4

Temporal Alternatives

In the last chapter, I showed how accelerated gameplay provokes an intense and distracting experience in the player. The speed of play in the examples discussed permits little to no time for reasoning and political action geared towards new undertakings, which shows that time plays a crucial role in political action. In this sense, games participate in the acceleration of contemporary life and—as Benjamin claimed for cinema in his day[1]—may be said to train us to bear present everyday life. In this chapter, I ask whether videogames also challenge this notion of the increasing acceleration of life.

The idea of acceleration is built on the common understanding of time as linear, which serves as the basis for everyday life as much as for its analysis. This linear concept of time is ubiquitous. Frederic Jameson, for example, laments a "colonization of the future," by means of which the time to come appears predictable, thus ruling out alternative possibilities.[2] A similar repressive function of prediction and calculation has been observed by thinkers like Hannah Arendt, who specifically criticizes the practice of "scientifically minded brain trusters" and their tendency to render open hypotheses and predictions into facts.[3]

These observations speak of the pervasiveness of a linear understanding of time and its influence on our present situation. Often in combination with notions of progress,[4] this linear time serves as a widely unquestioned basis for society and economy. Barbara Adam, for example, argues that "[t]he members of such [contemporary industrialised; mer] societies use the concept of time not merely to synthesise aspects of mind, body, nature, and social life, but they also employ it on a world-wide basis as a standardised principle for measurement, co-ordination, regulation, and control."[5]

Robert Hassan claims that the present can be defined as a second empire of speed, which, following the first empire dominated by the clock, is now dominated by global capitalist economy and connected by an information

network, demanding of its subjects flexibility, unquestioning obedience and blind action.[6] In his analysis, Hassan draws on Paul Virilio's pessimistic observations on our increased acceleration. Virilio fears that with this acceleration of the contemporary war of time, "properly human political action will disappear."[7]

However, contrary to common sense, it is far from self-evident that all time is linear, although this understanding appears adequate in the biological realm. Barbara Adam, for example, claims that all time is social time, emphasizing its status as a social construct.[8] Recognizing this constructed character of time, Virilio devotes considerable attention to identifying accidents of acceleration that interrupt the contemporary speed of linear time. In *The Aesthetics of Disappearance*, he discusses the disruptive effect brief "picnoleptic" absences of the mind in the everyday, "[t]he return being just as sudden as the departure, the arrested word and action are picked up again where they have been interrupted," can have on our linear perception of time.[9]

Inspired by Virilio's search for alternative conceptualizations of time, I turn to videogames. Aarseth famously argues that videogames are an example of the "ergodic cybertext," which he defines as a "machine for the production of variety of expression," requiring "non-trivial effort" of its users.[10] The process of making sense of the game world is not only geared towards interpretation, but often as much towards configuration—a practice of acting in favor of a specific goal or situation rather than in a sensible manner in harmony with the narrative.[11]

Aarseth distinguishes between a narratologist approach to game tasks as gaps in the narrative filled in by the users on the one hand, and a ludologist approach to "openings" or "keyholes" in games, which must be filled in order to make the game continue, on the other.[12] These observations highlight the importance of both categories and show that videogames may present us with a different set of means with which to engage with time. In action, the tension between narrative (interpretative) and ludic (configurative) engagement seems to emerge as a promising site of conflict. Moreover, videogames are characterized by a peculiar, contingent, multi-layered temporal structure negotiated by the designers, the player and the computer. Due to their "same-but-different" quality and their potential for complex, "input-sensitive" narratives, which are closely linked with our perception of time, videogame spaces offer various potential sites of temporal conflict.

I would like to consider this temporal structure in more detail before moving on. After all, contingency and repeatability are not limited to videogames or the digital realm, but can be regarded as general features of media. As Fabian Schäfer points out, media display a long history of annihilating the traditional space-time continuum by replacing linear narration with less determined structures.[13] Yet, as Aarseth observes, the peculiar temporal expressivity of the videogame space partly stems from the fact that "the experienced sequence of signs does not emerge in a fixed, predetermined order decided by the instigator of the work, but is instead one actualization among many potential routes within what we may call the event space of semio-logical possibility." The contingent results of player input indicate the importance of the player's temporal experience, as

> ergodic time […] depends on the user and his actions to realize itself. There is no action without a participating observer. At the same time it determines the user's sense of experienced time within the event space. In the clock-work world of the game, events occur when the controlling program enacts them, and when the user acts on the same level. The event time is the basic level of ergodic time.

Further observing that successful player input provokes in-game progression as another layer of temporality, Aarseth suggests that videogames feature three layers of time, namely the time of player actions, the time of game events clocked by the computer, and the time of game progression triggered by successful player action.[14] Matsunaga Shinji discusses time in videogames from a philosophical perspective in a paper given at the annual conference of the Japan Digital Games Association, expanding on it in his PhD thesis, the publication of which is much-awaited. He argues for a three-layered model of time, consisting of real time, game system time and fictional time, which takes fictive time in videogames into account.[15]

With a similar intention to capture the complexity of videogame time, José Zagal and Michael Mateas propose the concept of temporal frames, i.e. sets of events each featuring their own temporality.[16] Granting that other frames exist or may be added in individual cases, the authors identify four common temporal frames, namely real-world time (events happening around the player), game world time (events taking place within the represented game world), coordination time (events that coordinate the actions of multiple actors) and fictive time (application of socio-cultural labels to a subset of events). The layer of coordination time refers to the temporal rhythm of action and the oscillation

between multiple actors as coordinated by the computer. The authors' examples include synchronizing multiple players in a network, but also the temporal characteristics and rhythms of turn-based games. Furthermore, this frame covers the so-called lag caused by weak engines. It remains an important factor in gaming experience, in particular where the analysis focuses on the influence technology plays on the game experience. For the purpose of this chapter, however, I will largely ignore, or rather subsume it under the category of game event time that it partly structures, and from which it remains hard to distinguish in smoothly running single-player games.

In Figure 9, I have sketched how Aarseth's emphasis on ergodic contingency and Zagal and Mateas' model of temporal frames can be combined to model the temporal complexity of the videogame space.

In this model, any gameplay session, symbolized by the large arrows, involves at least three different temporal frames. Multiple sessions (either by different players, or the same player) may contribute to a specific successively unfolding videogame world, in which the player follows a story to the end, or may generate different worlds altogether, in which different stories or events take place.

Interestingly, Zagal and Mateas mention a potential friction between the multiple frames of temporality they invoke to describe videogame time: "The relationships between different, often coexisting, temporal frames within one game can result in a sense of temporality that is inconsistent, contradictory, or dissonant with our experience of real-world time. We call these relationships temporal anomalies."[17] While not elaborated on by the authors, this notion of anomaly (and their choice for this term) is a helpful starting point for the analysis, because it indicates potential temporal conflicts that are disruptive to our "normal" or common temporal understanding. Thus, the relation between the different temporal frames itself may be scrutinized for its contribution to upholding or deconstructing the idea of linear time.

How is this different from the way in which time is "normally" expressed and experienced in media? Analyzing a series of time travel narratives, Marie-Laure Ryan shows how the flexibility of the imagination can be deployed to create temporal paradoxes, which contradict our "intuitive idea" that time flows in a fixed direction, that one cannot go back in time, that causes precede their effects and that the past cannot be changed.

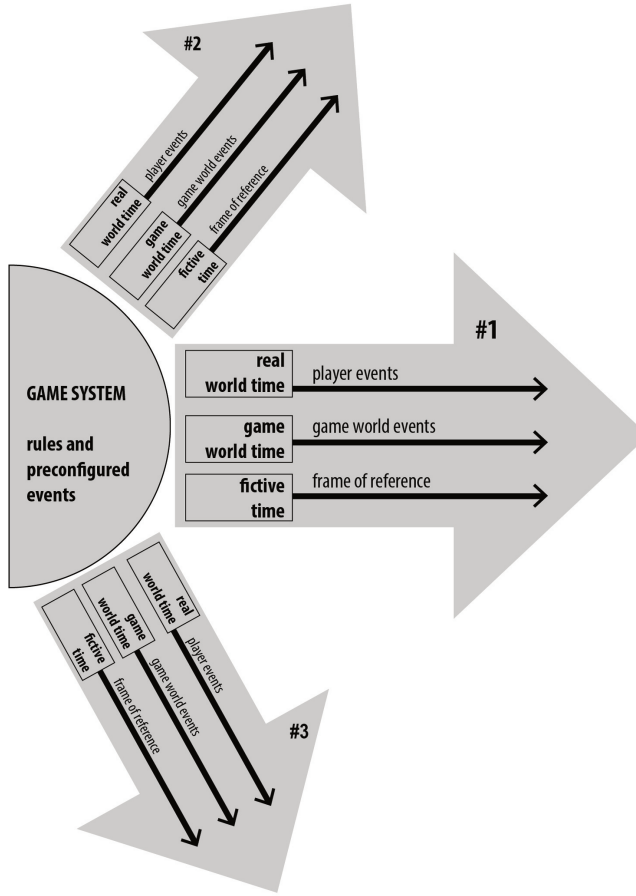

Figure 9. The temporal structure of videogames.

> Whether temporal or not, paradoxes are the unimaginable at the heart of an imaginable world. We deal with them logically by putting them in quarantine, so that they will not infect the entire fictional world; we deal with them philosophically, by regarding them as thought experiments aimed at destabilizing common-sense conceptions of time; and we deal with them imaginatively, by putting ourselves in the skin of the characters whose life is being invaded by the irrational.[18]

Ryan identifies non-linear temporality as "unimaginable" and "irrational." This view is also reflected in more recent works on Narratology. Thon, for example,

argues that "as it is part of understanding a narrative representation to locate the represented spaces of a given situation within the spatial structure of the storyworld as a while, then, it is an equally important part of that process to locate the represented flow of time (or sequences of events) of a given situation within the temporal structure of the storyworld as a whole."[19]

Paul Ricoeur, who devotes much effort to discussing the temporal structure of literary events, goes even further, arguing that our understanding of time is reciprocally connected to the narrative. He claims that "time becomes human time to the extent that it is organized after the manner of a narrative; narrative, in turn, is meaningful to the extent that it portrays the features of temporal experience."[20] This does not mean that narratives are necessarily linear. On the contrary, for Ricoeur, "emplotment" is a dialectic process between succession and configuration. More generally, he tries to identify the non-linear potentials of what he regards as a mimetic three-step involved in the poetic act, by which "a prefigured time […] becomes a refigured time through the mediation of a configured time."[21] In other words, Ricoeur aims to show how the movement from emplotment—the configurative practice that restructures the successive events authored by human action—to the act of reading and making sense of a configuration by linearizing it again, can entail glimpses of non-linear time.[22]

Against this background, the status and character of videogame narratives (fictive time), and their relation to effects of player input in the game world (game world time), may be one potential plane on which linearity is maintained or disrupted in a negotiation between designers (authors of the narrative) and player (constructor of the narrative). What effect does the experience of this negotiation have on our perception of time? Recognizing their complex, multi-layered temporal structure, we need to ask if videogames can deploy their temporality in disruptive ways, thus pointing to a novel understanding of time. In other words, is it possible to perceive time in videogames as something other than it is, or do they provide hints for imagining alternative notions of time? While many games clearly tend toward acceleration and reaction—as various skeptics have commented on—I will show that some titles deploy this potential conflict to disrupt our linear conceptualization of time in a playful way. As will become apparent, this is where the narrative or fictional and aesthetic "skin" of a game becomes a crucial factor: it is no coincidence that most of the games discussed below deal with time travel and its capacity of confronting us with temporal paradoxes. The concept of time is, in other words, best approached in temporal terms.

The End of Time

Time and time travel are central themes in the rpg *Chrono Trigger* (hereafter *CT*). [23] In the game, the player has to lead a group of adventurers to save the earth from its future destruction, traveling back and forth between times as distant as 6500,000 B.C. and 2,300 A.D. Following the example of other Japanese rpgs, the game features several areas—the more common spatial separation is replaced by a temporal one—which must be visited in a more or less predetermined order to proceed. All areas offer various quests at various stages of the overarching narrative and have to be revisited several times. The game world events are strongly pre-structured in the beginning, leading the player through several introductory stages that establish the story and familiarize him or her with the gameplay. Later chapters are more open and, lacking guidance, require more intensive detective work.

While traveling, the player has to combine the strength of multiple characters to solve quests and fight mighty enemies, employing both brute force and magic. In this sense, the game can be said to be an example of the tendency towards sf-fantasy hybrids. At the same time, its temporal structure and time travel theme are clearly framed by a notion of scientific progress—which is reflected on in a side-quest—and thus grounded in "science fictional plausibility." The first of a series of time gates is opened accidentally when a princess' pendant reacts to a scientific demonstration of a teleporter at the Millennial Fair in the game's present. Other gates follow and are revealed to respond to magical forces; but, at the same time, the game features a scientifically constructed time machine called "Epoch," which frees the player from the restrictions the locally bound time gates imposed. This scientific achievement affords an openness and contingency that contributes to the genuine quality of the widely acclaimed feature of multiple endings in *CT* (see Figure 10).[24]

These endings, or rather the entry points to them, emphasize the successive character of the game event time, which is linearized in online walkthroughs by the frequent use of "after" and "before." Departure from the path of the conventional ending "Beyond Time" requires specific actions during certain spans of game event time. The alternative endings also depend on considerable player skills. For example, ending 3 is frequently referred to as the most difficult one to achieve, because the player has to defeat the last boss moments after entering the game, with only two characters and without the additional supplies one can build up later during the game. Due to this structure, the command over game world time through player choice—insofar as events can be delayed

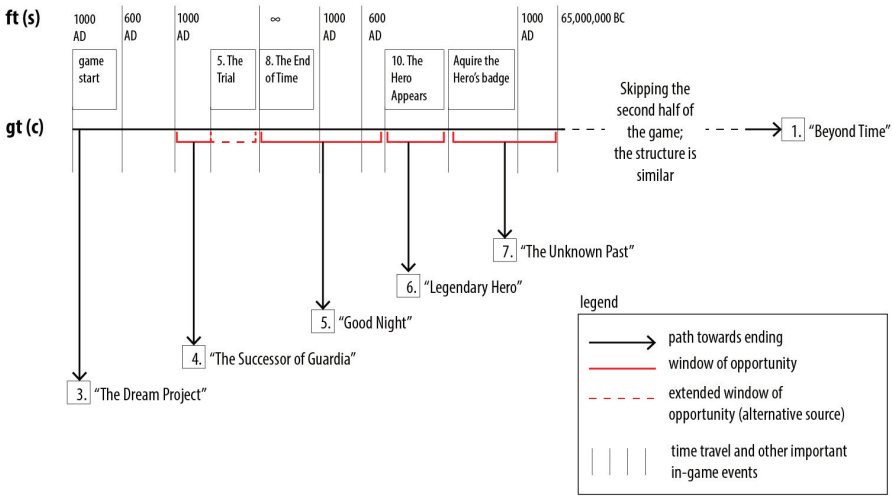

Figure 10. Multiple endings in CT.

or hastened—seems to be reintegrated into a mechanism of acceleration, which rewards higher skills with shorter completion times.

Yet, several objections complicate this conclusion. First, the "quick and skillful" solution to the game removes large portions of the experience, which seems counterproductive considering that the game is supposed to be entertaining. It should also be mentioned that some of the endings, like ending 3, are only accessible after the first successful conclusion. Thus, rather than pointing to short-cuts in a linear narrative, the structure of multiple endings in *CT* encourages repetitive gameplay and extensive skill development. Rather than accelerating or contracting, this structure prolongs the player's experience of the game, in which each ending can be regarded as a puzzle piece needed for "completely completing" the game.

This strategy is described by Ōtsuka as "narrative consumption." In a series of articles written between 1989 and 1991, Otsuka identifies a tendency in Japan's cultural production of the time towards offering the consumer pieces (small stories) that grant access to a larger story or a narrative "world" (*sekai*). In his view, "narrative consumption" motivates extreme activities on the part of the hungry consumers who aspire to complete the puzzle, but at the same time may not be able to control the tendency that consumers who understand the "world" start producing their own parts of it.[25]

As far as the confined space of the videogame software goes, the endings of *CT* do not offer themselves to additions on the part of the player. Nonetheless, Ōtsuka's claim that "narrative consumption" motivates extreme activities on the part of hungry consumers aspiring to complete the puzzle is applicable in the broader media ecology, given the countless amateur derivate works, some of which have prompted an official request for removal by Square Enix.[26] Applying the "same-but-different" quality of games on a narrative level, the promise of alternative endings prompts the player to replay the game and access "more" of its world. At the same time, the multiple endings not only expand the experience beyond the initial completion, but also render narrative time spatial, with player choice as the factor relating the game worlds, challenging the player to explore the *CT* universe by straying from the obvious paths.

The number of endings available limits this potential. Yet, this limitation should not be regarded as restriction per se. On the contrary, if the number of endings was unlimited, their pursuit would become random, arbitrary and meaningless.[27] The spatialization of narrative multiplicity is only effective as long as it stays in touch with defined narrative structures and thus generates a tension between limitation and openness. This suggests that the player not only influences the outcome of the game (its narrative path and ending), but is also able to reconfigure the events individually. At the same time, online walkthroughs show how multiplicity and temporal complexity in *CT* prompt cooperation between various individuals, who all contribute to the goal of understanding the game inside-out, completely completing it even in respect to details not directly relevant for the gameplay.[28]

In its openness, contingency and multiplicity of endings, *CT* appears a model case for the ergodic cybertext and the tension between lasting pleasure and skill-based abruptness. However, it remains coherent even in its contingency. The different temporalities are historically continuous, and the ending variations leave the linear cause-effects relation intact. Whereas some of these appear rather unmotivated, most can be explained logically from the earlier gameplay, such as the appearance (or absence) of several characters the player can choose to rescue, spare or kill during the adventure. As ZeaLitY and others point out, in *Chrono Trigger*

> [t]ime travel is not handled haphazardly, however; rather, it is apparent that the creators of the games worked avidly to build a basic technical framework. This allows consistency in the story and prevents confusing paradoxes. This standard was maintained in

> Chrono Cross, which explained more of the world by introducing the concept of dimensions, countless realities that progress on their own and house their respective timelines. Stories revolving around temporal transforms often suffer from inconsistencies and causal quagmires, but upon close observation, the Chrono series displays a standard of excellence in maintaining plot harmony.[29]

While offering exciting and lasting gameplay experience and a great story, *CT* does not challenge the common linear sense of time, but may even be said to reinforce it. A similar tendency towards narrative coherence and temporal linearity can be observed in other games, like *Final Fantasy X*.[30] Thus, the idea of a linear succession of events that form a causal chain prevails in videogame narratives like those mentioned above. In the light of a recent rise in attention for history and historical memory, including its materialization in memorials, Itagaki Ryūta, Jeong Ji Young and Iwasaki Minoru speak of a "mnemonic turn" in the present.[31] Against this background, the insistence on coherence and linearity in these and other games should at least prompt us to pay attention to how this simplistic structure influences our common perception of time and history.

Narrative Shadows

In contrast to the consistent contingency in *CT*, *Shadow of Memories* (hereafter *SoM*) radically disrupts such overall compatibility with linear time.[32] A third-person adventure, *SoM* centers on the protagonist Eike Kush, who is assassinated in the prologue. Eike wakes up in a strangely disordered space, where the mysterious creature Homunculus offers him assistance in his struggle for survival and his search for the culprit and the reason for his assassination. Accepting, he is presented with a time travel device called a "digipad." In a total of ten chapters, each of which starts with a new successful attempt on Eike's life, the player has to navigate the protagonist back and forth between four time zones, 1580, 1902, 1980 and 2001, and, using the revived Eike, alter the already known future by changing the past. Through Eike, the player can explore his environment and engage in conversations with the inhabitants. All actions take a specific amount of time, and if the player fails to rearrange the past successfully after a certain span, he fails to prevent Eike's death and the game ends.

Like *CT*, the game features several endings depending on certain player choices. A closer look at the relation between the multiple endings and the overarching narrative in *SoM* shows, however, that this game experiments

far more radically with the player's sense of time than *CT* does. The player starts *SoM* without much information about the protagonist or his world. Throughout the chapters, he or she finds an increasing number of hints about the connections between the inhabitants of the different times, their relation to Eike and the reasons why he is targeted in the first place. However, the epilogue reveals that the culprit is, in fact, another character who has obtained the ability to travel through time, and who targets Eike for something he did during his travels to the past—a journey to the past that he embarked on only to avert the threat to his life. To the extent to which this "conclusion" involves a temporal paradox, it suggests the logical impossibility of its narrative, disappointing any expectation of clarity on the part of the player. The multiple endings featured in *SoM* shown in Figure 11 amplify this effect.[33]

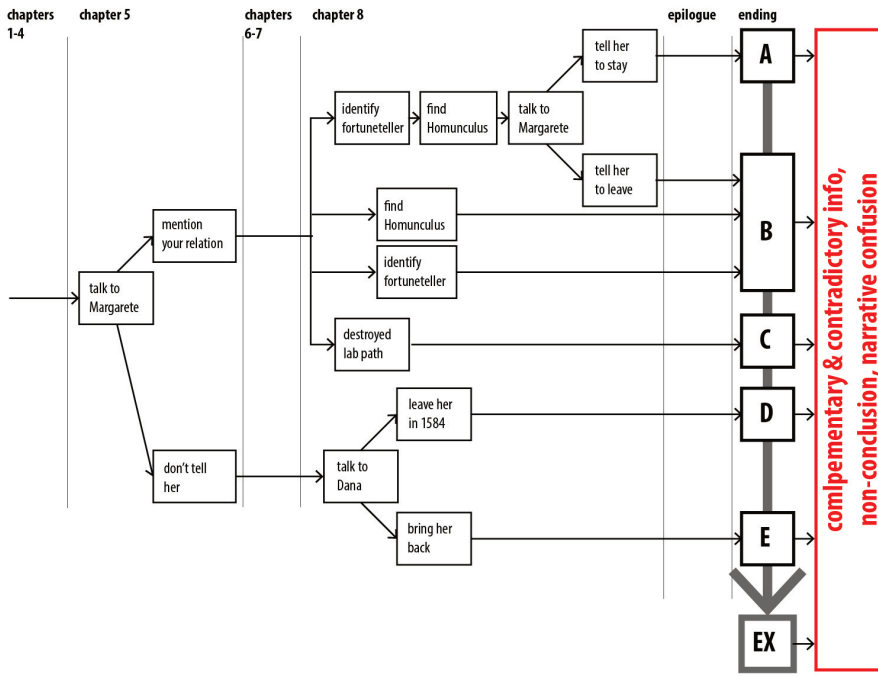

Figure 11. Multiple endings in SoM.

Unlike the coherent picture in *CT*, they confront the player with contradictory conclusions. These conclusions range from eternal life for Eike or the logical impossibility of his existence due to the death of the Homunculus in the past, to Eike's ironical death by accident in the present after the threat is already averted. Thus, the epilogue appears as a stage for the playful, paradoxical and

often deliberately inconsistent treatment of the overarching narrative. While somewhat parodist, these endings do not lose touch with the vague overarching plot, thus tempting the player to engage with their content. In other words, the overarching narrative and the paradoxical, subversive conclusions are related sufficiently enough—and linked by the fictive game history strongly enough—to challenge the player into pursuing them. Yet, ultimately revealing their incoherence, they create what can be called an experience of ontological anxiety. In Ricoeur's terms, one might say that the game offers a glimpse of a non-human time, to the extent that the poetic act confronts the player with a disruptive conflict, because he or she is unable to either emplot or narrate the paradoxical events, or easily dismiss the connections between the events and regard the overarching narrative as postmodern, i.e. fragmented and decontextualized.

Without an overarching narrative in place, the effect of these contradictions would not be experienced as disruptive. However, by means of temporal paradoxes and narrative inconsistencies, the game confronts the player with the impossibility of narrating its events in any coherent way. As with the example of *CT*, the effectiveness of this strategy is made possible and simultaneously restricted by the limited number of endings, directing the player to collect versions instead of aiming for a narrative totality. As Figure 11 indicates, such collecting is promoted by the designers, who reward the successful collector with an additional ending (EX) only accessible once all other endings have been experienced. Once again, then, we are directed toward Ōtsuka's model of "narrative consumption". However, here, the desire for collecting or mastering the game completely is deliberately played out against the impossibility to narrate the game. As long as the player does not abandon or ignore the narrative layer entirely, this conflict between ending collection and narrative closure can function as a conflict that prompts us to question our sense of linear temporality.

Death as Solution

The space of *SoM* offers an alternative to such narrative engagement. Each chapter features several events and cut-scenes unrelated to either the pursuit of the initially proclaimed game goal of survival, or a deeper understanding of the game world history. In Chapter 5, for example, Eike promises the little girl Sybilla a kitten in 1902 (see **Example 4.2**). The player can choose to travel back to 2001 to fetch the kitten or not, or might decide to skip the meeting with Sybilla entirely in favor of a faster pursuit of the chapter goal. Neither choice has any impact on the outcome of the chapter (Eike's survival) or provides more

information about the overarching narrative. However, completing the kitten side-quest contributes to raising the player's achievement in the chapter, as a screen after the ending of the game reveals (see Figure 12).

Figure 12: Achievements during the author's first attempt at SoM.

As with the multiple endings, this feature attracts repetitive play, this time targeting the game system. Contrary to the initial impression of linearity and a scarcity of choice, each chapter offers many more scenes to discover, many more kittens to give, so to speak, each contributing to player achievement.[34] While again pointing to the structure of limited prolongation and complete completion mentioned earlier, the player is confronted with a far vaguer system, which demands more extensive, calculated and planned exploration and collection. The *Percentage FAQ* by JackSpade is not only based on repetitive, interrogative play, but also shows that the complexity of the system prompts multiple theories about its nature, as posited by JackSpade and Roberto Corsaro.[35]

Such approximation of the inaccessible, non-disclosed elements of the videogame space through what could be called a playful process of falsification is a common methodology for playing—and in my case, analyzing—videogames. In *SoM*, this exploration of the system's boundaries can be profoundly disruptive, when it confronts the player with conflicts beyond common sense. Arguably the strongest expression of such conflicts can be found in what JackSpade refers to as "multiple death scenes" (hereafter "mds"). Figure 13 shows

a map of the mds in the second chapter of the game, which I have documented in **Example 4.1**.

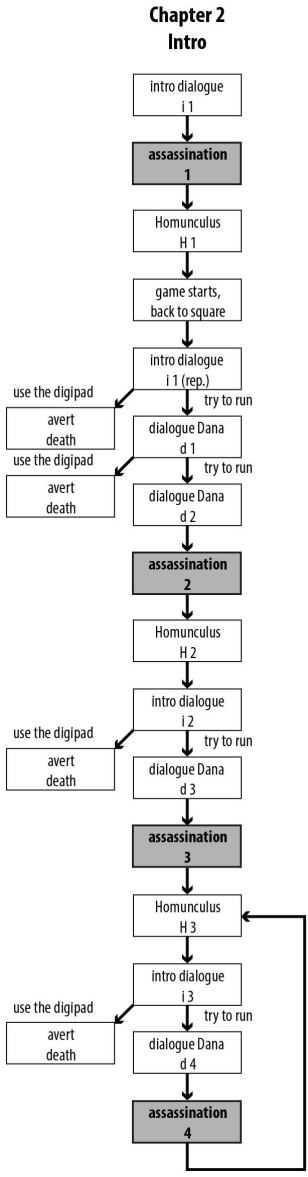

Figure 13. Multiple death scenes in SoM, Chapter 2.

Mds are scenes that add to the achievement and have to be collected by triggering the protagonist's death deliberately. Chapter 2 of the game begins with a cut scene of a dialog between Eike and the non-player character (e.g. characters controlled by the computer, hereafter npc) Dana on the town square, during which the protagonist is assassinated. After the repeated introductory dialog (i1) following the first death, the player can either choose to depart to the past immediately—the move suggested by the blinking digipad and the anticipated assassination—or try to walk away from Dana. The second, initially counter-intuitive move results in a different cut scene conversation with Dana (d1 & d2), followed by another death. After the second assassination, the Homunculus tries to teach Eike how to use the digipad (H2).

Following this, the player witnesses a different version of the introduction (i2). Walking away from Dana once more unlocks another dialog (d3) and a blunter hint from the Homunculus (H3) after the third death. This strategy works one more time (i3 and d4), until the events start repeating themselves after the fourth assassination.

In this way, mds explicitly create a conflict between systematic completion and the original narrative structure and game goal of survival, prompting an active departure from it. Importantly, their disruptive character is not simply a way of enacting another reality, in which death is not the end—the latter is quite common in videogames—rather, its disruptive power is derived from the fact that it is in open contradiction with the reasonable narrative game goal of survival and thus the player's earlier experience of the game. This tension negotiates our understanding of time, actively confronting the dominance of linear narratives and biological time.

In a strange way, the system-oriented play reverses Paul Virilio's dictum that "[e]verything in this new warfare [of the contemporary war of time; mer] becomes a question of time won by man over the fatal projectiles towards which his path throws him. Speed is Time saved in the most absolute sense of the word, since it becomes human Time directly torn from Death."[36] In the assault on the game system and its interest in percentage, the player uses the "immortality" of the protagonist in the videogame space as a probe, subjecting time and even death to the aim of total numerical domination. In the absence of any emphasis on haptic player skills, progression is achieved by repetition and death. To complicate matters further, the mds also contribute to the spatialization and depth of the narrative, as they explore potential directions the conversation might develop in, playfully building on the player's experience of earlier

versions. On a narrative plane, the game comically trades the end of the story (death) for more of its pieces.

This overall structure is, again, not unique to *SoM*. However, because the game deals with time explicitly, these moments are temporally disruptive in an immediate sense, whereas they are simply part of the rules in other cases. The designers indicate that they deliberately aim to trigger reflections and thinking about time, both in an abstract philosophical sense, with themes like destiny, memory, time travel, the Homunculus or eternal life, and in a practical sense related to the player's everyday experience: when visiting the library in Chapter 5 (see **Example 4.2**), the player may pick up a fictive book from the shelf, which asks in its title *Is being busy being happy?*[37] While engaged with narrative play, this appears as a reflexive, almost parodist moment, because the player is busy ensuring Eike's survival and would not stop in order to read the book, even if that was possible. Yet, the game system provides precisely this kind of disruptive escape from narrative linearity and speed at the expense of death. While contributing to a sense of "more" narrative content, it crucially does not contribute to closure or to fully establishing the causal relation between the game events and characters in their various times.

Paradoxical Action

Both *CT* and *SoM* explore the science fictional trope of time travel, albeit in very different ways. *CT* positions time travel (the "End of Time," the "time gates" and the time machine "Epoch") between magic and technology, deploying it to create narrative coherence and to relate diverse game spaces meaningfully. On the level of rules and game system, time travel serves to justify the limitation of the number of active characters at one time, [38] as the OLD MAN explains when the protagonist first reaches the "End of Time" in the game:

> OLD MAN: Why, this is "The End of Time," of course! All lost travelers in time wind up here! […] It is pretty bleak here… But not to worry. All time periods connect here… You can visit your friends whenever you wish! But you can never travel in groups greater than 3… [39]

One might say that, by referring to time specifically, the game draws our attention to the question of how rule-based structures can be translated into a temporal framework. At the End of Time, all potentialities (non-active

characters) wait to be called up by the player. Against the background of the time travel narrative, this might challenge us to imagine a timeless space connected to all moments in history, in which all discarded characters and potentialities in general dwell until further notice.[40]

This "timelessness" of space is, in a way, technically adapted to the Epoch, which allows the player to access any time available in the game at any time. Where Virilio's dromology suggests a reduction of space to temporal immediacy, *CT* reduces history to instant accessibility.[41] At the same time, the game events put the player in charge of speed and rhythm to the extent that they have to be triggered by his or her input. However, in *CT*, this command over the emplotment and the restructuring of time and history it implies, is mostly limited to flânerie and levelling-up before turning to the next task, thus leaving the temporal linearity intact.

In contrast, *SoM* deliberately deploys time travel to create paradoxical situations. Moreover, the player can actively cause and explore them. Frequently, the player enters so-called causal loops. Ryan asserts that "you cannot travel back in time," pointing out the potential conflicts time travel causes for the common one-directional cause-effects relation and the impossibility of changing history.[42] **Example 4.2** shows a contracted version of Chapter 5, the major events of which can be ordered (configured) as in Figure 14.

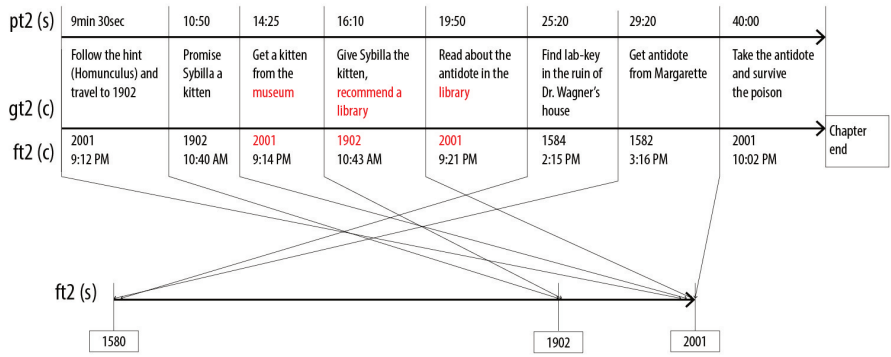

Figure 14. The temporal structure of the main events in SoM, Chapter 5.

The figure includes the successive player time (pt2), the configurative game event time (gt2) and two versions of the fictional time, one referring to the configurative (in-game) and one to the successive (overarching historical) ordering of time. As in other chapters, the player can alter the past in Chapter

5 in ways that effect the present. The red emphasis in the figure shows the paradoxical effects of some of these changes. Eike receives a kitten from Eckart Brum in the museum in 2001. As soon as the player uses him to change the past by recommending a library in the conversation with Alfred Brum, the event in the museum cannot be possible if we conceptualize historical or world time as a linear flow. That is, if the past and the future are connected in the way in which they are commonly perceived, the alteration in 1902 should also have an effect on the present, which follows it even if the player has experienced it at an earlier point in his or her time. This example of a causal loop is an effective use of the multi-layered temporality in videogames, insofar as it contrasts the player's successive experience of the gameplay (pt2)—his knowledge of earlier events and chapters—with the configurative and highly selective character of the events that define the rhythm of the game world time (gt2) but, referring to a fictive layer of historical dates, also point to successive time (ft2).

The references to a successive history throughout the game are deployed in a disruptive and ontologically threatening way, because the fictive history (ft2) contradicts the player's successive experience (pt2) of the *SoM* universe and its events (gt2). The only way to explain the events is by translating the configurative game world time into a successive story of progress with regards to the task of surviving. Such linearized game world time marks the difference between what Ryan distinguishes as a pragmatic sense of time based on our everyday experience and a purely temporal sense of time. She argues that backward causation only appears reversed in a pragmatic sense, whereas, in a strictly temporal sense, one might say that time runs in one direction but some causal relations run in the other.[43] With this distinction in mind, one could say that some events of the game world time in *SoM* are diagonally opposed in their causal direction to its fictive time. This not only provides an explanation for the temporal structure itself, but also indicates that, from the perspective of player experience and his or her pragmatic sense of time, this reversal can appear disruptive precisely because it goes against intuition, prompting him or her to make sense of the conflict or anomie between the temporal frames.

Philosopher David Lewis suggests such an alternative when discussing the paradoxical nature of time travel in the second volume of his *Philosophical Papers*. Lewis distinguishes external time or "time itself" from personal time, the latter functionally understood as "that which occupies a certain role in the pattern of events that comprise the time traveler's life." In order to solve the problem of diverging temporalities, he suggests that "whereas a common person

is connected and continuous with respect to external time, the time traveler is connected and continuous only with respect to his own personal time." Based on this distinction, Lewis proposes to solve the paradox of "inexplicable causal loops"—instances where a time traveler erases the cause of his own existence—by replacing the concept of successive time with that of a "branching time," the branches of which would have to be separated "not in time, and not in space, but in some other way."[44]

From this perspective, each event potentially marks the beginning of a new branch from the traveler's point of view. i.e. who does not return to an altered future, but to an alternative one on a different branch. In the context of videogames, one could identify the player's actions as the link between different temporal branches, which is frequently discussed in terms of labyrinths and tree structures. The structure of the multiple endings in *CT* and *SoM* illustrated above can be regarded as examples in this respect. Likewise, one can conceptualize the alterations made during time travel as bifurcation of temporal branches in the game world time (with Lewis, "time itself"), which remain linear in the successive experience of player time ("personal time").[45] This observation highlights both the importance of action for relating the worlds of a videogame space, and the crucial contribution the successive frame of player time makes to our experience of videogame time. The confusion arises precisely because the player has "just" visited the same historical period and was then confronted with a different place than she is now. Arguably, a similar structure is in place in *Chrono Trigger*.[46] Yet, a closer look at Chapter 5 of this game reveals that the temporal structure of *SoM* is even more complicated, once we take the mysterious—somewhat magical—creature Homunculus and its dwellings into account. In Figure 15, I have related the game events and the successive player experience of the introduction to Chapter 5 with the fictional time of the protagonist.

The figure shows how *SoM* creates an intricate multi-layered temporality by reviving the protagonist after death. The game presents the player with the successive experience (pt1 pt2) of two alternative configurations of events, gt1 and gt2, which are both related to the fictive in-game time ft1. During gt1, the fictive duration of the dinner sequence or Eike's death cannot be determined. Considering that Eike is outside on the street at the beginning of gt2, when the player takes command, it seems safe to assume that he has already had his deadly meal. However, given that it takes only 1:45 minutes for the poison to take effect during gt1—the time dialogs take is reflected fairly accurately on the

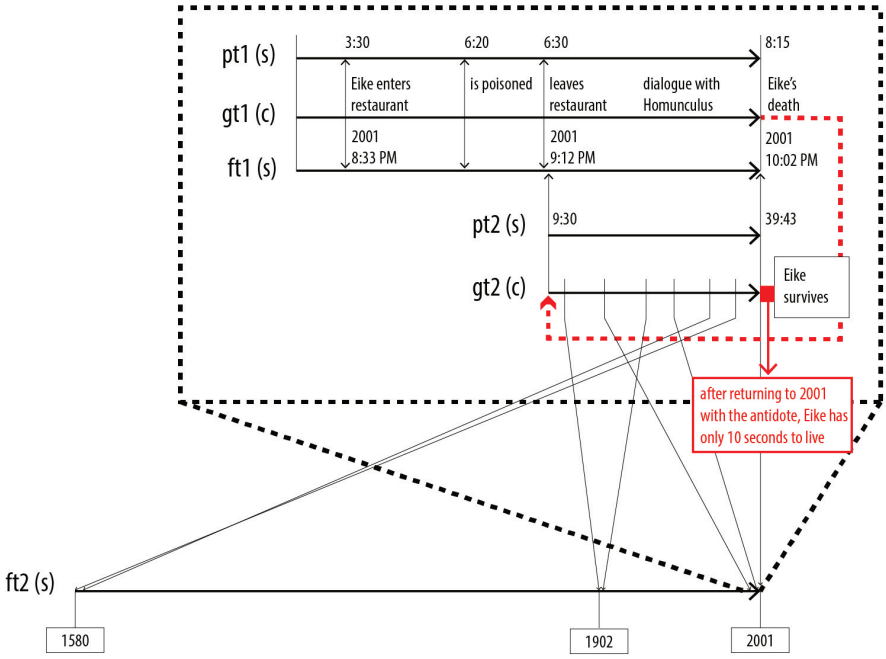

Figure 15. Temporal multiplicity in Chapter 5 of SoM.

progression of fictive time of the game—the amount of time the player has to solve the puzzle in gt2 contradicts this hypothesis. If, on the contrary, Eike has not been poisoned yet, one might wonder when the attack is committed, given that the player controls Eike during gt2. Yet, when we travel back to 10 pm in 2001 after obtaining the antidote, the same Eike is already intoxicated and has only ten seconds to live—this span is fixed, regardless of how long the player takes to solve the riddle.

If the strange "doppelgänger" is not ascribed to the mysterious, magical powers of the Homunculus, this paradox can only be explained if we accept that Eike has split for some time and merged again (hence the two fictional timelines in the figure), combining both experiences/histories as soon as the quest for the antidote is completed. Thus, while *SoM* suggests some coherence on the surface, a closer look reveals that time travel is deployed here in a vague, not necessarily logical way. This is not entirely surprising, given that the game begins with the resurrection of a dead protagonist. However, it nonetheless provokes the player to think about its temporality and question its possibility, to the extent that even branching time cannot cover. The player, who experiences

both gt1 and gt2, is left with a strange uncertainty caused by the fact that the structure of each chapter makes enough sense to be enacted successfully with ease (guided by the rules), but at the same time appears logically and ontologically impossible (on the narrative plane). The game presents us with a conflict between the clear sense of time applied when solving the puzzles and a radical, impossible temporal structure of the narrative. It may prompt us to wonder whether the everyday practice of reducing temporal complexity to a functionally framed, linear set of events also obscures our own temporal complexity.

To the extent to which the temporality generated in this conflict does not follow common sense or logical considerations, the effects of a player's actions are not fully predictable and can only be justified on the basis of the game system and its requirements. *SoM*'s repetitive and tentative attempts in trial-and-error fashion allows us to play with and experience its temporal complexity beyond logical or imaginative engagements. In addition to Ryan's list of logical, philosophical and imaginative ways to deal with temporal paradoxes and fictional "irrationality," *SoM* offers the player a space for experimenting with such paradoxes in action.

Experiencing Non-Linear Time

As I have shown, temporal conflicts emerge on various levels in the negotiation between the designers who set the rules and authorize the narrative space of a game, and the player, who enacts and experiments with it. Any game can be reduced to a "ludic" engagement consisting of reaching the goal or conquering the games entire geographical or narrative space by visiting all places and collecting all endings. However, as soon as we take notice of the content, games that explicitly deal with time like *Chrono Trigger* and *Shadow of Memories* offer a variety of perspectives on temporality, which can be experienced and playfully explored in action. Moreover, while luring the player into a mode of "narrative consumption," i.e. the attempt to understand the game's narrative world, *SoM* ultimately disrupts the player's sense of narrative coherence in several ways, thereby creating an ontological and temporal uncertainty. In Figure 16, I have tried to map the various conflicts discussed above in the original model of the temporal structure of videogames.

Such uncertainty is created by the multiple, paradoxical and contradictory endings in *SoM*, which create a tension with the expected narrative closure, thus disrupting our sense of a linear story and history. On another level, the narrative

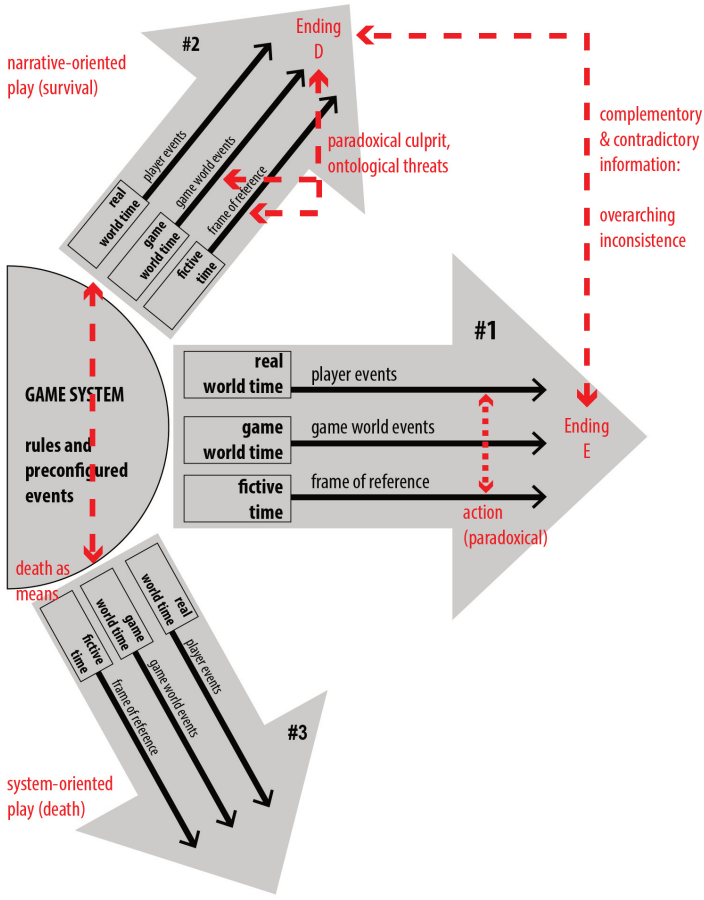

Figure 16. Temporal disruption in SoM.

goal of survival and its underlying assumption of linear, biological time is contrasted with a systemic goal of collecting scenes and raising achievements, at times by actively departing from the narrative and thus from linear time. A last, profoundly disruptive conflict was shown to exist in the tension between linearity and action itself. Here, the player is the source of conflict, because he can not only enact paradoxes of time travel, but also proceed despite the contradictory or inconsistent temporal character of the world.

The intensity of this disruption on the player is debatable, not only due to the abovementioned possibility of "ludic engagement," but also, because the players may choose to ignore or avoid these conflicts.[47] However, in my experience,

it is precisely this balance, between curiosity and ignorance the game manages to strike well in its mixture of familiar structures and otherness. By representing the contradiction as an experienced result of a variety of contradictory elements and layers, *SoM* arguably succeeds in "expressing" a situation that is commonly regarded as difficult to represent.[48] Doing so, the game shows that videogame space has the potential to confront the player with a paradoxical temporality that can be enacted even if it cannot be emploted with sufficient coherence. For Ricoeur, the plots we invent are "the privileged means by which we re-configure our confused, unformed, and at the limit mute temporal experience." Understanding, in his view, is grasping the operation that unifies events into one whole and complete action.[49] However, if the conflicts highlighted above succeed in confronting us with temporal uncertainty and reject the plot, such understanding is not possible. This impossibility may leave the player puzzled and curious about alternative times, but not deprived of actionable choices. This is significant because it offers a new way of engaging with paradox situations and, by extension, with non-linear time. In *SoM*, we may not be able to imagine non-linear time immediately, but we are able to approximate it in action and experience. Even if the contradiction is not present in one situation (like a door that is open and closed in the same moment), it is present in one videogame space and palpable in the experience of the player.

In all cases, the disruptive conflicts risk being ignored. In this respect, the science fictional device of time travel, and that of the Homunculus, appear as a particularly direct, deliberate and explicit way of both achieving such a tension, and resolving it—after all, their existence can be blamed for all inconsistencies if necessary. Nonetheless, I believe *SoM* should be regarded as a successful example of disruptive temporal conflicts or "anomal" temporal moments that challenge the player to think about the nature of time and its mechanisms.[50] These conflicts include the possible failure to structure gameplay experiences in *SoM* in narrative terms, which, given Ricoeur's insistence on the reciprocal relation between the narrative and human time, can be interpreted as a sign of radical, non-human temporality.

Videogames like *SoM* might not offer a concrete alternative conceptualization of time—given the difficulty of explaining time in general, this is not surprising. However, the disruptive conflicts identified arguably have a similar, if not stronger effect as Virilio's "picnoleptic" absences of the mind, of which he claims that

> [i]f you admit that picnolepsy is a phenomenon that effects the

> conscious duration of everyone, […] anyone would now live a duration which would be his own and no one else's, by way of what you could call *the uncertain conformation of his intermediate times*, and the picnoleptic onset would be something that could make us think of human liberty, in the sense that it would be a latitude given to each man to invent his own relations to time.[51]

To the extent that *SoM* allows us to reconfigure, restructure and play with time beyond linearity and even beyond logics, it confronts us with temporal liberty in a distinct, radically experiential way. In literary fiction,

> [n]arrative paradoxes are like the holes in a Swiss cheese: they only exist as holes because they are surrounded by a solid texture of rational events. They differ from what is commonly regarded as "plot holes" in that they are an integral part of the plot and a source of meaning, rather than an inadvertent contradiction or insufficiently justified motivation that the reader either oversees, forgives, or regards as a defect.[52]

In games, the player can configure time on multiple levels, and repeatedly so. Whereas narratives involve a disruption of linear time only in the emplotment of actual events, the disruptive potential of *SoM* is grounded in the fact that the player can configure events already on the level of the events that serve as the basis for the emplotment.

On the level of design, this recurs on the same-but-different structure and the input-sensitivity of videogame space, which grant the player access to different temporal configurations within the same game space. This allows her to compare various endings or juxtapose the pursuit of survival with the deadly systemic achievements. On the level of the player, this disruptive potential relies on repetition and the contingency of player action, as much as on the player's memories of the successive experience of game events or multiple versions of the game world in the frame of real-world time.

Michael Nitsche observes that reversal and repetition in videogames have a distinct expressive quality because they are experienced as different due to the knowledge the player gained in each attempt.[53] Drawing on these observations in his discussion of memory in videogames, Mukherjee argues that "[w]hen the gamer revisits and replays a certain part of the videogame many times, the actions might look the same and the remembered instances might all

be seen as copies of each other. However, these remembered instances vary and paradoxically, although they might represent the same event, they are different."[54] Here, difference is a function of the accumulated memories of the player, which change the perspective on a scene with each repetition. In *SoM*, the designers turn this effect upside down by consciously disrupting the player's sense of continuity and rejecting her attempts to connect the events experienced during multiple successive playing sessions.

Insofar as videogame play not necessarily depends on interpretation, but more directly on action, Ricoeur's model of the successive mimetic three-step might have to be revised in a sequential study. The player is not only in part responsible for configuring or "emploting" the videogame space through configurative gameplay (mimesis 2, targeting game world events), this emplotment is also immediately experienced, interpreted (mimesis 3) and can in turn be adjusted. This suggests a partial coexistence of the second and third mimesis. Furthermore, in the absence of certainty, the "worldly" actions (mimesis 1) that serve as the basis for the poetic act (mimesis 2), are in part actions the player has to carry out in order to make sense of the world and its plot. In other words, in the closed space of a videogame, the player contributes to all three mimetic steps, albeit in a limited sense insofar as it is pre-structured by the designers (emplotment). From this vantage point, videogame temporality may be regarded as contraction of the mimetic three-step described by Ricoeur, and a merging of its protagonists.

We may find a similar negotiation between designers and player to be at work on a structural level in other games as well. However, I believe that *SoM* stands out precisely because it engages with time both on the level of rules, and on that of the narrative. The game depend on a powerful narrative and its suggestion of coherence for its tension. Thus, content clearly does matter in this case. On a more general note, *SoM* shows that the disruptive, experimental quality of repetition and playful exploration with regards to time is possible to the extent to which it is limited: Ricoeur's insistence on the reciprocal relation between narrative and human time here appears as the condition for temporal disruption, with the human player as the agent of a successive experience. How else could the shifts and breaks be meaningful?

Notes

1. Benjamin, "The Work of Art in the Age of Its Technological Reproducibility: Second Version."

2. Jameson, *Archaeologies of the Future*, 228.

3. Arendt, *On Violence*, 6–7.

4. Gellner, *Thought and Change*, 40–49.

5. Adam, *Time & Social Theory*, 9.

6. Hassan, *Empires of Speed*, 16–17.

7. Virilio, *Speed and Politics*, 159.

8. Adam, *Time & Social Theory*, 16.

9. Virilio, *The Aesthetics of Disappearance*, 19.

10. Aarseth, *Cybertext*, 1–3.

11. Similar observations have been made by a variety of game scholars. In his attempt to rescue videogame studies from the alleged colonization by literary or film studies, Eskelinen claims that "the dominant user function in literature, theatre and film is interpretative, but in games it is the configurative one. To generalize: in art we might have to configure in order to be able to interpret whereas in games we have to interpret in order to be able to configure" (Eskelinen, "The Gaming Situation"). Tavinor, for example, observes that videogame fictions "have mixed uses [...] and the function as a game seems to be somewhat inconsistent with the function as a narrative" (Tavinor, *The Art of Videogames*, 115). In a similar sense, Galloway states that "while games have linear narratives that may appear in broad arcs from beginning to end, or may appear in cinematic segues and interludes, they also have nonlinear narratives that must unfold in algorithmic form during gameplay" (Tavinor, 115).

12. Aarseth, *Cybertext*, 110–11.

13. Schäfer, "Virtual Death of the Human Being: Time and the (Ir)Reversibility of Choice in Digital Media," 103.

14. Aarseth, "Aporia and Epiphany in Doom and The Speaking Clock," 33, 37–38.

15. Matsunaga [松永], "Bideogēmu ni okeru jikan"; Matsunaga [松永], "Bideogēmu ni okeru imisayō."

16. Zagal and Mateas, "Time in Video Games: A Survey and Analysis," 848–51.

17. Ibid., 854.

18. Ryan, "Temporal Paradoxes in Narrative," 160.

19. Thon, *Transmedial Narratology and Contemporary Media Culture*, 47–8.

20. Ricoeur, "Narrative Time," 169; Ricoeur, *Time and Narrative, Vol. 1*, 3.

21. Ibid., 178–79; Ricoeur, *Time and Narrative, Vol. 1*, 54.

22. Ricoeur, *Time and Narrative, Vol. 1*, 82–83.

23. *Chrono Trigger* was created and released by Squaresoft (today Square Enix) in 1995 for Nintendo's Super NES and in the version used here ported by Tose for the Sony Playstation in 1999. Outside of Japan, the game was first released for the Nintendo DS in 2008. If not stated otherwise, knowledge about the game originates from my own gameplay or the "Chrono Trigger" section of the wikia "Chronopedia - Chrono Trigger."

24. Compiled based on Haunter120, "Chrono Trigger – Walkthrough"; McFadden, "Chrono Trigger – Walkthrough/FAQ (PSX)"; nemiminijam, "Kurono Torigā Zen Endingu Risuto"; Pringle, "Chrono Trigger Endings"; wikia, "Chronopedia – List of Chrono Trigger Endings."

25. Ōtsuka [大塚], *Teihon Monogatarishōhiron*, 19–20.

26. Square Enix, "Cease & Desist."; ZeaLitY, "Cease & Desist Letter."

27. As HIRYUU ("Chrono Trigger Endings.") puts it on rpgclassics.com: "Ah, Endings. They give games life. What a great advent for the gaming community. Sure, Pac-Man can be fun, but is it really fun to just keep playing until the game simply crashes on you? We, as a society, yearn for closure, and the endings provided in the games give us satisfaction, and they allow us to reflect back on our accomplishment, and realize that we have become the masters of our domain. We have taken this untamed beast of a game, and completed it, and the ending for the game is our great reward. Often, games may disappoint with their endings. A simple showing of the credits and little else (or that stupid 'That's Benjamin, you nut!' line in FF: Mystic Quest). Luckily for us, Chrono Trigger features a multitude of endings for our greedy selves."

28. See for example the credit sections of "A" Tadeo's "Chrono Trigger Walkthrough and FAQ," or KoritheMan's "Chrono Trigger FAQ/Walkthrough (SNES)." This kind of voluntary, intense cooperation is quite common in videogames and deserves more attention from the perspective of community studies—attention this book cannot grant it. It would be interesting to revisit Ōtsuka's concept of "narrative consumption" in the context of cooperation for the "colonization" of videogame worlds. Such collaborative player engagement with the games possibly offers a different experience than that suggested by individual collection. At the same time, it is an intended part of the marketing. Furthermore, as Galloway points out, networks are far from innocent or oppositional today.

29. ZeaLitY and others, "Principles of Time and Dimensional Travel."

30. Washburn, "Imagined History, Fading Memory: Mastering Narrative in Final Fantasy X."

31. Itagaki [板垣], Jeong [鄭], and Iwasaki [岩崎], "'Higashi Ajia no Kioku no Ba' o Tankyū Shite," 8–9.

32. Lead designer of *SoM* is Kawano Junko (河野 純子). The game was released by Konami for the PS2 in 2001, and later ported to the XBOX, the PC, as well as recently to the Playstation Portable. In the US, it is published as *Shadow of Destiny*.

33. Compiled from Virgil, "Shadow of Destiny Ending FAQ"; Wikipedia, "Shadow of Memories."

34. Tavinor argues that the gameplay in *SoM* is too inert and limited in its choices and its interactivity. In his view, *SoM* provides "only very superficial authorial control on the part of the player"and, he adds, necessarily so, since "definiteness" is a crucial factor for narrative success (Tavinor, *The Art of Videogames*, 126–27.). I have made similar claims about the importance of closure and finiteness above, and agree with Tavinor that *SoM* offers less contingency than open-world games. However, unable to exhaust the game in my explorations on either the narrative or the systematic level, I have to admit that I do not agree with his claim about the lack of choices.

35. JackSpade, "Shadow of Destiny: Percentage FAQ." See also Appendix A.

36. Virilio, *Speed and Politics*, 46.

37. I am grateful to the late Harold Hays (Leiden University) for pointing this out.

38. As with most single-player role-playing games, *CT* features multiple characters

who are different from each other in appearance, skills, and function within the group. Given the limited number of characters allowed in the fights, the player has to decide on which characters make the best combination, rearranging them according to the upcoming tasks and adversaries.

39. *Chrono Trigger*; translation taken from WaterExodus, *Let's Play Chrono Trigger Episode 11 – To the End of Time! Spekkio, Master of War!!!*

40. For more detailed information, see the Chronocompendium page on "Time Error."

41. To the extent to which this temporal multiplicity can be translated into a spatial multiplicity, a similar structure can be found in most rpg, in which the player traverses great distances in the beginning—only to be presented with accelerated or even instant transportation means later on in the game. Themability appears also on this level.

42. Ryan, "Temporal Paradoxes in Narrative," 150–51.

43. Ibid., 154.

44. Lewis, *Philosophical Papers*, 2:69–80.

45. The implications of this claim cannot be fully explored here. The myriad ways in which the player can actively influence a game world reality could suggest that, on a theoretical level, even the metaphor of branches cannot cover the situation comprehensively. This problem seems to be closely related to Lewis' differentiation between actualization—here, the choice of a path somewhat predefined by the designer—and actual change—something not intended in the game system. "You cannot change a present or future event from what it was originally to what it is after you change it. What you *can* do is to change the present or the future from the unactualized way they would have been without some action of yours to the way they actually are. But that is not an actual change: not a difference between two successive actualities" (Lewis, 2:76). This suggests that the character of the action and its relation to the game world might be framed as ranging from meaningfully-actualizing to radically-meaningless and unpredicted. It would be interesting to discuss these issues in more depth against the background of repetition.

46. ZeaLitY and others, "Principles of Time and Dimensional Travel."

47. Thon's emphasis on the importance of "charity" for the mental construction of a storyworld by the player suggests as much. As mentioned in Chapter 2, he claims that "recipients will generally try to exhaust every possible alternative explanation before trying to imagine a logically impossible, contradictory local situation or a logically impossible, contradictory global storyworld," or even ignore inconsistencies when creating the mental image of a storyworld (Thon, *Transmedial Narratology and Contemporary Media Culture*, 61–62).

48. Thon, *Transmedial Narratology and Contemporary Media Culture*, 59.

49. Ricoeur, *Time and Narrative, Vol. 1*, x–xi.

50. These contradictions may cause a vague feeling of disruption even if the player does not attempt to find reasonable explanations in every instance.

51. Virilio, *The Aesthetics of Disappearance*, 31–32.

52. Ryan, "Temporal Paradoxes in Narrative," 160.

53. Nitsche, "Mapping Time in Video Games," 149.

54. Mukherjee, "Re-Membering and Dismembering: Memory and the (Re)Creation of Identities in Videogames," 8.