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NARRATIVE PATTERNS IN TIME TRAVEL FICTION

Time travel is undeniably an ingredient in our popular culture. There is a seemingly endless chain of novels and short stories, movies and TV programs using it, in one of its many forms, as a dramatic device.

There is also a vast amount of literature documenting reflection on time travel - discussing whether the idea is coherent, whether it is consistent with modern physics or not, and what it would mean to be in the position of a time traveler. While much of that reflection is serious analytical work (normally focused on very basic concepts in philosophy and science, such as time, space and causality), there is also a less serious, more sensationalist streak in writing about time travel that focuses on the hope that it 'may be possible after all' (much of it to be found in popular science journalism). In this article, I shall treat time travel strictly as a feature of fiction; I'll discuss its function in such fiction, and what we might learn from it - strictly in that function. I won't speculate about whether time travel is a real possibility.

Time travel stories prompt us to ask intriguing questions about causality (can an object brought backwards from the future be instrumental in its own creation?) and identity (what does it mean for me to travel to the past and prevent my own birth?); others relate to cognition (how do I know I have arrived at a different time?) or even ethics (supposing we could - should we be allowed to take actions that change the past?). All such questions have their origin in a paradoxical feature of the idea of time travel, which I'm going to analyze in what follows.

Time travel as narrative device

There is one function of time travel in fiction that I want to mention only briefly, just to get it out of the way: it is often used as a vehicle for social criticism and negative utopia; sometimes it is just a fantasy device for its own sake. The very first time travel book, H.G. Wells's *The time machine: an invention* is an example for the former. The novel portrays a world where humanity has degenerated into two different branches, one of which lives underground, controls a sinister machinery and practices cannibalism; the other branch lives an emotionally immature, apathetic life above ground, not unlike that of grazing cattle. Obviously, in order for humans to have changed so much, a long time had to be passed since Wells's own day, so he needed

some special literary technique to plausibly present his version of a possible future. He solved this, ingeniously and very originally, by inventing the time machine: an instrument that carries his hero to any temporal location he chooses.

There are other possible solutions which we know from countless instances of negative utopia in literature: the time traveler might have been a sea traveler and found the described populations on a far island which had not been discovered yet (think of Jonathan Swift's *Gulliver's travels*); he might have been a space traveler and found them on another planet; he simply might have slept through a few thousand years in some magical place (think of the *Legend of the Seven Sleepers*). So nothing in Wells's set-up really requires time travel, as compared to other techniques, to construct the intended background for his scenario.

But there are works of fiction that *must* use time travel, because they rely on the inherent paradoxes in that idea. In the remainder of this article, I will focus on examples that exploit these paradoxes; I shall analyze in which ways they do so, and how they achieve their effects. In order to get there, however, we need some basic materials from literary theory in place.

Elements of the narrative

Plot and story

Any novel, film, or stage play, in general: any work of fiction tells a story. Sometimes that story begins at the same time as the book, sometimes it doesn't. In *Casino Royale* (the novel by Ian Fleming, not the recent movie), the opening scene is a night at the casino, introducing the main characters (Bond and Le Chiffre), and situating us directly in one of the main locations of the action:

The scent and smoke and sweat of a casino are nauseating at three in the morning. Then the soul-erosion produced by high gambling - a compost of greed and fear and nervous tension - becomes unbearable and the senses awake and revolt from it. James Bond suddenly knew he was tired. [...] Le Chiffre was still playing and still, apparently, winning.

Both players are there with purpose, and in due course we will learn a lot about these purposes. They are part of the story of the novel. But Fleming doesn't tell them at the beginning, before he launches into the actual events

of the action. Instead, he chooses to relate them in a series of flashback scenes that make up the next few chapters.

In literary theory, the events that actually happen in a text (i.e. a book, play or movie) are called the *plot* of that text. As we have just seen, the plot is not necessarily congruent with the *story* that is told. It is often arranged differently, to achieve some special effect. In *Casino Royale*, the initial scene generates much of the atmosphere of the spy novel genre: expensive locations, emotional and physical stress, high-stakes adventure and double-faced characters. So Fleming doesn't tell the story from the beginning - instead he arranges the plot so that it gets us into his world first, and only then he delivers the necessary bits of background understanding.

Plot and story are seldom congruent. In the (very simple) cases where they are, there is only a story, which is told in correct order, from the beginning to the end. Much more frequently however, there is a plot which presents the events of action in a separate time structure.

Very common are plots that skip stretches of the story's time: a character leaves his home in the morning, and in the next paragraph arrives at work; nothing is mentioned about the time in between (which may have been a long drive through the rush hour - or just a five minutes' walk). The amount of time that goes by between the events of the plot differs: it may just be an hour, or it may be an entire decade. That way, a story can cover a long time, however few events the plot may have.

Another frequently used technique is telling a story in flashbacks. The actual story has happened long ago, and comes gradually to our knowledge during the plot, which happens much later. Here's a neat example: the 2001 movie *Spy Game* starring Brad Pitt and Robert Redford. In the opening sequence, CIA agent Tom Bishop (played by Pitt) undertakes an unauthorized attempt to rescue someone from a prison in China; the operation fails, and the rest of the movie shows his supervisor Muir (Robert Redford) documenting Bishop's career in long flashback sequences (all the while devising a rescue plan for Bishop on his own). Most of the story that unfolds is already past; still it is narrated in perfect linear order by Muir, strictly following the chronology of the events. In this example the events told are still in their natural order; but even that is not necessary - a plot can present events in an entirely different, sometimes even confusing order.

To sum up, in fiction there is normally a plot (the events that happen) and a story (everything we come to know) - and they have potentially divergent time structures. Sometimes that is just a trick to skip uninteresting parts of a story, but very often the events of the plot happen in a different order and arrangement, often with different density, compared to those of the story, and in these cases this is deliberately done by the author to achieve certain

dramatic effects.

(You will find a much better introduction to these matters than I will ever be able to give in Umberto Eco's *Six Walks in the Fictional Woods*.)¹

Perspective fusion

Many stories are told from the point of view of one of the characters. We (as reader) see what they see; sometimes we are also given insight into what they think and feel. The most strict version of this narrative style is in literature that is entirely written from the first-person perspective. The narrator is (we are supposed to believe) identical with one of the characters, and recounts the events as he or she experienced them.

Even when a novel is written in the third person, it may be very focused on a main character. Take again *Casino Royale*: with only a few minor exceptions, everything in the book is centered around Bond; there are no scenes where he doesn't appear; events that take place without him participating are not directly described, but only when they come to his attention or have some effect on him or his plans. Moreover, although we learn a lot about his thoughts and feelings, we cannot look into other characters - we are left in the dark about anything that may go through the heads of Le Chiffre or Vesper Lynd. (The only exception is a brief passage where we learn what the first impression is that Bond makes on Vesper; and even that passage seems to be really more about him rather than about her.)

When a text is less focused on a single character, we may learn about the events of the plot from changing perspectives: certain situations we witness in the company of one character, others are seen through the eyes of another one. Depending on the situation, we see the inner life of varying persons involved in the plot. (Sometimes authors reveal the inner lives of multiple characters who take part in a scene at once during the narration of that scene. The point of view may switch between them, or there may be no discernible perspective from which a scene is depicted. However, I want to focus on texts where such a perspective can still be recognized.)

In texts of that sort, it is possible that we learn about a particular event in the plot twice (or even more often), as related by different characters involved. Normally, of course, the author of a book won't tell you about a situation more than once. But there are instances.

Stephen Fry's novel *The Hippopotamus* consists in some parts of letters written by various characters; much of the plot is mediated to us via these letters. (Thus it is partly what is called an 'epistolary novel' in literary science.) Early in the book there is a dinner which is described and commented on by the main character, a writer called Ted Wallace, in a letter - which is

how we come to know about it, what happened and what was said. Directly after this we read a second letter, written by another character by the name of Patricia (but addressed to the same recipient). It tells us about the same events, but, being formulated from another point of view, is naturally quite different, highlights different details, and gives different judgments. There are some details that appear in only one of the two versions.

By telling us the same portion of the story twice, from different perspectives, the author gives us not only more detail about what happened (he could have done this using other techniques); he also tells us a lot about the persons whose point of view it is. Giving both Ted and Patricia the opportunity (so to speak) to deliver a full account of the events, he allows us to learn about their way of looking at the world: what things are important enough to them to notice and describe them, what they seem to feel at the events, and what expression they choose to retell them.

In what follows, I will call this technique a *fusion of perspectives*, just to have a shorthand to refer to it. As we will see, this narrative technique will undergo some new sort of application in time travel stories.

Let us now briefly recount where we are: I have promised an analysis of time travel stories that accounts for their particular use of the features and paradoxes that can only be found in the idea of time travel. I have so far introduced the (conceptual) distinction between the *plot* and the *story* of a text (take ‘text’ as a very general term covering novels, short stories, movies, plays, or anything else that may use time travel as a literary device); and I have explained how sometimes a situation can be presented by an author by *perspective fusion*, that is, by presenting it multiple times from the different perspectives of different characters, who all participate in the situation. I will now go on to show how these elements play together in time travel stories of a common sort.

Story knots

A very common pattern in time travel fiction is this: a character experiences some situation or event, then later on gets the chance to travel back in time to that very situation, often with the intention to change it somehow. Let us call such a situation (or event) a *story knot*. Many of the strange and confusing features of time travel stories are directly related to story knots.

Here are a few examples. In the movie *Twelve Monkeys*, the central event is a scene at an airport in which a man is shot. The main character, James Cole (Bruce Willis), has witnessed that scene as a child, and it haunts him as a nightmare since then. While the plot develops, we get to see more and more details of what happened at the airport. Cole, however, is a time traveler

who has been sent back from the future, and we come to understand that at the time when most of the plot happens, the airport scene is still in the future. For us (the audience) it actually happens at the end of the movie. Cole himself is there twice: both as a child and as a grown-up person. The airport scene is the story knot in *Twelve Monkeys*.

More complex, but still following the same pattern, is *By his bootstraps* (Robert Heinlein's short story). The main character, called Bob Wilson, meets past and future 'versions' of himself several times; each of these occasions appears in the plot multiple times (once for each version). Thus, a situation where actually three different Bob Wilsons talk to each other is lived through three times. These situations are also story knots.

To simplify the analysis, let's look at a more condensed version of a time travel story that contains a story knot. The article about *Time Travel and Modern Physics* in the Stanford Encyclopedia of Philosophy has exactly what we need. (If you're interested in the topic, I'd recommend to also read the whole article.) Here is the full story, entitled *A Botched Suicide*:

You are very depressed. You are suicidally depressed. You have a gun. But you do not quite have the courage to point the gun at yourself and kill yourself in this way. If only someone else would kill you, that would be a good thing. But you can't really ask someone to kill you. That wouldn't be fair.

You decide that if you remain this depressed and you find a time machine, you will travel back in time to just about now, and kill your earlier self. That would be good. In that way you even would get rid of the depressing time you will spend between now and when you would get into that time machine.

You start to muse about the coherence of this idea, when something amazing happens. Out of nowhere you suddenly see someone coming towards you with a gun pointed at you. In fact he looks very much like you, except that he is bleeding badly from his left eye, and can barely stand up straight. You are at peace. You look straight at him, calmly. He shoots. You feel a searing pain in your left eye. Your mind is in chaos, you stagger around and accidentally enter a strange looking cubicle. You drift off into unconsciousness.

After a while, you can not tell how long, you drift back into consciousness and stagger out of the cubicle. You see someone in the distance looking at you calmly and fixedly. You realize that it is your younger self. He looks straight at you. You are in terrible pain. You have to end this, you have to kill him, really kill him

once and for all. You shoot him, but your eyesight is so bad that your aim is off. You do not kill him, you merely damage his left eye. He staggers off. You fall to the ground in agony, and decide to study the paradoxes of time travel more seriously.²

This story consists of a story knot (a shooting scene) - and practically nothing else. The first important thing we can learn here is that a story knot is a situation which *happens only once in the story*. In *A Botched Suicide*, it is described twice, so it features two times in the plot. But none the less, we are talking about a single event.

To see this more clearly, ask yourself how the same story would have to be told from the third-person perspective. Think of yourself as an uninvolved observer watching the course of events. You would first see a person (absorbed in thought), who is approached by another person with a gun and a bleeding eye. The latter person shoots the other and then falls to the ground; the former, severely wounded, staggers around and finally enters a strange-looking cubicle, vanishing without a trace. (I encourage you to read this again and really compare it to the original story.)³

Told like this, the story ceases to create the impression of a 'loop'. It doesn't seem any longer as if there is an eternal repetition of events. That effect is strongly tied to telling it from a first-person perspective. Since one and the same event is told twice from the perspective of a single character, we have, at the second instance, a feeling that 'this will repeat all over again'. Presumably the reason is that we think that the first, younger version of the character will now live through the same career as the second, older one already did. The older version, so to speak, 'passes the baton' on to the younger version. Then the younger one goes on the time travel journey and arrives at the story knot again, having become the older version now, and finds another younger version, ... and so on.

Why don't we have the same impression of a 'loop' when the story is entirely told from the third-person perspective? I think it is because it is generated by a switch from the first-person perspective to the third-person perspective and then back. Here is what happens: We first follow the character through the story knot event (we're with the younger version), as seen from the first-person perspective; then we follow her career, including the traveling back in time; we then experience the event at the story knot again, still with the character (in first-person perspective), but now we are with the older version; we switch to the third-person perspective for a moment and identify the younger and older versions, ask ourselves what the younger version will know do, and finally, we switch back to the first-person perspective.

Now, if this is then the first-person perspective of the *younger* version,

we're caught in a loop. (We're not if we choose the first-person perspective of the older version.) And there seems to be a certain bias to interpret a time travel story that way. This is because much of the story has worked towards that insight: that at the story knot, we have a situation with two versions of the same person, who are confronted with the respective other version of themselves. So we are actually enticed, by the way the story is told, into making the switch described above. (There is an interesting analogy in paradoxes of visual perception, such as in the 'Penrose Triangle' invented by Oscar Reutersvaerd. Note how in pictures of that kind the 'loop' effect is also strongest if you attempt to follow the beams that make up the figure.)⁴

The particular way in which the perspectives are crossing at a story knot generates some interpretation traps; this is one of them. The story is told from a first-person perspective, but then switches quickly to a third-person perspective to convey the insight that at the story knot a character appears in multiple instances at once. This can trap us into the impression that the story goes into a loop, whereas it in fact doesn't. If we re-tell the story entirely from the third-person perspective, we still have the unexplained time travel, but without the apparent endless loop in the story.

(This doesn't mean of course that stories, including time travel stories, never intend to picture a non-linear world that contains infinite loops. An example for a loop in the fundamental structure of the world of a story is the short film *Prey alone*. What I am claiming is that the idea of time travel as such does not necessarily involve any loops in the sequence of events.)

There is another interesting observation that you may have made: When I re-told *A Botched Suicide* from the third-person perspective, the end of the story was the vanishing of the younger 'version' of the main character. If you are like me, you have probably felt a certain urge to 'follow' the character, plot-wise, i.e. you have perhaps felt that the plot is somehow 'incomplete' here, that you would like to be told about what happens further with that character (after she has vanished in the strange-looking cubicle). Of course, we know exactly what happens: the character is the younger version, is transferred back in time, and has (there and then, in the past) gone through the events at the story knot. But we don't naturally see it that way: we expect that character to undergo now some events that we feel we haven't yet been told about. We only find on reflection that we actually *were* told about them.

This latter observation suggests that we have, especially with regard to time travel stories, a tendency to focus on the first-person perspective, to follow events, as it were, along the lines of the particular careers of the main characters. This is not really surprising: we normally make sense of a string of events mainly through the eyes of the involved people. But this is another

factor that has an effect on how we interpret time travel fiction.

To sum up the two important lessons from this: first, time travel fiction has a strong tendency to focus our interpretation on the subjective series of experiences of a participant; secondly (as I said above), a story knot is a single event in the story, although it may correspond to multiple events in the plot.

The philosopher David Lewis has suggested a helpful image for thinking about story knots:

The time traveler's life is like a mountain railway. [...] Five miles down the line from here is a place where the line goes under a trestle; two miles further is a place where the line goes over a trestle; these places are one and the same. The trestle by which the line crosses over itself has two different locations along the line, five miles down from here and also seven. In the same way, an event in a time traveler's life may have more than one location in his personal time. [...] he may be able to talk to himself. The conversation involves two of his stages, separated in his personal time but simultaneous in external time. [...] A time traveler who talks to himself, on the telephone perhaps, looks for all the world like two different people talking to each other.⁵

To re-formulate the main points made above in terms of Lewis's image: we strongly tend to think of the course of events as being along some railway track. In fact, we might also have taken a seat in a helicopter and have had a look at the exact layout of the entire track from above. But instead, when telling and interpreting time travel fiction, we usually think along the lines of the track. Our interpretation moves on rails.

So when we follow the railway track, we will reach a certain point twice - which is nevertheless a single point on the map. (That's the point where the line goes both under and over the bridge.) In our terms, this is a story knot, and we have seen that it has the property of being reached multiple times during a plot, but is still a single, unique event in the story.

What is it like to be at a story knot?

And we have seen that a story knot is a point where a character may interact with another 'version' of himself.

Having to do with oneself (in some sense) is not as unusual as it may look at first glance. In a trivial way, most of us come into something like such a situation from time to time. Looking at oneself in the mirror is a

case of being confronted with oneself; a slightly less predictable (and for many people a more surprising and irritating) form is when we watch a video or audio recording of ourselves. But even so we learn only how we looked, sounded and acted, but not what we experienced at the moment when the recording was done - that we know only from memory.

Now imagine the following case: under the influence of certain light and sound conditions, you tend to become drowsy and (as far as you can tell) go to sleep after a short while. Afterwards, you can't remember what you experienced, but people keep telling you that you talked to them. So you start an experiment. You place a video camera at a location where you can reproduce the lights and sounds necessary to get into that state, and when they set in, you carefully describe your experiences. Later on, the video recording shows you happily (if quietly) discussing a calm, peaceful mood which you are in - you can't remember a bit of it yourself, but there's the record proving that you have experienced and even described it. Strange as it would be, a scenario like this seems possible. Try to imagine what it would be like to be confronted with such a 'version' of yourself. In some sense, you are watching yourself: a person who doesn't just look and speak like you, but who also shares all your ideas and memories. (Suppose the person on the video recording recalls certain events from your past that likely only you yourself can know.) In some sense, though, you are watching a stranger: a person doing and saying things you wouldn't really say *you* did and said; a person who has an own will and agenda; also a person who may decide what to tell you about himself (or herself) - and what to conceal from you.

Suppose it gets even more strange. Some day, when watching an older video with your 'other self', you noticed that the event you hear yourself describing, which is an event in your past, had not yet happened when the video was recorded! It is something that has occurred meanwhile, but definitely nothing you knew anything about at the time when the video was taken. How would you think about this?

We have not really reached a scenario yet that would resemble a case where you meet a future 'version' of yourself. But you'll by now hopefully have a feeling what it might be like.

Perspective fusion at story knots

Conversely, when (after having traveled to the past) the older version of a time traveler meets her younger self, there is a similarly confusing effect: this time, the time traveler normally recognizes the situation, which means that she knows what is about to happen - not only in the sense in which she knows the future events in the life of her younger version, but in the much

more direct sense that she already knows exactly what will happen in their encounter at the story knot.

This is described in minute detail in *By his bootstraps*. Heinlein's main character, Bob Wilson, is put through an entire series of story knot experiences, where he meets future versions of himself, past versions of himself, both future and past versions of himself at once, ... Although the short story is not written in the first person, it is another example of a narrative style that follows a single character closely. We only see what Bob Wilson sees, and we are told his feelings and thoughts. More precisely, we are told the experiences of only one of the Bob Wilson instances at a time. So when Bob Wilson goes through the story knot, we strictly see it with the eyes of one of the versions who meet there; later on, when he goes through the same story knot again, we see it from the other version's point of view. Although the plot is deeply entangled, and crosses itself multiple times, it is laid out with impressive accuracy.

This is an example of an excessive use of the technique which I have called perspective fusion. I know of no genre of fiction where it seems more suitable; on the one hand, it highlights the subjective character of what is narrated (it is *perspectives* that are fused, that is, points of view of a character in the story), while on the other hand there are necessarily two *different* experiences to be recounted (since we have *two* instances of the character, who differ in at least some of their experiences) - but experiences still of one and the same situation (the story knot).

Fusion of perspectives is an obvious instrument, a natural fit for time travel fiction. If you look for it, you will find it everywhere. Let us return for a moment to *A Botched Suicide*. We have seen that this story consists of virtually a single story knot and nothing else. There are two versions of the main character. We learn first how one instance experiences the situation (“[...] you suddenly see someone coming towards you [...]. In fact he looks very much like you [...]. You look straight at him, calmly.”), and then how the other one does (“You see someone in the distance looking at you calmly and fixedly. You realize that it is your younger self. He looks straight at you.”). There you have it: one situation, two points of view - highly characteristic for a time travel story.

Consistency, action and will

As we have seen, time travel narratives imply that a certain event may be experienced by a single character multiple times. People are not just observers, however - we also act. This adds an interesting twist to time travel

narratives.

A minimalistic example

Here is a minimalistic time travel story:

Yesterday, shortly after seven o'clock in the morning, Fred stood in front of his house for about five minutes. During this time, Fred's neighbor walked by, saying a few words about the weather.

Today Fred has the opportunity to test-drive a new time travel machine. It transfers him to a location somewhat near his own house, where he can observe the space in front of the house using a telescope (without any chance of being seen himself). Shortly after seven, Fred notices his own earlier self stepping outside, having a chat with his neighbor who just walks by, and disappearing in the house again.

In the terms introduced above, we have here a *story knot* (a period of time which appears twice in the plot) and *perspective fusion* (the same event is experienced from the point of view of two instances of the same person). However different their perspective is, the experiences of the two 'selves' of Fred are nevertheless experiences of one and the same situation, the same place, at the same time.

Consistency

Consider a variation of the story. Suppose the last sentence of the first part of the story would be this: 'During this time Fred didn't see any people.'

If the story went like this, we'd produce an inconsistency: we are saying, about one and the same situation, two different and in effect contradictory things. We must keep in mind that the story knot which is lived through by Fred twice is the same situation, the same spacetime location. What could happen in this situation can be either the version narrated above, or a fully modified version (i.e. modified in both paragraphs), but not a version with a modified first paragraph, the second being left as it is.

But we *must* keep the story consistent. (Or else it wouldn't be much help for whatever you want to learn from it, be it about the possibility of time travel, or something about our notions of action and will.) However, it gets more difficult to maintain consistency if we let characters act freely at story knots. Sooner or later, the restrictions resulting from the story knot constellation collide with the freedom of will we assume in them.

Let us alter our minimalistic time travel story. Let's say Fred is not directly transferred to his observation post, but instead to a location somewhere between it and his house.

When he walks up to the observation post, he notices his neighbor on the other side of the street. Luckily, just when the neighbor looks over, a bus passes by, blocking his view, so he cannot see Fred.

(This is luck, because the neighbor would be surprised to see Fred a few minutes later stepping out of his house.)

Fred could walk over the street - but he doesn't this time. Instead, he steps into a shop for a moment. When he leaves it, his neighbor has vanished, and Fred proceeds to the observation post.

In order to keep consistency, we must describe it so that the story is self-correcting in a sense. It must be arranged so that the events at the story knot under the description from each of the perspectives fit together. Of course, a time travel story well told will smooth all this out so that it doesn't look unrealistic or implausible to its audience. (If that seems to be an exaggerated demand, think about what an audience would have to make of an inconsistent story.)

Frustration of the will

What happens when a player decides to 'play against the game', to act deliberately so that the situation turns out different from what he remembers of it (may be out of playfulness or from a real interest - there might be painful consequences if he fails)? Well, he can't. He cannot bring it about that things happen the second time different from how they happened the first time. Otherwise there would be a contradiction in the story.

(Actually, there are two entire categories of time travel fiction where one can act contrary to one's knowledge of the events at a story knot. One sort is that of simply inconsistent time travel stories, and as I have argued, there is nothing interesting to learn from these. The other sort makes use of the rather obscure idea of 'parallel courses of history', or 'alternative courses of events'; I shall have something to say about this category of time travel fiction later on.)

Again, we have to tell the story in a way that no inconsistency arises. But this time, this means even to do this in the face of directly contrary intentions of a character. We have to let them fail in carrying out their intentions; and

often so in situations in which they normally wouldn't fail. The story has to resort to (sometimes less than plausible) coincidences in order to achieve that. In all such cases, a character is unable to carry out his intention. (And one can easily construct cases in which this can look totally inexplicable to that character.) I call cases of that sort frustration of the will.

Suppose, for instance, that Fred has decided to prevent his neighbor from showing up in front of his house at the story knot. When Fred, the time traveler, i.e. his second instance, meets the neighbor in the street, he may try to persuade (or even force) him to take a different route. But all these attempts *must* fail: the neighbor will perhaps have some urgent business near Fred's house, or for some reason distrust Fred's second instance. However hard the latter tries, he cannot prevent the neighbor from coming near his house and enacting the scene at the story knot - because that's already happened in Fred's past.

And by the way, Fred knows that. Of course, it is not in general Fred's knowledge which causes the events to happen (although it may - in a self-fulfilling manner, as in the movie *Twelve Monkeys*). Rather, we have to make the story consistent, and therefore we cannot allow it to contradict something that a character knows (which means that it is true, else it wouldn't be knowledge at all).

The conditions for frustration of will

Crucially, in order to experience frustration of the will, even to form the intention that leads to it, the character has to understand herself that she is (or will be) at a story knot, and that her perspective on the events is a second perspective to the former one she had on them (i.e. during her first living through the story knot).

I have used these concepts so far for analysis of time travel narratives from the outside (i.e. from the position of a reader, or observer). But of course, a character could equally use them, in the story, to reflect on her own situation. (Note that interestingly the character has to take her own history as a time travel narrative, then.) She will understand then that she is living through the same events as before, but is experiencing them from another perspective. In other words, she applies the concepts of a story knot and perspective fusion (even though she doesn't have to use the same terms, of course). Only then she can decide to act deliberately in a way that would make the outcome different from how she knows it will be.

Take a moment to reflect on how that knowledge is founded. A character recognizes a situation as one in which she has been before. Of course, this can happen only in time travel stories, i.e. where it is acceptable (to the

character as to the reader) that someone may travel backward or forward in time, thus being at the same place and time multiple times. So the character is aware of this possibility, and recognizes a certain situation as an instance of it. She also recalls (more or less accurately) what has happened at this place and time when she visited it before. (We may take a certain degree of inaccuracy into account here, e.g. because of failing memory, or because the character's perceptions have been blurred in the first place. Again, *Twelve Monkeys* provides a nice illustration for this.) Only by insight into the nature of a story knot (it's the same spacetime location as before) and perspective fusion (she's seen what happens at that spacetime location) she can infer what she will experience (and what it will look like from the perspective she will take now). Without accepting the ideas of time travel, story knot, and perspective fusion, her idea of what will happen is at best an educated guess. (And to act counter to that is not too remarkable.) To produce the phenomenon of frustration of will, what she acts against is her *knowledge* of what will happen; and that knowledge (and the certainty that it actually *is* knowledge) she can only have from her grasp of these notions.

Bob Wilson, in *By His Bootstraps*, also experiences frustration of will. The central scene of the first half of the story is a story knot involving five (!) different instances of Bob; three of them having an argument with each other inside the same room. When he lives through the events the second time, Bob realizes that he is at a story knot, and that what he experiences now (and what he experienced before) constitute perspective fusion:

[...] the realization that this was not simply a similar scene, but the *same* scene he had lived through once before - save that he was living through it from a different viewpoint. [...]

When he understands this, he tries to play against the game:

Wait a minute now - he was under no compulsion. He was sure of that. Everything he did and said was the result of his own free will. Even if he couldn't remember the script [of the previous conversation at the story knot], there were some things he *knew* "Joe" [his previous instance] hadn't said. "Mary had a little lamb," for example. He would recite a nursery rhyme [...]

But under the unfriendly, suspicious eye of the man opposite him he found himself totally unable to recall any nursery rhyme. His mental processes stuck on dead center. He capitulated.

So Bob decides to act in a way that 'stops this whole sequence' (as he puts it later in the story) - he doesn't see that this is impossible (nor is there

anything to gain for him from it, so probably we should take this primarily as an expression of his uneasiness with the situation he finds himself in; and out of which he wants to break). And it is this error that is a condition for the frustration of will he now runs into.

To summarize: frustration of the will (in the technical sense discussed here) can only happen if a character gains insight about story knot and perspective fusion in his situation. That gives him not only knowledge in advance, but also supplies evidence that it actually *is* knowledge. Time travel gives the missing element to have knowledge about some future event, by supplying evidence via the concepts of story knot and perspective fusion (actually, the best sort of evidence there could be: seeing things with one's own eyes, having first-hand experience).

We have now a more precise formulation of what frustration of will means: despite of knowing (and knowing that it is knowledge) how things will work out, someone tries to make them happen differently. This is a conflict between his knowledge in intention and his knowledge of the scenario. So one of these can't be knowledge, and therefore, one of them can't be true. Thus the character must fail in his attempt to make things happen differently. (Any other option would, again, make the story inconsistent.)

The coherence of seeing one's will frustrated

As we have seen in the example above from *By His Bootstraps*, frustration of will is not only dependent on the insight into story knots and perspective fusion, but also on an *incompleteness* in this understanding. Fully understanding, Bob Wilson would see why there is no chance of 'playing against the game'.

The idea that he should be able to speak a nursery rhyme is incoherent; he can stick to it only as long as he has not fully realized that the events he is about to experience have happened before, in his past, and have been already experienced by him.

Imagine you are talking to someone who tells you that you will fall asleep in a few minutes. You think you should be able to control that, shouldn't you? So you decide to try and *not* fall asleep. But, unknown to you, you have been given a sleeping drug just a minute ago which was put in your drink, and your counterpart has seen you swallow it. So, although you don't know yet, you *will* fall asleep.

Imagine further he tells you now about the sleeping drug; and assume that you have no reason not to believe him. So you have now fairly good evidence that you'll be asleep in under a minute. Unless you think you can fight the sleeping drug, it now starts to look as if it doesn't make sense anymore to

think you can decide what will happen - you know that already.

Whether you can believe that you will be able to take some given action depends on what you can expect about the circumstances. Many of them are not yet determined, so you have some freedom. But as soon as you have good evidence from which you can infer what will happen, that freedom is reduced, and the range of actions you can reasonably try to take is limited.

Now, in a world in which time travel happens, and (crucially) where you know yourself to be at a story knot at which you have been before, your knowledge of what happens at that story knot constitutes evidence as good as the that about the sleeping drug in the example above. Given your insight in the nature of the story knot and the perspective fusion, you cannot coherently think you will be able to perform certain actions - actions which have an effect that is inconsistent with what you already know of the events at the story knot (because you have seen it from the perspective of your earlier self).

Frustration of will, then, always results from an undertaking done with inconsistent motives. In this respect, it is similar to the frustration that results if you were trying to change the past. Given the time travel constellation, the story one would have to tell about oneself when acting to as to change the events at a story knot is as inconsistent as trying to change what has happened in the past. (Which, in a sense, is exactly what it is!)

Fiction and reality

“But,” some of my impatient readers might exclaim at this point, “this all assumes that we are talking only about time travel *fiction*. What about the real thing? Supposing time travel will be invented at some future time, surely people won’t be failing to carry out their intentions because of some requirement of consistency that applies to story-telling? After all, the real world isn’t a story, and there’s nobody just narrating it. And it takes more to prevent real people from doing things than philosophy.”

Well, always taking into account that there is really no better reason to believe in this than there was more than a hundred years ago (when H.G. Wells first invented the time machine as a literary vehicle); and not taking the somewhat rash conclusion that time travel will never be possible because of this difficulty: even so, I don’t think this is right.

Characters (or people, if you like) who experience frustration of the will in a time travel context do so because of their inconsistent intentions: they attempt to do something of which they already *know* they won’t achieve (in the strong sense that they have justified, true belief, which many philosophers take as a fairly good definition of ‘knowledge’). They don’t fail because of

some strange narrative requirement; but because they don't understand their own situation, and the consequences of time travel.

True, I have explained these in the context of literary analysis; this is because, as far as we know, time travel only happens in fiction (and not in the real world). But were it to happen in reality, I think, this analysis would still apply to it.

Notes

¹ Umberto Eco, *Six Walks in the Fictional Woods. Norton Lectures 1992-1993*. Cambridge/Mass.: Harvard University Press 1994.

² Frank Arntzenius and Tim Maudlin, "Time Travel and Modern Physics". In: Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, Fall 2008 Edition, <http://plato.stanford.edu/archives/fall2008/entries/time-travel-phys/>.

³ Compare also the beginning of Michael Dummett, "Causal Loops". In: *The Seas of Language*, Oxford: Clarendon 1993, 349-375.

⁴ For an account of how our apparatus of visual perception constructs such 'impossible objects', see Donald D. Hoffman, *Visual Intelligence*. New York: W.W. Norton 1998.

⁵ David Lewis, "The paradoxes of time travel". In: *American Philosophical Quarterly* 13 (1976), 145-152, 147.