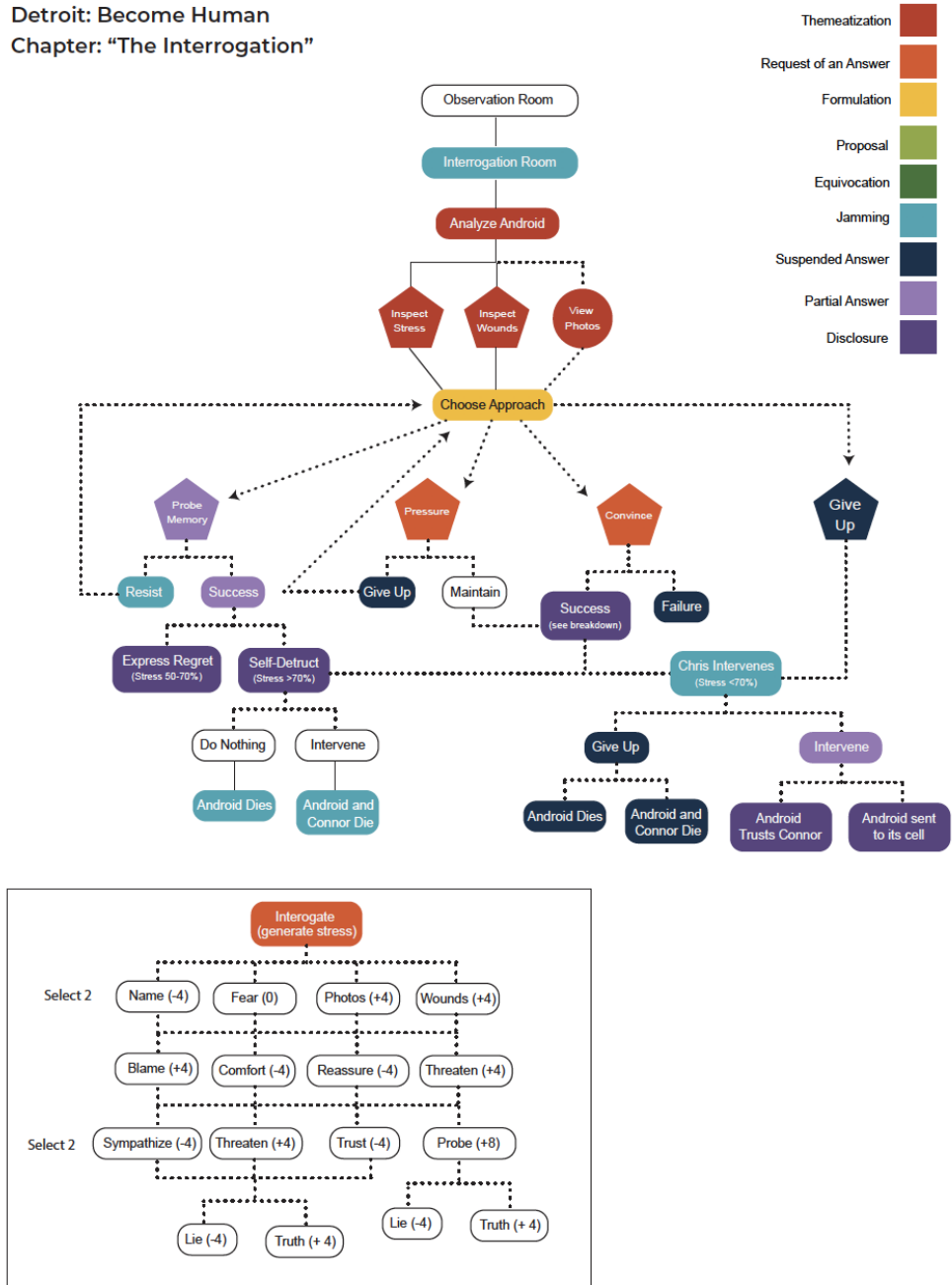


Figure 20. Full flowchart of "The Interrogation" chapter

This chapter also starts with a brief CSI section, where Connor can look at the case file and view the damaged android. These mechanics give the player a baseline for the situation (4 of 4 coded formulation mechanics in this chapter). From here, the player is given a series of

dialogue choices. These options can be categorized by Domsch's concepts of arborescent (i.e. all other options removed after one is chosen) and dynamic (i.e. options change based on previously selected option) dialogue trees. These options, however, can be limited by players' interpretations. The dialogue choices given are typically only one-word descriptions (e.g. "threaten, understanding, reason, or persist") and do not express a full line of dialogue. These choices, too, impact the way a player can proceed through the investigation process, as an NPC's feelings toward the player character can change the type of information they reveal.

From here, the player can progress in several different ways. Though all paths rely on the dialogue choices, the narrative function of each one can be coded differently based on the player's previous actions. Choosing to probe the android's memory, for example, can successfully give the player a recording of the android's point-of-view (coded as disclosure) or send them back to previous options if the android resists (coded as jamming). Likewise, the player must perform a precise sequence of dialogue options chosen through the "pressure" and "convince" options to generate a successful ending. Each option either increases or decreases the android's stress level, which needs to be between 50-70% to have Chris, another investigator, intervene and retrieve the confession (see Fig. 21). The primary choices (probe memory, pressure, convince, and give up) can be selected in a number of different orders, which lead to six different end states.

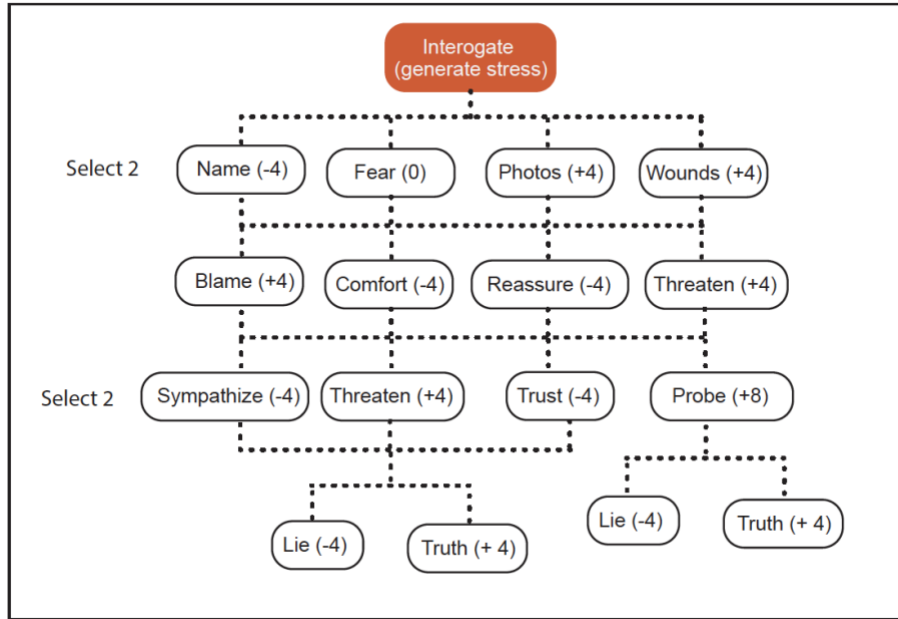


Figure 21. Possible dialogue choices in interrogation section

Depending on the player’s decisions in the level, the narrative can end with a suspended answer code (2 possible endings—android self-destructs, killing just himself or also killing Connor), a jamming code (2 possible endings—Connor does not intervene after Chris does, causing the android to kill just himself or Connor as well), or a fully disclosed code (2 possible endings—the android trusts Connor with his confession or is sent back to his cell). Each of these endings have particular consequences (as discussed in the analysis section) that change certain plot points in subsequent chapters. However, the initial narrative of solving Carlos’s murder ends after this chapter.

Analysis

Table 3 outlines the distribution of the different narrative codes across all coded mechanics. The sum total of these codes is half of that in *Trauma Team* (60 codes vs. 120 codes), but this figure is roughly comparable to the playtime of each game. The “Locked Room Mystery” chapter in *Trauma Team* takes about two hours to complete, while “Partners” and “The

Interrogation” combined run approximately 30 to 45 minutes. As seen in the previous chapter, the narrative codes are spread across the different stages, with the highest number of codes appearing in the discovery phase.

	Thematization	Request of an answer	Formulation	Proposal	Equivocation	Jamming	Suspended Answer	Partial Answer	Disclosure
Assistant	1	0	2	1	1	2	0	0	0
Autopsy	4	0	0	0	0	0	0	0	0
Multiple choice	0	0	0	0	0	0	0	0	5
Testimonial	1	1	2	0	0	0	0	0	0
CSI	13	0	7	3	0	0	0	0	0
Reconstruction	0	0	2	0	0	0	0	0	0
Dialogue Options	0	4	0	0	0	0	1	2	0
End States	0	0	0	0	0	2	2	0	4

Table 3. Frequency distribution of codes across mechanics and narrative

Compared to *Trauma Team*, the narrative codes are more evenly distributed across the coded items (see Fig. 22). This discrepancy is most likely due to *Detroit: Become Human*'s optional choices and multiple endings, thus the player will not encounter all 60 coded items in a single playthrough. Unlike *Trauma Team*, however, this game has the bulk of coded items in thematization rather than formulation. This discrepancy takes into account the immediacy of information via technology in this game; rather than formulating the enigma based on later discoveries about pieces of evidence, this game themes the enigma up front with Connor's ability

to simultaneously discover and analyze clues.

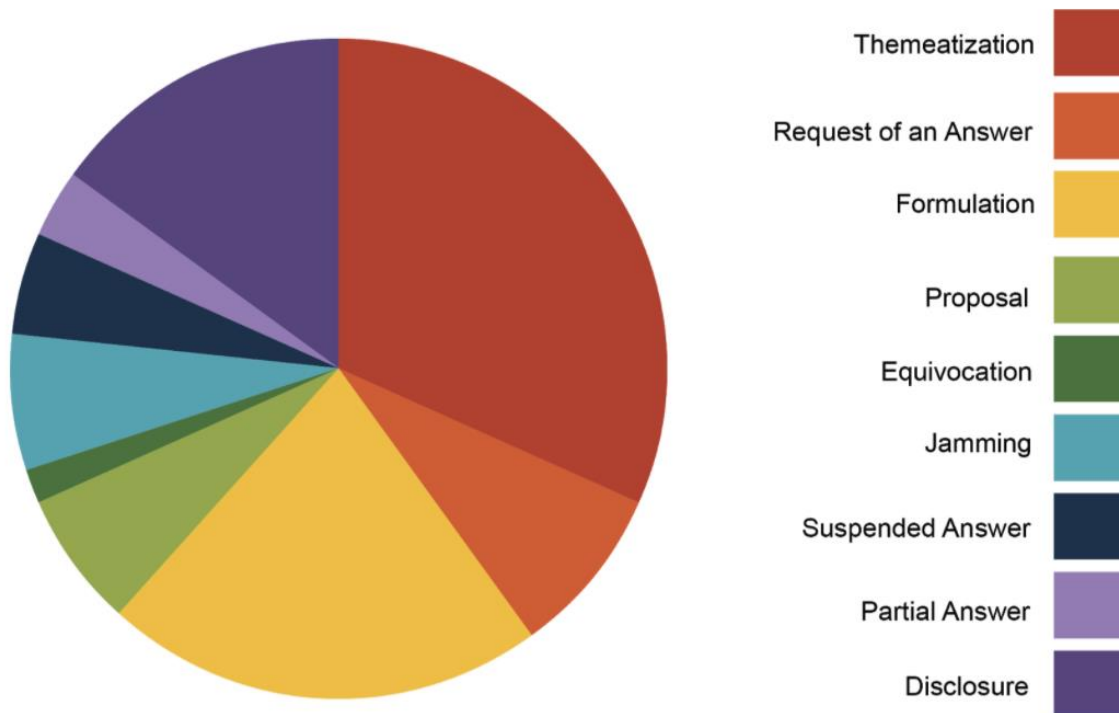


Figure 22. Percentage of narrative codes across 60 coded items

Because the game is rendered in a 3D space, most of the player interactivity comes from crime scene investigation and physically moving through the space (23 coded items, or ~30% of coded mechanics). This mechanic is by far the most frequently used, with all other mechanics individually making up roughly 3-10% of the chapter (see Fig. 23). The mechanics unique to this game represent almost 30% of the total gameplay, only slightly more than the mechanics unique to *Trauma Team* (23%).

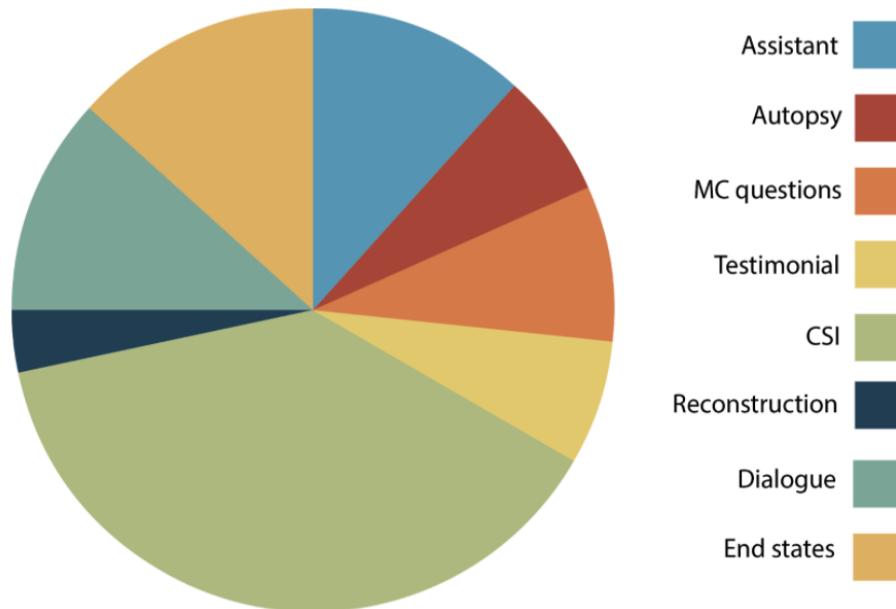


Figure 23. Percentage of mechanics across 60 coded items

RQ1: Player-Controlled Reconstruction of a Crime. This game gives players a lot of freedom when it comes to the order in which actions are performed, even introducing completely optional elements that only add to the player’s understanding of the game’s setting rather than the crime itself. The integration of choice-based options, too, gives the player a more robust sense of actionable impact on the game’s story. Pacing techniques and these more complex choices can contribute to the player’s overall sense of agency.

Even mentioned in the name of one of the game’s mechanics, reconstruction is a large part of the investigation process in *Detroit: Become Human*. This mechanic is perhaps the most visual representation of analysis created in the game. The visual reconstruction aspect expertly integrates story and agency into the mechanic. Typically, in detective games, viewing the full story of the crime is rather passive—designers can use cutscenes or voice overs to narrate the crime’s plot, either through present tense narration from the detective or through an analepsis-

style cutscene. By allowing the player to actively manipulate the reconstruction, she has even more freedom in her ideational activity. The player can fast-forward and rewind the possible scene, even moving the camera to view the action from different angles and take environmental factors into account. Searching through this 3D space, as well as manipulating time, is not something that can be accomplished without some sort of sci-fi integration. Actively allowing reconstruction both narratively and visually gives the player even more space to explore in.

The integration of dialogue options also complicates the game's agency. A common problem with dialogue options in choice-based games, like Telltale's *The Walking Dead* (2012-2019) or Dontnod's *Life is Strange* (2015), is that players sometimes do not interpret the title of the dialogue choice the same way that the game's writers do, creating some discrepancy in player choice. Typically, players are given all (or part of) the actual dialogue response, which does not describe tone or delivery. To combat this issue, the game divides dialogue options into two different types: emotion and topic. Dialogue choices based on emotion allow the player to select the delivery of a response, rather than the exact wording of the choice. Topic options, on the other hand, simply allow the player to select what they want to ask a character about, rather than the way that the question will be delivered.

Despite the overall branching narrative mechanic, the game's pacing mechanics again mirror what Thoss, Ensslin, and Ciccoricco (2018) describes as a "critical story path," where the player's choices bottleneck into a predetermined ending (see the point of convergence in Fig. 24). Though, in this case, the bottleneck may not be the "ending" of the level, it does initiate a new sequence, marking the end of the first actionable sequence in the level. Much like a detective novel, the plot still centers around finding the culprit and uncovering the story of the crime, meaning the plot arc must have some linear pathway to it. However, as shown in the

flowchart for this level, there is much more flexibility in the order players perform these mechanics. Rather than having a few pathways that bottleneck frequently, this game sparingly uses the bottleneck technique by increasing the number of available actions performed before the bottleneck.

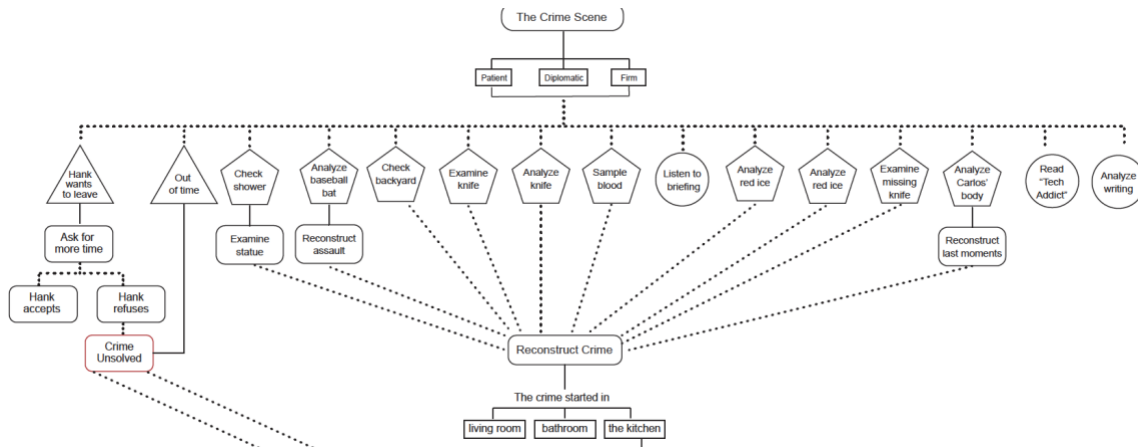


Figure 24. Point of convergence on flowchart for the “Partners” chapter

This system of pacing has benefits and disadvantages. For the designer, it allows them to ensure that the player interacts with necessary elements to fully engage with the narrative. Unlike a traditional written narrative, where readers move through a predetermined sequence of events, exploration sections of games have the potential for players to skip over key parts of the narrative—objectives via bottlenecks ensure that the player meets all necessary checkpoints. However, these mandatory actions can take away a player’s sense of agency, especially in the area of problem-solving. If the player reaches a conclusion before the game deems the level ready to progress, the player can feel hindered by the slow progression of gameplay.

This example shows how player agency can truly be executed in a choice-based game. As previously discussed, Ryan notes that too many choices in a game can create confusion as well as inconsistent narrative—but these choices are critical to player agency in this type of game. Certain choices that are not directly part of the checklist needed to complete the game create

places for designers to enhance the narrative. These choices, like unlocking dialogue options by discovering things at the crime scene, exemplify Fendt et. al.'s concept of the game responding to the player's choice without necessarily changing the entire narrative. The discovery process is still the most prominent code in the mechanics, giving players the freedom to investigate in the order that makes the most sense to them—but the game's overall crime narrative (the android being the culprit and motivated by its owner's abuse) does not have to change. For level designers, just like with detective novels, the ending is dichotomous: the detective either solves the crime or does not. The narrative around that process, then, allows players to process the story around the crime. The circumstances around solving the crime, including the reactions of other characters, can be adjusted based on player choice to still make the player feel in control of the narrative to some degree (via choice-based agency).

One of the most interesting aspects of this level, though, is the chance that the player reaches the end of a chapter *without* solving the crime. As Domsch (2013) explains, based on Bode's future narratives theory, the existence of plot points like the crime unsolved node "heightens the ludic quality of the narrative by either directly granting the user agency [...] or at least forcing the user to make differential evaluations of multiple continuations" (p. 2). Though Domsch poses this as an "either/or" statement, this case can be an example of both: the player has agency, as she is not forced to solve the crime if she herself cannot find the solution (very true to real world form), but also the mere existence of a true "failure state" forces the player to weigh her decisions before following through with her actions. Players can trigger this ending in three ways: asking Hank for more time too frequently, running out of time when collecting evidence, or incorrectly reconstructing the events of the crime. All of these actions cause Hank to end the investigation. Narratively, the end states cannot have much variety: either the player

solves the crime or does not. They cannot make a choice that would change the outcome of the set crime narrative. Therefore, the writers of *Detroit: Become Human* must find realistic ways to play out the impact of this end state. In this chapter, for example, the “unsolved” ending has additional consequences on the sequence of chapters: not finding the culprit means “The Interrogation” will not trigger, which in turn prevents Connor from learning more about deviants.

RQ2: Science Fiction Influence on Gameplay. Science fiction is heavily integrated into almost every mechanic in this game. The way the player gathers information via the GUI during the investigation process seamlessly integrates the storyworld into the mechanic. When the player scans the blood at the scene, for example, Connor can immediately test it and report that the sampled DNA belongs to the victim. Pacing-wise, this explanation helps move the player through the level faster (and removes the ability to use sample-testing as a mechanic to temporarily pause progress, as in *Trauma Team*) while also using the technical advances of the storyworld to narrativize this mechanic. The overall plot of the game itself relies on the science fiction genre—almost every overarching “question” in the game deals with the life and consciousness of man-made machines, a conversation that does not occur in more realistic detective games.

The branching narrative aspect, particularly through the “immortality” of androids, introduces suspense and narrativizing rules by threatening the safety of the player character. Todorov (1977) explains that the difference between a whodunit and a mystery is the addition of the question of the fate of the detective character herself: “these characters enjoyed an immunity, it will be recalled, in the whodunit; here they constantly risk their lives” (p. 51). *Trauma Team* gives the player character experiences this sense of immunity, as Dr. Kimishima is the only character that both can solve the crime and be controlled by the player, but introducing the

ability for androids to be repaired and regenerated (which is introduced early in the worldbuilding), means that a failure state can, in fact, end in death. This aspect of the science fiction world ultimately helps level designers limit the number of level combinations they must design—if Connor can be repaired and sent back, even a level ending in his “death” does not stop the player from advancing the plot.

RQ3: Gameplay as Vehicles of Narrative. Unlike *Trauma Team*, *Detroit: Become Human* is completely standalone and cannot rely on the worldbuilding of previous games to give players an understanding of the setting’s rules. Because of the intense integration of narrative and gameplay for the purpose of worldbuilding, many of the mechanics in Connor’s levels help develop the rules of the storyworld and even the narrative arc itself. These two chapters in particular appear early in the game, weaving exposition into the gameplay, especially in explaining how Connor was created. Both crime scene investigation and the mechanics used in doing so build up the player’s understanding of how androids work in the storyworld.

One of the first examples of this in the “Partners” level is done through crime scene investigation, specifically in scanning the handwriting on the wall above the victim. Connor notes that the “I Am Alive” message written in the victim’s blood is in Cyberlife Sans (Fig. 25). For investigation purposes, this is the first clue to the player that an android is behind the victim's death. However, the message itself introduces one of the main conflicts in the game’s setting—the disconnect between human understanding of androids and the freedom androids desire. Weaving this into the investigation process allows the main narrative arc of the level (i.e. the murder investigation) to run alongside the external arc of the game itself (i.e. the conflict between humans and androids).



Figure 25. Connor and Hank view the written message at the crime scene (from NeoSeeker, 2020).

Perhaps the best example of player agency and ludonarrativity in either of these games, the player essentially *designs* Connor's personality through dialogue choices in these levels. Because each dialogue choice varies in emotional state, players can select Connor's emotional response to a situation—possibly creating their own “good cop, bad cop” dichotomy. These choices can impact the player's success in a level as well as how Connor is perceived by other characters. In “The Interrogation,” dialogue choices directly affect the way the level ends. Selecting choices that level out the deviant's stress gives player access to the deviant's confession; if the player does not keep the android at the necessary stress level, the android can self-destruct and leave the player with missing information (Fig. 26). At the same time, these dialogue choices change the way NPCs view Connor. Major choices, especially about Connor's opinions of androids and deviants, garner different approval ratings from major characters, like Hank and Connor's Cyberlife boss, Amanda. Selecting more “human-like” responses, for example, can cause Hank's approval to go up and Amanda's approval to go down. Ultimately, these choices cause Connor to either become deviant (i.e. goes against his programmed protocol

and begins functioning sentiently) or remain a loyal android to Cyberlife, unlocking different levels, actions, and endings.

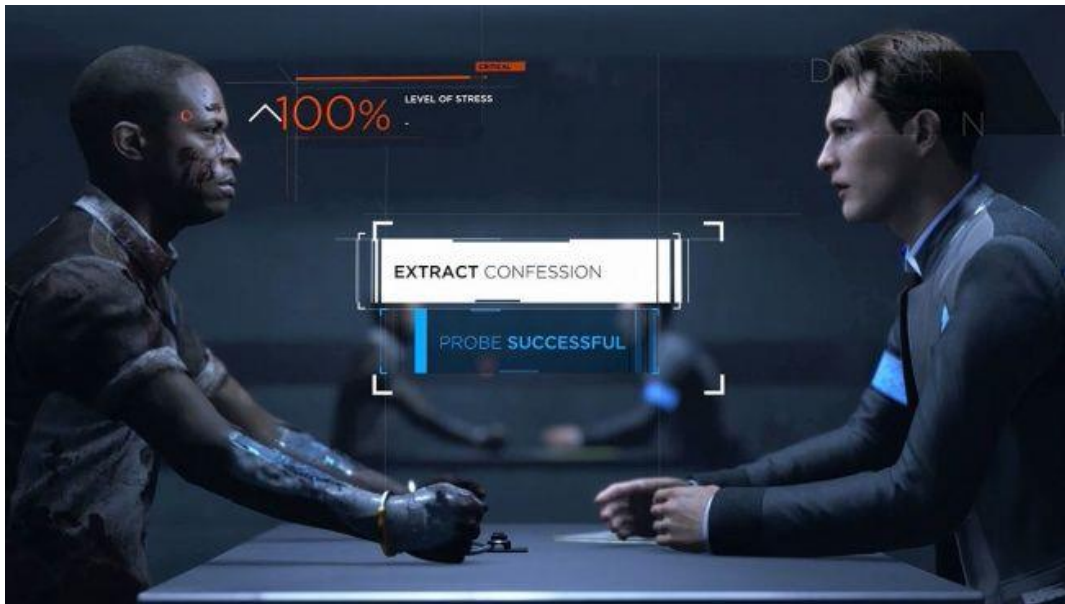


Figure 26. Connor extracts a confession from the deviant (from Neoseeker, 2020)

To preserve both narrativity and player agency, “The Interrogation” also has endings that present the same gameplay consequences with sensical narrative framing. According to the level’s ending flowchart, the chapter has six endings: the android smashes its head, the android destroys itself and Connor, the android shoots itself, the android shoots both Connor and itself, and the android gives Connor his confession, and the android returns to its cell. Narratively, these endings take into account the ways the player has characterized Connor during the interrogation. If Connor is aggressive toward the android, the android reacts with stress and hostility, sometimes even attacking Connor. On the other hand, if Connor takes a measured approach, the android responds with more passive actions. However, from a programming standpoint, the level arguably still only has two endings: the android lives or it dies. Though Connor can be killed in some of the endings, the fact that he is replaced by an identical Connor

android keeps him accessible as a player character in the following chapters. Therefore, designers only have to accommodate for two possibilities: the android being alive or not. Of course, some components may appear or disappear in later chapters based on choices made in the level; for example, if Connor dies in “The Interrogation” chapter, Hank can ask him about the appearance of a new Connor in the subsequent levels. Again, from a design standpoint, this only necessitates a true/false dichotomy: either the component appears in the player’s later levels or it doesn’t. However, this expresses the importance of varying narrative in these types of games—a complex narrative does not necessarily create a complex game design situation.

Through the creation of multiple possible endings, *Detroit: Become Human* combats one of the biggest narrative issues of detective fiction. As Hühn (1987) describes,

“Herein seems to lie the reason why people normally do not reread detective novels—the text has consumed itself. Rereading a detective novel is, however, a revealing experience with respect to the structures outlined: one can then clearly distinguish between the texts and authors and read the two stories (that of the crime and that of its detection) separately and at the same time” (458-9)

Detective fiction, especially in the suspense aspect, thrives on the fact that the reader does not know the true nature of the crime. Once the crime has been revealed, the entire purpose of the story has ended—the reader cannot read the text again with the appeal of the mystery at the forefront. With multiple possible endings, then, the reader regains the appeal of wondering how the story will end.

CHAPTER 6: Conclusion

Clue certainly bakes gameplay directly into the interactive detective genre; its original name *Cludeo*, after all, contained a play on the Latin word “ludo” in the 1940s, decades before the formalization of ludology in the 1990s (Rossen, 2019). Designing a game like *Clue* had its challenges, but the basic game mechanics are formulaic: cards are drawn at random and hidden in an envelope, then players take turns moving their pieces and suggesting which cards are in the envelope and not their components’ hands. Overall, the game is fun to play but lacks—like many classic boardgames—any narrative substance. Miss Scarlett can never really have a motive for murdering the victim with a wrench in the kitchen. Video game spaces, however, have more freedom to weave story into the gameplay mechanics, and this research gave me a chance to see just how this intersection of narratology and ludology works in the sci-fi detective genre.

Many times, when I previously studied game narrative in the way I studied literature, I forgot to analyze *how* the story is being told in the midst of analyzing the story itself. For the detective story, the story *and* the mechanics can truly have an impact on the quality of the game. These two games, which particularly highlight investigation processes as major game mechanics, gave me a chance to explore more quantitative aspects of narratology (like coding) and directly apply them to the way a player interacts with a system.

The first research question answered how much the player controlled the reconstruction of the crime. Because of their overall gameplay and narrative styles, these games create different levels of agency for players in that task. While the mechanics themselves are not necessarily different from *Trauma Team* (e.g. autopsy, crime scene investigation, etc.), the way that these elements integrate into the narrative change how much a player feels in control. In both games, the crime itself remains the same across playthroughs, but the system of penalizing the player has

a heavier impact in the branching storyline than in a linear one; rather than forcing a player to start over after making too many mistakes (*Trauma Team*), the player is forced to deal with the consequences of failing to solve the case throughout the rest of the game (*Detroit: Become Human*). Likewise, the third-person viewpoint of the game design in *Detroit: Become Human* naturally lends itself to a more non-linear pathway than the menu-selection style of navigation in *Trauma Team*. As such, these two games lean on different types of mechanics to make the player feel in control of the reconstructing the crime.

The second research question analyzed the relationship between science fiction and gameplay mechanics. Science fiction and technology elements were heavily integrated into the gameplay mechanics in both games but were especially important in *Detroit: Become Human*. *Trauma Team* mostly leaned on the technology side of science fiction to give the player more access to investigative actions; while these were important on the gameplay side, they did not have a huge impact on the narrative itself. No aspects of the way the crime was committed relied on science fiction or technology. However, both gameplay techniques and the narrative itself heavily relied on science fiction elements in *Detroit: Become Human*. Like *Trauma Team*, the way the crime was committed does not necessarily rely on science fiction elements. For typical detective narratives, a familiar, realistic setting limits the possible ways a crime could be committed; as Todorov (1977) explains in his topology of the genre, “everything must be explained rationally; the fantastic is not admitted” (p. 49). To adhere to this convention, these games do not rely on any science fiction elements to actually explain the nature of crime itself—only gameplay mechanics depend on the science fiction setting, rather than the narrative.

The final research question discussed gameplay as vehicles of narrative. Both of these games heavily weave in narrative and worldbuilding into their gameplay mechanics. Designers

use these mechanics that incorporate science fiction elements as an opportunity to explain how a process works in the game world or what kind of information the investigator can access.

Throughout these two games, I saw many ways that similar mechanics were used to carry different narrative threads and functions. These two games have very different styles of play, yet their detective stories are shown through very similar gameplay techniques.

Domsch (2013) and Ryan (2006) laid important groundwork for bridging narrative and gameplay, especially in video games. Their frameworks of understanding the building blocks of games allowed me to dice these games into discrete sections for analysis and, ultimately, genre comparison. Barthes (1977), on the other hand, presented a unique way for me to break down these “sections” of games thematically. Essentially, when a single storypoint is mapped to a piece of gameplay—through dialogue, monologue, and other literary techniques—it is easy to code the mechanic for a certain piece of the hermeneutic code. Fortunately, for these two games mechanics were naturally subdivided into small sections (usually based around pieces of evidence), making it easier to break these down into a singular code. To better understand narrative in this genre, future research could examine techniques for breaking down larger mechanics, such as cutscenes, into codable pieces. This coding schematic could also be applied to any game in this genre (or the detective genre in general) to view the distribution of narrative across chapters or entire games. Visually breaking down the frequency of mechanics and understanding how mechanics can carry different narrative codes gives designers a way to see how their mechanics fit into the rest of the game; the more variety a designer incorporates, the more likely a player has a truly engaging player experience.

Coding narrative as a derivative of gameplay mechanics emphasizes just how much narrative can be conveyed through active player experience. Typically, when we approach these

stories from a narratological standpoint, it is easiest to analyze the aspects that are reminiscent of existing storytelling forms: cutscenes, character dialogue, in-game literature, character tropes, etc. However, seeing how these games integrate story directly into different mechanics, like crime scene investigation and multiple-choice questions, gave me a better understanding of what it means to analyze interactive fiction from a literary standpoint. If we just take classic narrative techniques at face value, we can miss out on understanding how the integration of story into active mechanics can change the player's feeling of control and, perhaps, immersion. As in any good detective story, taking the clues at face value usually means the detective fails to solve the crime.

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