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The Curious Link Between Free Will & Time Travel

Gina Roznak¹

Sophomore, Business Administration

Advisor: Dr. Kevin Drzakowski

Abstract

Philosophers have debated the meaning of free will and if people have free will at all. Despite the years of discussion, no one can be sure if free will exists. When time travel is added to the equation, the discussion becomes even more complicated. While it is currently impossible to willfully travel through time in the real world, the relationship between free will and time travel can be explored in fictional stories. By analyzing time travel stories, it is possible to conduct thought experiments about the relationship between time travel and free will. While there are many stories to choose from, Michael Crichton's *Timeline*, Charles Dickens's *A Christmas Carol*, and *The X-Files* episode "Monday" will be discussed. In addition, the movies *Back to the Future: Part II* and *The Terminator* will be included to provide insight on how time travel paradoxes (specifically, the Grandfather Paradox and causal loops) can impact the free will question. Each story can be related to philosophical concepts, such as determinism, compatibilism, and libertarianism.

Keywords: Free will, time travel, paradox

The Curious Link Between Free Will & Time Travel

It is nice to think that individuals have control over their decisions. The idea of free will is deeply rooted in Western Culture, and therefore, many people easily accept this idea. Unfortunately, popular belief in free will does not prove that it is real. In fact, it is difficult to prove the existence of free will at all. At least, this is difficult in the physical world, where the laws that govern life cannot be changed. In stories, however, authors have the freedom to create their own rules, and the mechanics of free will can be more easily explored. This allows the readers to examine different fictional worlds and relate these fictitious realities to real life. However, most readers never consider how free will can be interpreted in the stories. Free will plays an especially notable role in time travel stories. Even when it seems that these stories demonstrate free will, there may be qualities of the story that limit free will. In some

¹ Gina Roznak is in the Honors College of UW-Stout (Ed.).

stories, such as *A Christmas Carol* by Charles Dickens, *Timeline* by Michael Crichton, and *Back to the Future Part II* there are few storytelling elements that restrict free will. Still, not every author uses the same method of time travel. For instance, some authors may choose to incorporate many different possible timelines, whereas others choose to have only one. With these differing methods of time travel, as in stories like *Harry Potter and the Prisoner of Azkaban*, *The X-Files* episode, “Monday,” and *The Terminator*, there are various obstacles that prevent total free will from existing.

Literature Review

An examination of some philosophical theories of free will can help illuminate how free will and time travel intersect with each other. Many of these theories consider what it means to have free will. In some cases, free will is associated with the ability to freely make decisions. For instance, the study, “Free Will is About Choosing: The Link Between Choice and the Belief in Free Will” by Gilad Feldman, Roy F. Baumeister, and Kin Fai Ellick Wong, reveals findings about how everyday people view free will. The researchers claim that most people associate free will with freedom of choice. Without free will, many believe they would not be free to make their own decisions. Overall, this study provides insight about how real people view free will.

In contrast, another source presents a less popular viewpoint: people may not have free will, though it may seem like it. This article written by Stephen Cave is titled, “There’s No Such Thing as Free Will: But We’re Better Off Believing in it Anyway.” Instead of analyzing how people interpret free will, like Feldman’s study, Cave discusses philosophical views of free will. Specifically, Cave focuses on theories that suggest free will is an illusion. Not only does Cave describe the various reasons why some do not believe in free will, but he also argues that there is a potentially negative impact from widespread disbelief in free will.

Cave is not the only person to consider the possibility of free will being an illusion. In the article “Is Free Will an Illusion?” Shaun Nichols also examines a few reasons why some people do not believe in free will. Instead of analyzing philosophical theories, Nichols looks at the neurological processes that create consciousness and influence the experience of free will. Additionally, Nichols examines how the unconscious mind can influence decisions, suggesting that decisions may not be as freely made as they seem to be (as some people believe that unconscious decisions are not freely made because they are not consciously made). In contrast to Feldman’s study, Nichols describes biological processes that go against the typical outlook people have of free will. Feldman concludes that many believe the ability to make free decisions is an essential part of free will, while Nichols argues that decisions are not freely made.

In ordinary circumstances, there are already complex discussions about free

will. However, fictional stories add complexity by including elements such as time travel. Time travel allows paradoxes to be created within the fictional universe which further complicates the analysis of free will. In “Tim, Tom, Time and Fate: Lewis on Time Travel,” Brian Garnett outlines the well-known Grandfather Paradox. This paradox occurs when a time traveler does something in the past that threatens his or her own existence. However, this is not the only noteworthy paradox. The causal loop (which is an event that causes itself), as discussed in “Time Travel: A Writer’s Guide to the Real Science of Plausible Time Travel” by Paul Nahin, also brings up interesting considerations when discussing free will. When paradoxes can be created, the free will of characters may be limited because the characters may be unable to perform actions that would cause a paradox.

Philosophical Perspectives

Unfortunately, people cannot travel freely through time, so it is impossible to study the connection of free will and time travel in the real world. Even if it is not possible to study time travel in the real world, time travel stories can be studied. Examining these views of time travel and relating them to theories of free will can help open discussions of time travel and its relationship to free will. To fully understand the connection between time travel and free will, it is helpful to look at stories that support (e.g. *Timeline*) and challenge (e.g. the episode “Monday”) the typical idea of free will. By examining views from each source and connecting these theories of free will to time travel stories, it is possible to see the potential limitations that time travel places on concepts of free will.

Before discussing the stories, it is important to understand the philosophical concepts relating to free will. People commonly associate free will with the ability of individuals to freely make decisions (Feldman 239). This seems like a simple idea, but it is difficult to define what it means for individuals to make decisions freely. Do people only have free will when they are entirely responsible for their decisions? Or do people still have free will when the decisions they make are influenced by their environment? Philosophical beliefs (such as determinism, indeterminism, compatibilism, incompatibilism, and libertarianism) can help make sense of these questions. Determinism is the view that every event is determined by the events preceding it (Beebe 13). If it were possible to know all the important variables about an event, determinism suggests that it would be possible to predict this event exactly. This is true for seemingly “unpredictable” events, like weather, too. On the other hand, indeterminism suggests that there is not a set of universal laws that determine events and events, such as which specific particles will decay during radioactive decay, are random (Beebe 14-15). The theory of indeterminism does not necessarily mean free will exists. Many believe free will requires choices to be freely made (Feldman 239). If events occur completely randomly, people may not be freely

making decisions.

There debate over whether determinism would allow free will to exist or if free will can only exist in an indeterministic universe. Compatibilism suggests that determinism can exist alongside free will. Incompatibilism, then, suggests that free will and determinism cannot co-exist. Both compatibilists and incompatibilists believe that the freedom for individuals to make their own decisions is a necessity for free will. However, both schools of thought have different ways of defining what is required for individuals to have control over their actions. For a compatibilist, individuals still have control their actions even when those actions are influenced by “universal laws,” like genetics. The decisions a person makes may be influenced by universal laws defining a person’s character. A compatibilist believes that even with these universal laws, a person can still have free will. Meanwhile, an incompatibilist would disagree and claim that actions influenced by the universal laws were not freely made because the decisions were shaped by external factors (Beebee 24-26).

Lastly, the theory of libertarianism draws some specific conclusions about the existence of free will, and its relationship to philosophical ideas. Specifically, libertarians believe in incompatibilism and believe that individuals can freely make at least some decisions (Beebee 124).

Connection to Time Travel

While the average person may be unfamiliar with these philosophical concepts, many people already have similar ideas about what it means to have free will. According to the study led by Feldman, ordinary people associate free will with the freedom to make their own decisions, even without knowledge of philosophical theories (239). As a result, there is a clear connection between decision making and free will. Both experts and ordinary people see a link between these two concepts. It is no surprise that this idea creeps into time travel stories as well. In *A Christmas Carol*, the ability of Scrooge to freely make his own decisions is essential to the plot. After seeing the bleak future in store for him, Scrooge actively decides to change. Scrooge’s decisions are entirely his own, suggesting that he can determine his future. The same is true in *Timeline*. When the characters travel back to medieval Europe, they appear to have control over their decisions. Safely returning to the future is never a guarantee, as the story suggests that the decisions the characters make will lead to success or failure. Both stories follow a more libertarian view. The characters in both stories can choose to do anything, and there is an infinite amount of possibilities for the future. This future is determined purely by the decisions the characters make. In these cases, the factor of time travel does not limit free will.

However, this is due to the unique styles of time travel the authors use. Crichton chose to use a multi-verse in *Timeline*. Essentially, his characters never traveled into the past of their universe. Rather, they traveled into the present of a

different universe (where the present year was 1357), which was consistent with the past of their universe. Because of this, the characters could not truly change the past. They could only act in the present, which gave them freedom to make their own decisions and create the future. Their actions were not limited by things that had already happened in the past, because these events had not happened yet in the alternate universe. As John Abbruzzese explains in the article, “On Using the Multiverse to Avoid the Paradoxes of Time Travel,” using the multi-verse as a method of time travel is a convenient way to avoid some paradoxes (such as the Grandfather Paradox or causal loops) created by other methods of time travel (36). However, Abbruzzese also suggests that traveling into a different universe may not be true time travel (37). After all, the traveler seems to be moving through space rather than time.

A similar situation occurs in *A Christmas Carol*: Scrooge never travels directly into his past. Instead, Scrooge sees his past as a vision. He could only watch the events as they had happened, and there were no opportunities for him to change events. Because of this, Scrooge could only directly interact with the present. Without the ability to change the past, Scrooge was able to freely make his decisions. In the novel, Scrooge’s freedom to make his own decisions allows him to change his future. The bleak future shown to him is suggested to be one of many possible futures. Based on Scrooge’s change of heart, it seems reasonable that Scrooge’s future would be much brighter than the one the ghost showed him. At no point in *A Christmas Carol* or *Timeline* were the actions of the characters limited. In accordance with the libertarian perspective, the characters in these stories had free will.

While the characters in *A Christmas Carol* and *Timeline* had free will, this is not true for every time travel story. When the characters actively travel into their own past, it is likely that free will is going to be compromised. Otherwise, paradoxes could arise. One way to avoid paradoxes is to eliminate the alternative choices the characters have in the past. By eliminating alternative choices, the characters only have one option. This is at odds with the defining quality of free will: the power to freely make decisions. However, in many of these stories, the characters still believe they have free will. *Prisoner of Azkaban* provides an excellent example of this situation. At the end of the book, Harry must travel into his past to save Sirius and Buckbeak from execution. There is the illusion of a possibility that Harry could fail, but there is no real threat of failure. The events leading to the need for Harry to time travel were only possible because his mission back in time had already succeeded. In the end, there was only one possible outcome—success. Harry did not have any choices. The narrative of the story suggests that there was only one set of choices that would lead to success. Since the mission had to succeed (because it had already been a success), the alternative choices Harry could have potentially made were eliminated. Essentially, this seems to create a “loop” in the *Prisoner of Azkaban* timeline.

Despite his lack of free will, Harry acts as though he has complete freedom.

There are advantages to this. As explained in “There’s No Such Thing as Free Will,” the belief in free will allows people to see themselves as responsible for their actions and drives individuals to work hard (Cave). These are certainly traits that the hero should have. If Harry was lazy and irresponsible because of a belief that his decisions would not make a difference, the *Prisoner of Azkaban* would lose its charm. The mission to save Sirius would no longer be a harrowing adventure, but another dull day for Harry, the boy just following his destiny. Overall, the *Prisoner of Azkaban* follows the incompatibilist view. The actions of the characters are determined, and they have no freedom to choose other decisions. Even in this universe, there is still benefit to the characters believing in free will.

The *Prisoner of Azkaban* is not the only story that implies time travel into the past limits free will. Even when it appears that the characters have free will, the underlying rules of the story’s time travel method may work against free will. This situation arises in *The X-Files* episode “Monday,” where one day is repeated until the characters get it “right.” The underlying idea is that there was a predetermined set of events. At one point, this chain of events was thrown off, causing the day to end wrong (unfortunately, an explanation for how this could happen is never given). At the end of each day, a would-be bank robber would realize that his efforts were fruitless. Instead of facing the police, he chose to blow up the bank, killing everyone inside. Throughout the repetitions of the day, the actions of the characters vary, but all lead to the same ending. Eventually, the right sequence of events occurs, and the bank remains standing at the end of the day. Only at this point could time move forward. Like with the *Prisoner of Azkaban*, the actions of the characters are limited to events that can only lead to one outcome. When this outcome is not what it is “supposed” to be, the day restarts. For time to move forward, all the choices the characters make must be ones that are part of the “right” sequence of events. The characters exercise some free will since the details of their daily interactions change, suggesting there is some freedom to make decisions. However, the actions of each character are still limited because there is only one way the day can end. In the end, only one character (the would-be bank robber) can determine if the day will repeat, and his decision is entirely determined by the actions of the other characters. Time could only advance once the right set of actions was accidentally stumbled upon. As a result, the episode introduces a simple concept of time travel that becomes increasingly complicated when considering the free will of the characters.

Mulder and Scully add to the complexity when they discuss free will in one of the repetitions of the day. While Mulder firmly believes in free will, Scully suggests that fate has a role to play. Scully voices her opinion that, “We’re free to be the people that we are—good, bad or indifferent. I think that it’s our character that determines our fate” (“Monday”). Mulder, however, stubbornly sticks to his view of free will, and argues that, “And all the rest is just preordained? I don’t buy that. There’s too

many variables. Too many forks in the road” (“Monday”). Later, Scully again insists that fate is important, and Mulder confidently replies, “Free will. With every choice, you change your fate” (“Monday”). In this case, Mulder’s confidence seems to be misplaced. Since there is a “right” way for the day to end, Scully’s belief in fate has some ground. The article by Shaun Nichols supports Scully’s view. Nichols suggests that the belief in free will is nothing more than an illusion with the subconscious exercising more control over decision-making than people realize. Considering Nichols’s argument and the idea that time cannot go forward without the correct sequence of events, Mulder’s belief in free will seems incorrect, while Scully’s view is closer to the truth. After all, freely making decisions is key to free will, and the characters do not have this ability in this deterministic story.

Paradoxes

There is already a complicated relationship between free will and time travel. However, the author of a story can add even more complexity to this relationship. Since authors do not have to follow the rules of the physical world in their stories, the rules that authors create for their method of time travel and their view of free will may be at odds with each other. As a result, a paradox can be created. For example, in *Back to the Future Part II* (hereafter *BTTF*), it would be conceivable for the classic “Grandfather Paradox” to be created. In *BTTF*, the time travelers’ actions have the potential to change the future. When Biff gives his younger self a sports almanac, a new (and unfavorable) future is created. However, this new reality is not permanently set, giving Marty and Doc the opportunity to fix the timeline. As a result, time travelers in *BTTF* seem to have unlimited free will: they can do anything, and their actions are not limited by the events that happen in the future. The future is not set, and actions in the past change the course of future events. At first, the rules of free will in *BTTF* seem straightforward. The writers gloss over the potential issues to create a fun movie.

However, a deeper analysis of the movie reveals that the complete free will of the characters leads to the potential for paradoxes to occur. In the *Back to the Future* universe, the Grandfather Paradox could be easily created. As explained in “Tim, Tom, Time and Fate: Lewis on Time Travel,” the Grandfather Paradox arises if a time traveler goes back in time to kill their grandfather (Garnett 247-248). In this circumstance, the time traveler would both be able and unable to kill their grandfather (Garnett 248). The time traveler would have the same physical and decision-making abilities as normal, allowing him to be able to perform any reasonable action (Garnett 248). However, if the time traveler killed his grandfather in the past, this would change the course of the future. This new future would include a reality where the time traveler was never born. If the time traveler was never born, who killed the grandfather? Garnett argues that this paradox can be avoided. There

may always be some event that prevents the time traveler from killing the grandfather in the past, making the attempt unsuccessful every time (Garnett 248). While this argument makes logical sense, it does not follow the style of time travel presented in *BTTF*. Admittedly, no characters try to kill their grandfather in the movie, but a paradox of similar nature could be created. After all, the characters in this movie exhibit complete free will regardless of their location in time.

In the first *Back to the Future* movie, there is one scene that creates a circumstance related to this paradox. Marty is performing at the Enchantment Under the Sea dance, and he begins to disappear since his efforts to set up his parents have been unsuccessful. The movie does not adequately account for this paradox. Marty's parents did not meet as they should have because of Marty's meddling, so Marty begins to disappear. However, Marty is the one responsible for causing his parents not to meet. If he were to disappear as a result of his blunder, he could not have interfered with his parents meeting because he would have never existed at all. Fortunately, Marty's parents fall in love at the end of the movie and the paradox is avoided.

Perhaps the complete free will of the characters in *BTTF* is only an illusion. Maybe, if it was possible to explore the *Back to the Future* universe in greater depth, it would be impossible for the characters to perform any action that would result in the creation of a Grandfather Paradox, as Garnett theorized in his discussion of the paradox. This would cause the seemingly indeterministic world of *BTTF* to be deterministic. After all, if the characters could not perform certain actions, this would mean that preceding events (such as the existence of the protagonist) would be limiting the actions of the character. As a result, *BTTF* presents an interesting dilemma. It seems that either the characters have complete free will and the ability to create a paradox, or the characters do not truly have free will which eliminates the possibility of creating a paradox. However, Garnett suggests that free will could exist without creating a paradox. Multiple decisions can be made, but external factors will always prevent a paradox from developing (Garnett 248).

The Grandfather Paradox may be one of the best-known paradoxes, but it is not the only paradox to impact the free will of fictional characters. Another paradox, known as a "casual loop," plays a large role in the storyline in *The Terminator*. While *BTTF* leads the viewer to believe that anything can happen, *The Terminator* takes a different approach. Logic used in *The Terminator* suggests that events in the past cannot be changed. The past events have already occurred, and a future has been created based on those events. Even though the time-traveling-protagonist, Kyle, claims throughout the movie that the future is not set, *The Terminator* offers no evidence to support this claim. Every event that occurs is necessary for creating the dystopian future Kyle comes from. In fact, the non-time-traveling-heroine, Sarah, accepts that the future cannot be changed, and the desolate future is inevitable.

Regardless of what Kyle and Sarah believe, the future is predetermined in *The*

Terminator, and the actions of the characters are limited to actions that will bring the creation of that future. Unlike *Timeline* and *BTTF*, there is only one timeline in *The Terminator*, and no additional timelines can be created. Any time travel in *The Terminator* involves traveling to a past that already happened. As a result, the past cannot be changed, and the characters can only make decisions that lead to a specific future. For example, John (the son of Kyle and Sarah) always sends Kyle back to Sarah, and Sarah always gives birth to John. These events will always occur, otherwise humankind would cease to exist in the future (which is impossible since Kyle already exists). In this version of time travel a causal loop can be created. In "Time Travel: A Writer's Guide to the Real Science of Plausible Time Travel," Paul Nahin provides examples of time travel stories incorporating causal loops. From these examples, it is possible to derive a definition for this paradox. A causal loop develops when time travel creates a never-ending loop where the original cause of an event is tied to the effect of the event (Nahin 122-124). As a result, there appears to be no starting point for the event. An example of a causal loop exists in *The Terminator*. Before the credits roll, Sarah is shown recording a tape for John, explaining the role he must play in the future. On this tape, she explains to John that he must send Kyle into the past, otherwise he (John) can never be born. However, the reason that Sarah knew that Kyle must be sent to the past is because the future version of John already sent Kyle into the past. Yet, John only knew to send Kyle into the past because Sarah informed him that he must. The pattern continues, looping back on itself endlessly.

As seen from *The Terminator*, any story that creates casual loops prevents the characters from having free will. The existence of a casual loop ensures that the universe is a deterministic one. All actions of the characters are solely determined by a predetermined future. After all, for any time traveling characters, the future of the other characters is their past. Since the time traveler's past cannot be changed, the events leading to the time traveling must occur. Otherwise, the time traveler could not exist in the present time of the other characters. Just like Kutach discusses in "Time Travel and Consistency Constraints," time travel into the past would create a limit on what actions the time traveler could perform in the past (1098). The time traveler's own existence depends on the occurrence of certain events and undoing these events would create a paradox.

Conclusion

The connection between time travel and free will suggests that traveling through time can limit one's freedom to make decisions. When the characters can change their past, there is a need to place limits on the actions they can perform. Impossible scenarios would arise otherwise. Out of all the stories discussed, only in *A Christmas Carol* and *Timeline* did the characters' travel through time fail to impact their ability to freely make decisions. In *Prisoner of Azkaban* and *The Terminator*, there

were narrow paths for the characters to follow. They had one set of decisions they could make and no alternative choices. Even in “Monday” (*The X-Files* episode) and *BTTF*, where the characters arguably had more freedom, they were still limited in the choices they could make. *The X-Files* characters could only make decisions that would lead to a specific outcome, and *BTTF* characters had to make decisions that would avoid paradoxes. One could argue that free will and time travel are incompatible since the stories without “true” time travel (*A Christmas Carol* and *Timeline*) place the fewest limits on free will. Meanwhile, stories like *The Terminator* and *Prisoner of Azkaban* eliminate free decision making. However, one could also argue that free will and time travel complement each other since stories like “Monday” and *BTTF* support the libertarian view of free will. After all, the characters are still free to make some decisions. However, these stories are only fiction. They cannot provide a concrete answer about the link between free will and time travel. Nonetheless, each story offers a unique perspective on the free will question. Which story has the most valid view of time travel? There is no definite answer to that question, which leaves ample room for readers to ponder the answer and decide for themselves.

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School-to-Prison Pipeline; Its Creation, Effects, and How It Can Be Diminished

Madalaine McConville¹

Junior, Applied Social Science

Advisor: Dr. Tina Lee

Abstract

The school-to-prison pipeline is a term that refers to a system of policies and practices that pushes students out of the classroom and into the criminal justice system and mainly affects children of color, children with disabilities, and children who identify in the LGBTQIA+ community. There are three main reasons for this system of oppression and its continuation: zero-tolerance disciplinary policies, discrimination practices, and policing in schools (nea.org). Instead of providing mediation and counseling to figure out why students act out, schools increasingly resort to punishment pushing more children towards incarceration. This system has been proven to have a greater impact and prevalence in southern schools because of the large population of African American students and the harsh racial history of this region. After looking at existing research about the school-to-prison pipeline, how it operates, and its effects, this paper examines four potential policy changes that could be made to decrease the prevalence of the system. I conclude that instead of increasing the use of school resource officers, schools should look to increasing the use of restorative justice and hiring more professionals to help children rather than punish them. Restorative justice could help diminish the school-to-prison pipeline.

Keywords: Criminal justice system, restorative justice, race

Introduction

The school-to-prison pipeline is a set of practices and policies that contributes to pushing children out of the classroom and towards the criminal justice system. Currently, 82% of prison inmates are high school drop-outs, which could be an outcome of the pipeline (Rodriguez, 2017). Rodriguez explains how this system works: when a student is taken out of the classroom due to misbehavior or absences and is given detentions and suspensions, they are more likely to become a drop-out

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