

***Primer*: The Perils and Paradoxes of Restricted Time Travel Narration.**

By Jason Gendler

A man, Aaron, is eating breakfast in his kitchen. For the sake of clarity, he will be referred to as Aaron1. Aaron1 begins to feel tired and soon passes out. He passes out because a future version of Aaron1, who will be referred to as Aaron2, has traveled back through time and drugged Aaron1's milk before Aaron1 entered the kitchen to eat breakfast. After Aaron1 passes out, Aaron2 drags Aaron1 upstairs and stows him in the attic. Aaron2 then goes back downstairs and enters the kitchen, at which point he is attacked by Aaron3, who is a future version of Aaron2 that has traveled back through time once again. Confused? The above is rather straightforward when compared to the film from which it came, Shane Carruth's 2004 film *Primer*, in which it is not easy to discern which version of Aaron is performing certain of the above actions, nor the motivation behind the actions of Aarons 2 and 3. Furthermore, the above scene is presented not in a unified, contiguous representation of space and time, but in a series of jump cuts and temporally repetitious inserts that fracture both space and time, further complicating a reading of the action and narrative.

Primer is a puzzling film about the perils and paradoxes of time travel. The narrative is conveyed through a restricted (and unreliable) narration that elides many crucial scenes, and is peppered with only the faintest of clues as to the broad scheme of the fabula. These clues come by way of hints dropped in the *mise-en-scene*, in the form of dialogue or a character's actions, or the location of scenes, or the presence of props, and also by way of the film's cinematography, through certain camera movements. Furthermore, the film also plays with editing patterns to create a fractured experience of

time that is potentially analogous to the altering of reality carried out by the characters in the narrative. These editing patterns can also be read as additional hints about the restriction and unreliability of the narration. While it is possible to parse out a coherent timeline for the film upon repeated viewings and much deliberation, in some ways the film remains quite enigmatic; in certain instances, the narration accommodates multiple readings of the syuzhet that are not mutually exclusive.

Reduced to its most basic premise, *Primer* is a film that details what can happen if causality does not affect the reality of people or objects that are once-removed (or twice-removed) from time. In other words, in the theoretical scenario known as the grandfather paradox,¹ where person A goes back in time and kills their grandfather (preventing the birth of one of A's parents and thus the birth of A him/herself) does not make the time-traveling person A disappear from existence (as almost happens to Marty McFly in *Back to the Future*, and as happens to old Biff in *Back to the Future II*)². Instead, killing person A's grandfather *does* prevent person A from being born in the now-altered reality, but does *not* prevent the person A-who-has-returned (or time-traveling-A, or A2) from existing as they are in the now-altered reality. Person A has altered the chain of causal events that leads to his/her birth, but this new chain of causality/reality is one from which he or she is once-removed and immune.³ These are the laws of cause and effect as they work in *Primer*, albeit with a few more caveats that shall be explained below. While no one in the film travels into the past and kills anyone, the repercussions of the actions of the time-traveling characters in *Primer* still have huge narrative consequences that are only partially enlightened or hinted at by a very restricted and unreliable narration.

The film's treatment of the grandfather paradox allows for some interesting consequences. Just as in Raymond Queneau's *Exercises in Style*, where there are almost endless permutations of the kinds of different styles one might use to describe the same scenario,⁴ so "the permutations are endless" in *Primer* as well, as Aaron2 says in voiceover. The permutations are endless in that the potential exists for there to be an unlimited number of ways one could alter reality, or in the number of iterations of the same person that exist (Aaron1, 2, 3... ∞) at the same time. If person A keeps returning to the past and altering the ability or desire of his or her previous iteration(s) to do the same, then there really can be an infinite number of copies the same person existing simultaneously.

In *Primer*, there are eventually three contemporaneous versions of Aaron who will apparently go on to live separate lives. Such a concept is similar to Jorge Luis Borges "The Garden of Forking Paths," in which a fictional novelist Ts'ui Pen envisions a universe in which all possible actions coexist simultaneously.⁵ In *Primer*, almost the opposite is true; only one reality exists, but there is room for all possible actions to take place *within* that one reality, given enough duplicates of a person or persons. For example, at the end of the film, Aaron3 and his onetime friend Abe2 are at odds with one another, and it is not a stretch to say that they have become enemies. However, their contemporaneous counterparts, Aaron1 and Abe1, remain friends, due to their never experiencing the realities that now exist only in the memories of Abe2 and Aarons 2 and 3 (however, the phone call Aaron2 places to Aaron1 that serves as the film's voiceover clues in Aaron1 on the events experienced by Aarons 2 and 3, and thus the extent to which Aaron1 will remain friends with Abe1 is perhaps called into question). Similarly, it

is easy to imagine a scenario in which iterations of Aaron and Abe (AaronX and AbeX) do not know each other, in the sense that AaronX and AbeX might be unaware of each other's existence, and live a large portion of their lives separate from one another. After all, Abe2 warns off Aaron3 at the film's end, telling him never to return, and one of Aaron's iterations – it is not clear which one – is shown giving orders in a large space, perhaps an airplane hanger, somewhere in France in the film's denouement.

Before attempting to quickly detail the plot of *Primer* and the means by which one can solve the film's time travel-hinged puzzle of a narration, first a few of the film's ground rules about time travel must be laid out. In *Primer*, time travel is possible in two directions: forward through the normal progression of minute-to-minute, second-to-second time, and backward through the use of the film's time machines. One cannot use a *Primer* time machine to leap forward into the future. Furthermore, one can only travel backward through time as far as back as the time machine exists. Essentially, all of time that existed before the creation of time machines is inaccessible. This is a condition of the way time machines function in the film; one does not enter the machine, immediately exit, and instantaneously emerge in the past. Instead, one must stay inside the machine for as long as one wishes to travel into the past. For example, if person A wished to travel from 8:00 PM to 8:00 AM of the same day, he or she would have to lie inside of the machine for twelve hours as the time machine moved the person backward through time. Thus one can only travel backward through time for as long as time machines have existed, because once the time-traveler has completed their journey, there must be a time machine in the past from which the time-traveler can emerge. One cannot emerge from a non-existent time machine. Inversely, if person A decided to exit after eleven hours in the

time machine instead of twelve (not recommended, due to the complicated nature of the machine's construction), he or she would emerge at 9:00 AM, an hour later than their original destination time of 8:00 AM.

As to the caveats mentioned above, altering reality so as to make it impossible for the time-traveler to travel back in time (A2 preventing A1 from traveling back into the past to become A2) does have some detrimental effects for the temporally dislodged person; people once-removed from time who shouldn't exist, but do, start to experience bleeding ears and degenerative handwriting. These symptoms presumably get worse the more removed the time-traveler becomes from their original reality (i.e., the more instances in which a time-traveler travels backwards through time and alters reality from their original reality, the more they become dislodged from reality, and the worse these symptoms get. Either that, or simply traveling through time causes such symptoms by itself; the film is unclear on the exact cause). One last note: the time machines are collapsible, and it is possible to take one inside of another and emerge with it in the past.⁶

Now that the mechanics of *Primer* time travel have been laid out, the next task is to give a synopsis of the plot as briefly as possible. Due to the Byzantine nature of the film's narration, such a summary is necessary in order to make clear the analysis of the hints dropped by the restricted narration. Furthermore, by simultaneously differentiating between what occurs in the fabula but not in the syuzhet, one can clearly see the truly restricted and unreliable nature of the narration. In the following synopsis, events occurring in the film's syuzhet are written in **bold**, while events that occur in the fabula but not in the syuzhet are left in regular type. Events written in *italics* are included the

syuzhet, but do not occur in the chronology as written here; they are related through montage-flashback and explained in a voiceover later in the film.

In their spare time, engineers Aaron and Abe invent a small device that partially blocks gravity and makes objects lighter. They don't understand how it works, so they sit on their discovery while plying for funding. Abe figures out that the device is a time machine. He builds two versions big enough for a human to fit inside. One is the machine he intends to use, the other is a “failsafe” machine that will allow him to go back and fix any potentially negative changes in causality he might inadvertently create. Abe travels back in time and tells Aaron of the device. The two build another machine for Aaron to use. That night, Rachel, a friend of Abe and Aaron, is threatened at a party by an ex-boyfriend with a shotgun. Abe and Aaron are not in attendance, but learn about it after the fact.

Unbeknownst to Abe, at some indeterminate point Aaron discovers the failsafe machine, uses it, and takes another time machine with him, in the process becoming Aaron2 (there are now two versions of Aaron in one reality: the non-temporally displaced Aaron, or Aaron1, and the Aaron who has traveled back in time, or Aaron2).⁷ He sets up his own failsafe, and modifies the first failsafe (Abe's failsafe) so that it is only operable after Aaron2 has set up his own failsafe, and thus Aaron2 gains control over the ability to change causality (only he has the ability to travel the farthest back in time), insuring that he will always keep the memory of Abe telling him about the time machine (should Abe decide that to tell Aaron was a bad idea), and allowing him the chance to play the hero and save Rachel at the party. Aaron2 then drugs Aaron1 and replaces him. He relives his day with Abe as Abe tells Aaron2 about the time machine (for what seems the first time

to Abe). Aaron2 records his conversations as he goes along. Aaron2 attends the party and stops the dangerous ex-boyfriend with a shotgun, but in such a way that the ex-boyfriend does not go to jail (thus Rachel is still in danger, potentially).

To “fix” the party a third time, Aaron2 travels back through time again, becoming Aaron3 (there are now three versions of Aaron in the same reality: Aaron1, the non-temporally displaced Aaron; Aaron2, the Aaron who travels back in time and drugs Aaron1, and Aaron3, the Aaron who returns once again, becoming twice-removed from reality). Aaron3 waits for Aaron2 to drug Aaron1, *and then Aaron3 attacks Aaron2*. Aaron3 loses because he is exhausted from so much time travel. However, *Aaron3 convinces Aaron2 to leave, as Aaron3 has already accomplished all that Aaron2 was intending. At an indeterminate time, Aaron2 places a phone call to Aaron1, informing him of all the actions of Aarons 2 and 3, thus atoning for drugging Aaron1 and stowing him in the attic for a number of days* (this manifests in the syuzhet through a reoccurring voiceover). Aaron3 then replaces Aarons 1 and 2, and **relives Abe telling him about the time machine for a third time, this time with the aid of the recorded conversations from his second trip through time** (although for the audience and for Abe, it appears to be the first time, as the previous two times are completely elided). Aaron3 is then able to “fix” the party so the ex-boyfriend is sent to jail and Aaron3 becomes a hero.

Aaron3 and Abe begin reliving their days in order to buy stocks that they know will go up. Abe learns about Aaron3’s party exploits secondhand, and chastises Aaron3 for risking his life because he has a family to think about. Aaron3 lies and provides Abe with a false motivation for his actions in order to conceal the fact that he reverse-engineered the events of the party. Abe and Aaron3 then

encounter Thomas Granger², father of Rachel, who somehow learned of the time machines and traveled back in time. Concerned over his lack of control, Abe uses his failsafe machine, the one with which Aaron² tampered, in order to regain control of causality, and in doing so becomes Abe². Abe² gasses Abe¹ and stows him in closet, and meets Aaron³ (whom Abe² thinks is Aaron¹), intending not to tell Aaron³ about the time machine, but collapses due to exhaustion. Aaron³ then reveals himself as Aaron³, and explains all of the previously italicized events (with the help of Aaron²'s voiceover-narrated phone call to Aaron¹). Abe² then reluctantly helps Aaron³ go about the events of the day, engineering the encounter between Rachel and the ex-boyfriend, sending the ex-boyfriend to jail once again. Abe² sees Aaron³ off at the airport, warning Aaron³ never to return. Abe² is intent on preventing either Abe¹ or Aaron¹ (who are now recovering from their drugging and gassing) from ever discovering time travel, while Aaron³ is intent on getting rich and living as he sees fit. An indeterminate iteration of Aaron at an indeterminate future time (it could be 1, 2 or 3) is shown in France, constructing a giant time machine.

As this paraphrasing of the fabula indicates, roughly only one third of the total fabula is actually narrated in the syuzhet, and many absolutely crucial plot points are elided entirely. As such, this is an extremely restricted narration. It is also unreliable in the sense that the audience and Abe are fooled into believing Aaron³ is Aaron¹ for much of the narrative. However, the story is discernable, thanks to a number lines of dialogue and actions on the part certain characters, namely the voiceover of Aaron² and the actions and dialogue of Aaron³. For instance, although it is initially unclear that the

syuzhet's first representation of Abe telling Aaron of the time machine is actually the third time it has occurred in the fabula, numerous hints are given that allow one to retrospectively discern which iteration of Aaron is being depicted.

The most important of these hints is Aaron3's earpiece. When Abe first approaches Aaron3 to tell him about time travel, Aaron3 is wearing the earpiece through which he is listening to their conversation, which he recorded as Aaron2. Thus the title of the film; Aaron3 has a primer of the day's important conversations, or a script to follow, telling him how to correctly react to people to engineer the reality he wants. Aaron3 can be seen wearing this earpiece intermittently numerous times throughout the course of the day, and the recorded dialogue can even be heard early on at one point (at approximately 24:33), even though it is unclear at that point in the film that it is recorded dialogue.

Other hints include Aaron3 pointing out to Abe which U-Haul storage locker to open to access the time machines (they keep them at a U-Haul storage facility to prevent tampering), and Aaron3 being the first in the film to bleed from the ear, despite Abe supposedly being the one with more time travel experience (although it is only revealed later that bleeding ears are a side effect of either time traveling or of altering the reality from which one came so as to prohibit a person's past-self from becoming their present, time-traveling self).

However, it needs to be noted that this is but one reading of the film. Another distinct possibility is that the scenes between Abe and Aaron in which Abe tells Aaron about his discovery of time travel (the scenes where Abe takes Aaron to the different lab technicians) alternate between Aaron1's experience of them and Aaron3's experience of them, the deciding factor being whether or not Aaron can be seen to be wearing the

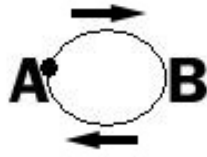
earpiece. Such a possibility arises because oftentimes when Aaron is not wearing the earpiece he seems to react rather genuinely to Abe's revelations. Two readings arise. The first is that Aaron³ is simply not wearing the earpiece at certain times; he is a good enough actor to fake surprise, shock, enlightenment, etc, when he must (such as when Abe shows Aaron his double entering the storage facility), and certain portions of the day aren't as crucial as other portions and thus Aaron² didn't record them. The other possible reading is that the film methodically intercuts between scenes of Aaron¹ living through Abe's revelations and Aaron³ reliving it for the third time. Neither possibility is ever definitively ruled out; the film presents such a labyrinthine fabula-syuzhet dynamic over the course of the rest of narrative that this second reading, while not very transparent, is entirely possible.

For instance, early in Abe's revelation of his discovery of time travel, Aaron³ makes a joke about "What they do with engineers when they turn forty." ("They take them out and shoot them"). In the next scene (which occurs across a possible flashback-dissolve to Aaron¹), Aaron (3 or 1) hears a lab technician tell him the joke, and this Aaron reacts as if he hasn't heard it before. Two possible reading arise: the Aaron in this scene is Aaron¹, reacting to hearing that joke for the first time, or the Aaron in this scene is Aaron³, who simply forgot that that he's not supposed to know this joke yet, until he hears it told to him. Thus the look on Aaron³'s face when he hears the joke is not one of wonder at hearing the joke for the first time, but one of panic over the possibility of Abe becoming suspicious upon realizing that Aaron³ just told that joke himself (of course, Aaron³ might also have just said, "Yeah I know that one," but doesn't, which lends a slight amount of credence to the reading that it is Aaron¹ shown in this scene). Such

potential shifting back and forth between times is discussed by Seymour Chatman in his *Story and Discourse: Narrative Structure in Fiction and Film*: “sometimes it can be difficult to tell whether a given cut signals a flashback, a flashforward or simply an ellipsis followed by the next (spatially removed) event in the story.”⁸ This statement applies so well to *Primer* that the film can practically be defined by it (just place “In *Primer*,” at the beginning of the sentence).

The scene in Aaron’s garage/workshop that begins with an excerpt of recorded dialogue at 24:33 drops a number of hints as to the identity of the Aaron present in this scene (Aaron3). Not only is Aaron3 wearing the earpiece, but he also appears visibly impatient; the scene begins with him incessantly clicking a pair of pliers as he glances at a wall clock. He is impatient because this is the third time in which he’s had to live through this conversation. Yet another hint in this scene is the rapidity with which Aaron3 supposedly performs some quick number conversions in his head. He converts 22 hours and 27 minutes into 1347 minutes, and Abe responds, “Man, you got that fast.”

The above is an important scene, not only for the hints as to which Aaron is in the scene, but also because this is the scene in which Abe explains the time machine and time travel to Aaron3 (and the audience). Without going into any technical details, the gist of time travel in *Primer* is that the time machines allow a person to simultaneously experience time moving in two directions: forward in standard progression, but also in reverse, in a progression into the past. It is explained in the film that probability dictates that normally, one always experiences the forward progression of time, but that the time machines allow one to emerge from them when it is least probable to do so, in the past. Abe explains the above to Aaron3 in the form of a diagram that looks something like this:



The A end of the diagram is the point in the past, in which it is typically least probable for someone to exist (or experience existence), and the B end of the diagram is the present, where it is normally most probable for a person to exist. Time machines allow one to cycle around two parabolic curves forward and backwards through time and emerge when it is least probable to do so, which in the above diagram would consist of traveling from the B point (the present) to the A point (the past). Whether or not this explanation adheres to logic and the laws of physics, the important part of it for the purposes of this paper is that time travel is described by the characters as a parabolic process. “Parabolas are important,” Abe explains to Aaron³. Such a statement should be taken to heart by the audience. If time travel can be read as occurring across a parabola of time, then one can look to the numerous manifestations of parabolas within the film as subtle (or not so subtle) hints at the unreliability and restriction of the narration.

For instance, after Abe and Aaron³ work out the above diagram together, Aaron³ and Abe walk onto Aaron’s driveway to further discuss the possibilities of time travel. Aaron³ is carrying a basketball, and in an a close up of the basketball, he begins twirling it around his torso; he repeatedly and rapidly passes it from his left hand to his right hand in front of his body, and then he passes it from his right hand to his left hand behind his back. The effect is that the basketball appears to be traveling along a parabolic (or doubly parabolic, or elliptical) path around Aaron³’s body. Moreover, he stops moving the basketball and tucks it under his right arm, or what would be the A point of the above diagram, if one were to superimpose the diagram over the image of Aaron³ and the basketball. A music cue also helps to highlight the moment when Aaron³ stops twirling

the basketball. Aaron3's actions can be read many ways: as pure coincidence; as yet another hint as to the identity of Aaron3; as a reference to the diagram, or as a reference to the fact that both Abe and Aaron3 have already traveled through time in this scene, although only Aaron3 knows it. Another manifestation of parabolas within the mise-en-scene is a scene between Aaron3 and Abe when they are searching for a runaway cat, in which the characters pause for an argument in the midst of a large, elliptically (or parabolic)-shaped public fountain.

Parabolas also manifest in the cinematography. In the (rather crucial) scene in which the importance of parabolic manifestations are highlighted, when Abe explains time travel to Aaron3 with the use of the A point and B point diagram, shortly after the basketball twirling another parabolic manifestation occurs; in a close up of Aaron3, the camera arcs around his face as he simultaneously turns to face the camera. Just as with the basketball, the camera travels from right to left, or in terms of the diagram, from the B point to the A point (i.e., backwards through time). This parabolic camera arc is perhaps the most obvious of many such camera arcs in *Primer*. Another occurs just prior to the aforementioned fountain scene, when Abe learns of Aaron3's actions at the thus far elided party (where he saves Rachel from her ex-boyfriend, which is also the subject of the argument in the fountain scene). Abe learns of Aaron3's actions, and as he does, the camera arcs around Abe from right to left in yet another parabolic movement reminiscent of the time travel diagram. One more important camera arc occurs during the pivotal scene in which Abe approaches Aaron3 with the intention of explaining time travel. Abe stands before Aaron3, who is sitting on a park bench, and the camera travels in a parabolic arc from left to right as the scene concludes (this happens both times the fabula

event is narrated in the syuzhet). Much like the fractured editing, these camera movements can be read as references to time travel, and as subtle hints as to the elided scenes and actions of the various iterations of Abe and Aaron. The A point B point diagram, and the camera arc that occurs almost immediately thereafter, specifically marks them as such.

Another aspect of the play with time at work in *Primer* is an intermittent yet consistently fractured editing pattern that manifests at various points in the film. *Primer* is littered with segments containing numerous jump cuts, and there are even a handful of sequences in which a single shot is cut up and the pieces rearranged in a different order (although the audio track remains unified).⁹ For example, during the scene in which Aaron³ and Abe make the time travel diagram, the depiction of the drawing is conveyed in series of jump cuts. An extreme close up of the paper on which they are writing shows hands with pens appearing and disappearing while they continually and uninterruptedly talk as the diagram becomes fleshed out. Similarly, there are more jump cuts immediately prior to this when Abe first uses the A point and B point analogy. There are so many instances in which the film employs jump cuts that listing them is rather difficult (and indeed eventually they become harder to notice; one becomes accustomed to them as the film progresses), but not including the previous two examples, there are at least eight other instances in which the film employs series of jump cuts in concentrated portions of individual scenes.

However, more bizarre than the segments of jump cuts are segments in which a single shot is cut up and reordered into a new sequence (these segments also consist of jump cuts, but are distinct from the eight described in the previous paragraph. The

difference is that the jump cuts described above occur in chronological order, whereas the following jump cuts do not adhere to a linear progression). The first of these occurs just after thirteen minutes into the film. Aaron1 calls Abe and wakes him up, and what was originally a single shot is cut up into fifteen different shots (again, as with the jump cuts, the audio track remains in the correct chronological order) that are rearranged chronologically. If the order of the original shot can be described as 1, 2, 3... 15, then the order of the rearranged sequence is as follows: 1, 3, 2, 4, 5, 6, 8, 7, 9, 11, 12, 10, 13, 14, 15 (see accompanying captured images, in which the figure numbers correspond to the order in which the shots appear in the film). In this reordered sequence, numbers that appear next to one another chronologically (such as 4-6 and 13-15) represent shots that follow one another in the correct chronological order, but because action between them has been edited out they appear as jump cuts. Other such scenes include a rooftop scene where Aaron3 gets his first ear-bleed, and the scene in which Abe2 approaches Aaron3 and collapses due to exhaustion, as well as the scene in which Aaron3 and Abe chase after Granger2, in which there are brief flash-forward inserts of Abe running after Granger2. What is the purpose of such temporally fractured segments? It should be noted that the first of these reordered sequences (Aaron's waking Abe up with a phone call) occurs immediately after the first time Aaron1 and Abe activate their miniature time travel device, when they do not yet know what it is that they have created. The other sequences mentioned above have similar associations. Thus the significance of such sequences, and by extension any sequence with a series of jump cuts, could be read as an allusion to time travel, and can function as yet another type of (albeit abstract) hint as to the unreliable and restricted narration.

While there is a considerable amount of temporal fracturing in the film, there is also a lot of temporal mending through dialogue hook-laden montage sequences. The film frequently depicts completely coherent discussions between two or more characters as carried across wide spaces and disparate times, almost to the opposite effect of the jump cutting and shot reordering sequences described in the previous two paragraphs. For instance, when Abe brings Aaron³ to a lab to meet with the lab technician who tells them what kind of protein had been building up on the weevils upon which Aaron and Abe had been experimenting, the scene occurs over multiple spaces, and by logical extension, multiple times; the characters might possess the ability to travel through time, but no one in the film has invented a matter transporter ala *Star Trek*. It takes time for the characters to move into the new spaces, and the cuts conceal this time while never breaking too drastically with the flow of the conversation. Another example occurs earlier in the film, when Aaron¹ and Abe complain to one another about their after-hours business partners. Like the sequences with jump cuts, it is difficult to list all of the dialogue-hook montage sequences that occur in the film. It is enough to say that they represent one more cinematic way in which the film plays with the concept of characters being able to overcome time.

Primer is a confusing film about the perils and paradoxes of time travel that elides many crucial scenes, although upon repeated, close viewings one is able to parse the various scenes and make sense of the fabula. This can be accomplished primarily through clues implanted in the syuzhet through dialogue or a character's actions, and through the more abstract semi-clues such as editing patterns and certain camera movements. However, the film will forever remain enigmatic in certain respects, as the narration

accommodates multiple readings of the syuzhet that are not mutually exclusive, and offers up other conundrums that are open to multiple interpretations. In short, *Primer* offers new and interesting ideas about the possibility of time travel, although one has to work hard to arrive at those ideas.

Figure 1



Shot 1 shows Abe sleeping on the floor.

Figure 2



Shot 3 shows Abe answering the phone...

Figure 3



...while Shot 2 shows Abe being awoken by the phone's ringing.

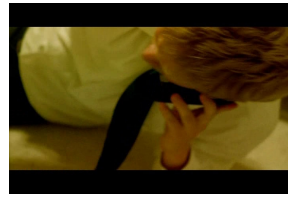
Figure 4



Figure 5



Figure 6



Shots 4 through 6 are jump cuts occurring in chronological order. The above frames are near the beginning of each shot.

Figure 7



Shot 8 shows Abe getting up off the floor...

Figure 8



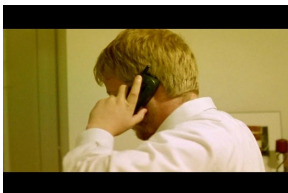
...while shot 7 follows after, showing the beginning of the action; Abe's turning to rise.

Figure 9



Shot 9 shows the action that continues after shot 8.

Figure 10



Shot 11 shows Abe walking toward the door.

Figure 11



A jump cut to Shot 12; Abe standing at the door.

Figure 12



Shot 10 shows the beginning of Abe's move toward the door.

Figure 13**Figure 14****Figure 15**

Shots 13 through 15 also occurring in chronological order, and are distinguished as separate jump cuts.

¹ René Barjavel is credited as the first to write of the paradox in his *Le Voyageur Imprudent*, Paris: Denoel 1943.

² In fact, old Biff, who fades into nothingness upon returning to what Doc and Marty reference as the future, should never have been able to return to that future in the first place. Biff changed the past (quite drastically), so the future from whence he came would no longer exist. Another conundrum: if the laws of causality in the *Back to the Future* series dictate that changing the past leads to cessation of the existence of time travelers who are dependent upon that past, then Biff would have simply ceased to exist on the spot (at the moment in which he altered the past), and would not have been able to return to the future in the time machine only to cease to exist there (regardless of which future he was returning to, his original future or the alternate future he created). A similar problem arises in the first film in the series; why, one might ask, do Marty and his siblings (as seen in a photograph) *gradually* cease to exist? Would not Marty's altering his parents' meeting simply eliminate him from this plane of existence instantaneously, never giving him a chance to re-induce their romance? Such causality-related questions remain unanswered in the *Back to the Future* series, but are dealt with in quite a different manner in *Primer*.

³ Indeed, such a sentiment toward time paradoxes is actually expressed by a character in *Primer*. Aaron3 says "I really don't believe in any of that crap," that crap being grandfather paradox-type conundrums. He continues, "It has to work itself out somehow." He clearly has cause for such a headstrong attitude, because by this point in the film, Aaron3 has already altered the reality of both Aarons 1 and 2.

⁴ While Queneau demonstrates over 100 of these, but he stopped at a certain number relatively arbitrarily, and could have continued with more. NY: New Directions, 1981, p 4.

⁵ As discussed in David Bordwell, "Film Futures," *Substance* # 97, v 31, 2002, and Seymour Chatman, *Story and Discourse: Narrative Structure in Fiction and Film*, New York: Cornell University Press 1978.

⁶ However, the earliest point to which one can travel into the past remains the time at which the first, original time machine was activated, as the time machines seem to be inert in collapsible form.

⁷ Throughout most of this paper, Abe will be referred to as only "Abe" and not "Abe1" or "Abe2" because he has not yet interfered with himself when traveling back through time, as Aaron2 will do shortly to Aaron1.

⁸ New York: Cornell University Press 1978, p 63.

⁹ The effect might be considered similar to that of the phenomenon of the human ability to read sentences in which all of the letters of the words are reordered, except for the letters beginning and ending the words. Our brains recognize the pattern of letters within each word and the sentence is readable. For example: "The olny tnihg to faer is faer iestlf," or "*Periemr* is a puzuznilg flim auobt the peirls and praodaxes of tmie taverl."