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Time in digital fiction: Some temporal strategies of adventure games

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Zeit ist im Begriff, *Raum* als Schlüsselkonzept für die Auseinandersetzung mit digitaler Literatur wenn nicht komplett abzulösen, so doch notwendig zu supplementieren. Die meisten Ansätze bleiben jedoch einem traditionellen, linear gerichteten und damit deterministischen Zeitbegriff verhaftet – obwohl digitale Literatur seit der Entstehung des Genres im Kontext von Liberalismus und Freizügigkeit verortet wird, was sich nicht nur in Mehrstimmigkeit oder Pluralität, sondern auch in Achronizität niederschlagen kann. Der folgende Aufsatz untersucht, mit welchen Mitteln digitale Literatur chronozentrische Erzählstrukturen aufbrechen kann und stellt fest, dass dem Computerspiel und vor allem dem Adventure weitaus effektivere Methoden zur Verfügung stehen als sowohl Buch und Film einerseits und Hyperfiction andererseits. Zwei der wichtigsten Zeitkonzepte in Spielen, relative, modulierbare Zeit und die Umkehrung des Zeitpfeils, werden anhand von Beispielen im Detail vorgestellt. Computerspiele, so ist die Schlussfolgerung, sind auf dem Weg zu einem differenzierten Genre, das in der Lage ist, ein zeitgenössischer Physik und Philosophie verpflichtetes Verständnis von Welt literarisch abzubilden.

Introduction

After an early preoccupation with space, labyrinths, topological maps and the like, for two or three years now, time seems to be a favorite playground for those studying digital text. A trigger-text here is Michael Joyce's *Nonce Upon Some Times* (1997) where the revisitation and rereading of nodes in a hypertext is still conceptualized via spatial metaphors but nonetheless rooted in the temporality of the reader's sense-making endeavors. After all, the link not only connects distant pieces of text, it also defers parts of an ongoing text in time. Later papers, like Robert Kendall's Time: *The Final Frontier* (1999) or Marjorie Luesebrink's *Play On: Plot and Pause Points in Hypermedia Narrative* (2000) are concerned with pacing the reader's progress through the text, identifying techniques much like those used in alphanumerical or visual text to give the impression of speed or slowness. But the focus has also shifted to the clashing of player-time, game-time and event-time in digital text, as sketched by Espen Aarseth in his paper on *The Temporality of Ergodic Art* (1999) or Jesper Juul in *Play time, Event time, Themability* (2001). Common to these approaches is that they concede time's tendency to deposit in a linear, unidirectional progression: "Die Struktur für Lesungen ist [...] rückwärts linear und vorwärts verzweigt." (Anderson and Øhrstrøm 1994: 61) This limitation may still determine hyperfiction but is broken and transcended by computer games, eventually freeing the player of temporal determinism as a necessary frame of mind.

Time and freedom

The conception of digital literature and especially hyperfiction has always been connected to a politics of liberation and empowerment – granting the communicating masses access to the means of communication and publication and freeing the reader from the text-creator's authority. Ted Nelson's Xanadu is a political as well as a technological vision. Hypertext theory after Nelson has merged this vision with the anti-authorial strategies of postmodernism in order to create a text into which no author has inscribed a message and from which no reader has to extract a preset meaning, texts that not merely state but enact the reader's empowerment. Approaches like those of Jay Bolter, George Landow or Janet Murray however remain decidedly spatial: they allow only for the three-dimensional projection of the labyrinthine text into a literature of parallel worlds as a contentual manifestation of liberty in and from the text. But the topological web of the digital text is traversed in time as well as space and an aesthetics of temporality might well achieve the subversion of narrative and conceptual closure, while interactivity, multivocality and plurality of meaning are increasingly dismissed as unfit to meet this demand traditionally placed on digital text.

In his 1994 *Narrative and Freedom* (which, admittedly, concentrates on 19th Russian novels), G.S. Morson links the temporal strategies employed by a certain novel to the concept of personal and social liberty it transports. According to Morson, the established literary techniques of fore- and backshadowing force the narrative into a linear causality that is in its final effect historically deterministic and eventually totalitarian. "Chronocentrism and backshadowing come most readily to groups that imagine they possess wisdom inaccessible to their contemporaries and superior to that of their own predecessors." (Morson 1994: 274) To see one's present point in history as the outcome of an inevitable and logical development in time both stabilizes the position of those in power and make it impossible for the disempowered to see an opportunity for change.

As an – at least narrative – way out, Morson offers his concept of sideshadowing: the representation of alternative outcomes – and that means alternative times – on one level with the eventually privileged plot of a narrative. "The imagination of sideshadows [...] may expand our temporal horizons and make us more attentive to historical opportunity. Time is open and will always be open." (Morson 1994: 282) Openness (or the entailments of a lack of closure) is a key-concept of hypertext-theory and Morson's liberation through temporal openness maps neatly onto the unending, indeterminate, parallel and looping text of hyperfiction. From Michael Joyce's *I may have seen my son die this morning* (1996) to *Emily Runbird dead one node and alive the next* (Moulthrop 1991) to the weaving and interweaving of relationships in *Quibbling* (Guyer 1992) – hyperfictions can be described in terms of parallel, forking paths as well as times. However, as Anderson and Øhrstrøm have shown, as soon as a hypertext is being read, the four-dimensional potential plot flattens out into a temporally if not narratively linear path. The reader assembles a hyperfiction one node after another and for her, the text unfolds along the same unidirectional time-arrow on which she herself rides towards the end of her reading-session.

At first, computer games seem to be even more determined and – due to their basis in causality and logic – less temporally multidirectional. However, computer games offer a wide range of unorthodox temporalities that undermine traditional, chronocentric concepts of time far more efficiently and in a far more timely manner than traditional 'static' or non-immersive media can. The qualitative difference between playing computer games and playing real-life games, reading books or watching films is the integration of passing time into the text (Janet

Murray's procedurality). Time does not only pass in an objectively measurable way around the player, the experience of time passing constitutes the perception of the text (a dull book that takes ages to read, a stimulating conversation that seems to fly by) as well as the text itself. Based on this double-function, computer games can contain concepts of time that provide an adequate representation of a world shaped by modern physics and postmodern politics alike. Relative time, time as infinitely malleable, and reversible time are among the most compelling temporal effects in computer games and both contribute to an undermining of our conventional impression of time as predetermined as well as determining. Such effects of unorthodox temporalities can be best seen in adventure games which contain a sufficient amount of narrativity to be compared to and contrasted against the concepts of time the reader is used to from traditional text-media like book or film.

Relative time

Traditional forms like book or film know of various techniques to achieve this temporal relativity-effect, which games have little or no recourse to. The techniques of alphanumeric, narrative text, from sentence- or paragraph-length to foreshadowing and flashback for books or slow-motion and high-speed for film, are impossible to map onto even explicitly narrative games and as soon as they are being used, the game switches from interactive into movie-mode. This shift always brings the act of playing the game to a halt, tears the player from her accustomed position towards the text and forces her to assume a new role. The movie scenes may of course be fast and action-laden or slow and descriptive, but this does not immediately translate into equal game-time. On the one hand, a fast-paced cut-scene may work as a retarding element – like the wolf-fights in *Gabriel Knight II* – on the other, a slowly unfolding sequence may wrap up loose ends or provide key information and thus speed up the game considerably – like the overheard conversation between king and legate in *The Final Curse*. While not a central feature of games, the use of film and its temporal techniques contributes to the fragmentation and disruption of the game's time-line. Interestingly enough, this effect is not reached through the application of intra-medium techniques but through the combination of different media (film and interactive text) that is a constituent of multimedia, thus appearing to be a medium-inherent technique.

Besides this crossover of fast and slow speeds, we also find extreme time-squeezes in games that stretch beyond the conventional clashes of telling-time and tale-time (game-time and event-time) that serve to invalidate time as a pace-maker for our understanding of the world. A game can use the temporal clashes a novel can: highspeed, verbal clues ("10 years later", slow-motion and so forth, but computer games also dispose of and regularly employ a technique Scott McCloud (1994: 94–97) has identified as an inherent feature of comics (or of pictorial art in general): the representation of movement within a single panel/image/screen. In comics, there are not only speed-lines, ticking clocks or verbal descriptions that symbolize passing time, but also the fact that the actions depicted in any one panel or the sound of the words in a speech balloon, take up time as well – time that passes within the narrative of the comic (or painting) as well as in the outside world of the readers/viewers whose eyes move in time to take in the signs on the page. In a book or a film, the reader's/viewer's time would correspond directly to an amount of space taken up by the text. A picture, however, remains still while its story unfolds. This effect adds a third temporal realm to tale- and telling time, the time of the medium.

A similar though not identical effect occurs in computer games with more or less static rooms that have to be explored by the player. In non-real-time-games or those that do not work with timers for their puzzles, game-time does not pass when stills are explored – the player might as well have dashed down to the supermarket for more ramen and coffee (in which case, the game-time would be standing still as well). More often, the player will be busy solving a puzzle or taking in game-related information, both thinking and clicking. Time passes for the player – and only for her, not for the game – and thus has the qualities of point and period at once. But time also passes for the narration that unfolds in the playing of the game and on this level it can be subject to the distortions of tale- and telling time, too. A dyadic and familiar relationship (1:n, like scanning a painting) is suddenly expanded when n turns into in a clashing of time zones no other genre provides. The other end of the spectrum is the so-called real-time game which keeps track even of time spent waiting, where narrative time passes by an idle or even absent player. While in a game like *The Day of the Tentacle*, the character Bernard starts picking his nose when the player is presumably not watching, the player has to pause *The Last Express*, to make fresh coffee – or the character Robert Cath has been arrested and the game is over by the time she returns. In this scenario, a player's time of value 0 maps onto an expanse of game-time which again maps onto an expanse of narrative time that can amount to anything between 0 and n.

With this oscillation, time in adventure games becomes inherently unstable and certainly loses the inexorable measuring quality it had for early arcade-games that translated quarters into game-time. According to Jesper Juul (2000), the computer's capacity to keep pace is a distinctive feature of computer games and indeed, time is a crucial paramter for the internal workings of the computer, like multiplexing, video-indexing/timecoding or real-time-operations. But the potential to break pace seems to be even more characteristic, at least for adventure games which not only use relative time as a formative features but can go so far as to turn time from pacer to pacee by offering the player tools like speed-toggles.

Digital fictions contain the unique possibility to employ as formative parts of the text what traditional, especially print-media usually dismiss as paratexts. "The information contained in these texts is vital to and often also part of the 'main' text presented within the [interface]. [...T]he reader reads the text of the textblocks, but she also reads the text of the link-structure and assembles the final text from both of them, while the link-structure describes the text on a level besides that of content." (Rau 1999: 119) Manipulation of the shell can also be used to achieve effects of temporal instability. The one example that comes to mind readily is *Space Quest I* which offers a unique cross-over between system-time and event time that serves to destabilize time even further than the familiar divergence between game-time, event-time and player's time would. At one point in the game, space-hero Roger Wilco has to pass under a cave-ceiling dripping with acid that would inadvertently eat into his head if the player tries to move Wilco along through the drops. There may be other ways to solve this puzzle, but the most convenient one I found was to call up the menu-bar and toggle the speed option. In *fastest* mode, Wilco had no problem outrunning the deadly drops and could continue on his way unharmed. A game like Space Quest that allows the player to modulate its event-time creates an impression of time as inherently unstable and thus deconstructs our notion of time as given, subject only to the laws of physics, beyond our control.

Reversible time

The above temporal unorthodoxies are all still indebted to a traditional, linear conception of time. Stretched or squeezed or even unstable time always passes along a unidirectional arrow. The reversal of time seems to be the final frontier, inconceivable to us whose bodies are rooted in linear time. Certain branches of modern physics have started to speculate about time-travel, about a means for going back in time, but as far as digital text is concerned, researchers seem to have said good-bye to the possibility: be it categorically (like Espen Aarseth's response to Gunnar Liestøl: "'[L]linearity of time' is a pleonasm and is useless as a categorical description, since there can be no 'nonlinearity of time'." (1997: 43)) or logically (like Anderson and Øhrstrøm). This may be true for hyperfictions which always materialize linearly with every choice made and turn taken. But computer games seem to dismiss the unidirectionality of the time-arrow in their use of 'death'.

Unlike the narrative death we know from the novel (or from the plotline of a game), death in a computer game is never an ending or pivotal point. It functions much like being thrown in a board game, as a sort of penalty – go back to start (only, nicely, computer games allow the player to 'restart' at a point further on in the game) and try again. Thus 'death', but also the player's decision to reload a saved position, takes the player back and forth in a zigzag path through the 'story' of the game – seemingly able to 'turn back the clock'. However, the narrative of the game ignores this reversal – the player's input changes with her advanced knowledge of the game's workings, but most games react to this input as to prior interactions, without taking notice of the restarts and reconsidered approaches. In the text-experience of the player, the loops caused by reloading and restarting stretch along a single line, pointing forward to the end of the game. Reload is conceptualized not as changing events in the past with the help of insights gained in the future, but as a teleological learning process. After all, going back to a saved game or a position determined by the game, the player loses all items collected between this point and the figure's 'death'. A game's reload-function may be the first place to look for unorthodox behavior of time – but it is in fact one of the elements of an adventure game that supports traditional temporality.

Of course Aarseth is right, in a way, when he rejects any notion of 'nonlinear' time. The player is always physically rooted in a time that is ticking off more or less quickly down a singular, unidirectional arrow. For a *real* reversal of time, she would need a time-machine, not a computer game (although a combination of both might turn out to be a top-seller). However, there are games that force the player to at least think time backwards – a hard enough feat as it is. One such game is *The Day of the Tentacle* (*DOTT*), which contains complex and repeated time-travel during which the player has to use reverse reasoning to solve certain puzzles. What makes this game different from narratives of time-travel with achronological events is that narratives once more deposit in a linear progression while in a game at least the player's mind has to work backward against established time.

On the narrative level, *DOTT* establishes a distinct and traditional time-line from past to present to future while a majority of the puzzles supports reasoning that follows everyday causality. If the player accepts the temporal order the game establishes through narrative, then, in order to solve certain puzzles, she has to draw conclusions backward. This disrupts the expected time-experience up to a final questioning if not negation of linear time as a basis for human decision-making. Interestingly enough, *DOTT* also features a plot that contradicts the logic of most time-travel games and turns against a deterministic world-view in Morton's terms.

DOTT starts out much like a typical time-travel adventure: Purple Tentacle drinks from a polluted river, mutates, grows arms and a will to power and sets off to conquer the world (not without pushing over a couple of cows on his way). The teenage heroes Bernard, Hoagie and Laverne quickly decide they have to go back in time in order to prevent the ecocatastrophe and its entailments. This, however, fails, their time-machine breaks down, catapulting the kids to the past, present and future, respectively, and the biggest part of the game is spent in the attempt to meet up again in the present. To this end, objects have to be manipulated and sent back and forth between the times. Usually, this is done past to (present to) future.

For example, Laverne lands in the future where she is stuck in a tree. Although distributed across time, the setting of the game is always the same, a house with surrounding lawns and trees, so that Laverne's tree is the same kumquat Hoagie sees outside the house in the past. In order to free Laverne and be able to use her character, the player has to find red paint (in the past), paint the yellow kumquat red and get George Washington to fell what he thinks is a cherry tree. This effects the disappearance (or rather non-existence) of the tree in the future and Laverne's landing on the lawn from where she can be moved.

After this has been achieved, the player is able to switch freely between all three characters and all three epochs. The distance in time takes on the semblance of a spatial distance the traversal of which would not clash with a current everyday understanding of solid-state physics. But the narrative clearly names time, not space as the crucial parameter, and in fact, modern physics treat time and space as merely two ways of looking at the same phenomenon. But the logical next step, the multidirectional travel not only in space but in time, is still the stuff science fiction stories are made of, not real-life vacation plans. So, by letting the player switch among characters not in different rooms but in different times, *DOTT* departs from a traditional, directed concept of time and leaves chronocentrism behind for an – however enclosed – universe without determinism rooted in temporal constraints.

The game goes a step further still in that it confronts the player with puzzles that can only be solved when the direction of time is thought backwards, when the player uses reverse reasoning. For example, one of the sub-tasks is to get Hoagie's time-machine going again and to send him back to the present. For this, he needs a battery. Bernard sends him a not quite scientific-looking construction-plan from the present. This is the game's first and easiest puzzle (the player is told what to do) and establishes reversed reasoning from the very beginning: a vital object has come into existence some time in the future of the moment when it is actually used. In the next step, the player has to create such an object herself, actively creating a backward-causality. To build the battery, Hoagie needs vinegar – but the only object to be found is a bottle of wine. The player has to combine the bottle with a time-capsule that figures in the game in the past (Hoagie is stranded in the time of the founding fathers about to draw up the constitution), and is still to be found in the future in a historical exhibit that can be accessed by Laverne. If the player then combines a can-opener from Laverne's inventory, she finds that the wine has turned into vinegar over time – a perfectly temporally linear development. This vinegar has then to be sent back to Hoagie in the past where it functions in the battery although in a unidirectional time-frame it would still be only wine.

Back to Morson's concept of temporal freedom. The farewell to chronocentrism in *DOTT* is not merely a gimmick to make the puzzles harder. Back in the present, there is still Purple Tentacle to be taken care of. It soon transpires that Purple Tentacle conquered the world by taking over the world and thus achieving a position where he could multiply himself to a sufficient number to go back to the present and take over the world. The game adds cyclical

to bidirectional time. The tentacles return once more to keep the kids from going back to the past once more and prevent the pollution of the river after all. The player can kill Tentacle there and then, no time-lines needed.

DOTT is not the only adventure game to distort time like this: *Discworld* (1995) has not only reverse reasoning, but also supports the concept of at least bidirectional time narratively, for example with the story of reannual wine which is pressed first and then planted and which one drinks the night after an awful hangover. In *Discworld*, too, the trick of going back to the past in order to right a wrong is at first offered by the game as a useful way to save the world. But what seems to be bound to happen happens no matter what, if one triggering event is forstalled, there will be another way. It's the Grandmother Paradox: If you go back in time and kill your grandmother, "your mother would have never been born, and you would never have been born; if you were never born, you could never go back in time, and so you could not kill your grandmother." (Gott 2001: 11) The paradox can be solved with the rule of self-consistency: "[T]ime travellers don't change the past because they were always part of it." (Gott 2001: 16). Or, for the purpose of Discworld: if there is to be a dragon in the game's present tense, then preventing it from being summoned in the past merely leads to it coming into being by some other means consistent with the plot's development so far.

In *Time Travel in Einstein's Universe*, J.R. Gott tackles the problem that "[s]elf-consistency seems contrary to the common sence notion of free will." (Gott 2001: 17) Gott deflates this problem by pointing out that "[f]ree will did never allow one to do something logically impossible," (17) implying that there are and always will be certain limits to freedom. After all, freedom is also always the freedom of others ... In a narrative setup like that of *Discworld*, the rule of self-consistency – that changing the past does not change the present but makes it into what it was before the traveller left – only puts the player in a position where she has to realize that she needs to confront and defeat the threat to her game-world in the present. This means that no situation is the necessary outcome of actions long completed but that every situation is always up for renegotiation. So instead of reinforcing determinism in a fictional text, self-consistency can be employed to undermine it.

Conclusion

Truth be told, the majority of adventure games on the computer (not to mention simulations, role-playing games and other genres) stick with the traditional concept of time, perpetuating temporal determinism. Certain achronic techniques like the relativizing of time up to its utter destabilization or the reversal of time seem to be inherent in the setup of adventure games on the computer; they are not, however, so formative to the genre that no traditional temporalities are possible. Computer games seem to be better equipped than books or film to represent world-views shaped by contemporary physics and politics – not of necessity, but consciously. This opens up possibilities for the development of a diverse fictional genre in the digital medium that can leave behind its all too obvious roots in the toybox and live up to the promises formulated first for the high-brow digital genre of hyperfiction.

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