Maria Lehtimäki

Literature in Rational-Choice Terms

Decision-Focused Literary Analysis of the Forking Paths Narratives *Dark Matter* and *The Post-Birthday World*

UNIVERSITY OF JYVÄSKYLÄ

FACULTY OF HUMANITIES AND
SOCIAL SCIENCES

Maria Lehtimäki

Literature in Rational-Choice Terms

Decision-Focused Literary Analysis of the Forking Paths Narratives *Dark Matter* and *The Post-Birthday World*

Esitetään Jyväskylän yliopiston humanistis-yhteiskuntatieteellisen tiedekunnan
suostumuksella yliopiston vanhassa juhlasalissa S212
syyskuun 15. päivänä 2023 kello 12.

Academic dissertation to be publicly discussed, by permission of
the Faculty of Humanities and Social Sciences of the University of Jyväskylä,
in Old Festival Hall S212, on September 15, 2023, at 12 o'clock.

JYVÄSKYLÄN YLIOPISTO
UNIVERSITY OF JYVÄSKYLÄ

JYVÄSKYLÄ 2023

ABSTRACT

In this doctoral thesis, I addressed the coordination problem between literary studies and game theory by investigating the ways in which the systematic study of decisions can contribute to the understanding of literature. While there have been attempts to connect the two fields (Brams 2012; Swirski 2007), the interactions between them have been limited and rather pessimistic (Lanham 1973), especially within the literary faculties.

Building on the work of game theorist Steven Brams (2012; 1994), who first identified the coordination problem, I committed to providing the so far under-represented point of view of a literature scholar. After a critical examination of previous studies that located nine concrete aspects of the coordination problem, I distilled them into three guidelines for studying literature in rational-choice terms. Committing to these guidelines, I employed a methodology that combined the decision theoretical *frame-sensitive reasoning model* (Bermúdez 2021) with diverse narratological toolboxes in the analysis of two micro-speculative narratives about the outcomes of a choice made by the protagonist (i.e., *forking paths narratives*): Blake Crouch's *Dark Matter* (2016) and Lionel Shriver's *The Post-Birthday World* (2007). First, I studied how focusing on the structural details of the literary narrative could enhance the understanding of the literary decision-making process, and secondly, I examined how focusing on the strategic structures of the plot could enrich the understanding of the narrative.

The results of the study showed that *contra* prior understanding according to which the decision-making process was solely a plot-level phenomenon, even highly intricate stylistic aspects participated in the construction of it. The results also showed that studying the strategic structures of the plot through game-theoretic modeling can provide a tool for addressing characters' decision-making in a systematic way. While these results are promising, the restricted scope of this study cannot offer more than a starting point, and standardization of practices is an important next step to studying literature in rational-choice terms.

Keywords: speculative fiction, forking paths, coordination problem, frame-sensitive reasoning, literature in rational-choice terms

TIIVISTELMÄ (ABSTRACT IN FINNISH)

Tässä väitöskirjassa käsittelin kirjallisuudentutkimuksen ja peliteorian välistä koordinaatio-ongelmaa tutkimalla, miten päätöksenteon systemaattinen tarkastelu voi lisätä kirjallisuuden ymmärtämystä. Yrityksiä näiden kahden alan yhdistämiseksi on tehty (Brams 2012; Swirski 2007), mutta niiden välinen vuorovaikutus on ollut rajallista ja melko pessimististä (Lanham 1973), erityisesti kirjallisuustieteiden sisällä.

Tukeuduin koordinointiongelman ensimmäisenä tunnistaneen peliteoreetikko Steven Bramsin (2012; 1994) työhön ja sitouduin tarjoamaan kirjallisuudentutkijan toistaiseksi aliedustetun näkökulman. Tarkasteltuani kriittisesti aiempia tutkimuksia paikansin yhdeksän koordinointiongelman konkreettista piirrettä ja purin ne kolmeksi ohjenuoraksi alojen yhteistyön koordinoimiseen. Näihin suuntaviivoihin sitoutuen yhdistin tarkastelussani päätösteorian ja narratologian välineistöä. Aineiston muodostivat Blake Crouchin tieteisromaani *Pimeää Ainetta* (2016) ja Lionel Shriverin parisuhderomaania *Syntymäpäivän Jälkeen* (2007). Teokset edustivat *haarautuvien polkujen narratiivia*, eli tarinatyyppiä, joka keskittyy päähenkilön tekemän valinnan seurauksiin. Tarkastelin sekä tyylillisten ja rakenteellisten piirteiden merkitystä päätöksenteon prosessin rakentumisessa että hyötyjä, joita juonen strategisen piirteiden hahmottamisesta saattaisi olla.

Tutkimuksen tulokset osoittavat, ettei päätöksentekoprosessi rajaudu yksinomaan juonen tasolle, ja että peliteoria voi tarjota hedelmällisen välineen kirjallisuuden hahmojen päätöksenteon järjestelmälliseen tarkasteluun. Kirjallisuuden tutkimus päätösteoreettisesta näkökulmasta kaipaakin ensisijaisesti alojen välisten käytäntöjen standardoimista.

Asiasanat: spekulatiivinen fiktio, koordinaatio-ongelma, kehysvaikutus, päätöksenteko, kirjallisuus rationaalisen valinnan näkökulmasta

SAMENVATTING

In dit proefschrift werk ik een oplossing uit voor het coördinatieprobleem tussen de literatuurwetenschappen en de speltheorie. Ik onderzoek hoe de systematische analyse van besluitvorming kan bijdragen aan onze interpretatie van literatuur. Hoewel er al eerder pogingen zijn gedaan om de speltheorie met de geesteswetenschappen te combineren (zie Brams 2012 en Swirski 2007), is de interactie tussen de twee onderzoeksvelden altijd beperkt gebleven (zie bv. Lanham 1973), vooral aan de kant van de literatuurwetenschappen.

Als antwoord op het werk van Steven Brams (2012; 1994), die als eerste het coördinatieprobleem formuleerde, vertegenwoordig ik het tot nu toe onderbelichte perspectief van de literatuurwetenschapper. Op basis van een kritische analyse van eerder gepubliceerd onderzoek waarin de literatuurwetenschappen wordt gecombineerd met de speltheorie, formuleer ik drie richtlijnen voor het bestuderen van literatuur in rationelekeuzetermen. Ik gebruik het *frame-sensitive reasoning model* (Bermúdez 2020), alsmede verschillende verhaalanalytische methoden, om de keuzes van de hoofdpersonen in twee micro-speculatieve verhalen (*forkingpathsverhalen*) te bestuderen: *Dark Matter* (2016) van Blake Crouch en *The Post-Birthday World* (2007) van Lionel Shriver. Ik beschrijf eerst hoe een focus op de details in een literair werk ons begrip van het literaire besluitvormingsproces vergroot, en zet dan uiteen hoe een focus op de strategische aspecten in het plot ons begrip van het verhaal vergroot.

In tegenstelling tot de bestaande aanname dat de besluitvorming puur op plotniveau plaatsvindt, dragen zelfs zeer gedetailleerde stylistische aspecten bij aan de uitwerking van de besluitvorming in de romans. Door de strategische structuren van het plot te analyseren aan de hand van speltheoretische modellen, kunnen we de besluitvorming van de personages op systematische wijze leren begrijpen. De resultaten zijn veelbelovend, maar vanwege de beperkte schaal van dit onderzoek is dit slechts een beginpunt. De standaardisatie van de methodologie is een belangrijke volgende stap voor de ontwikkeling van het interdisciplinaire veld.

Trefwoorden: coördinatieprobleem, interdisciplinair, literatuur, speculatieve fictie, speltheorie

Author   Maria Lehtimäki
                    Language and communication studies
                    University of Jyväskylä
                    lehtimaki.maria.mikaela@gmail.com
                    0000-0001-9299-7458

Supervisors   Helen Mäntymäki
                    Language and Communication Studies
                    University of Jyväskylä

                    Tommi Lehtonen
                    Innovation and Entrepreneurship InnoLab
                    University of Vaasa

Reviewers   Sari Kivistö
                    History, Philosophy and Literary Studies
                    University of Tampere

                    Simi Malhotra
                    Department of English
                    Jamia Millia Islamia

Opponent   Sari Kivistö
                    History, Philosophy and Literary Studies
                    University of Tampere

ACKNOWLEDGMENTS

FIGURE

TABLE

CONTENTS

1 INTRODUCTION

This doctoral dissertation explores the possibilities for studying literature in rational-choice terms. The interdisciplinary field that my study thus falls into—one between game theory (study of strategic decisions) and literary studies (study of literary narratives)—is far from established. In fact, it barely merits the name of a field: "Scholarly interactions between game theory and the humanities have been tentative at best" (Chwe 2009: 30), and not very optimistic, either, as "insofar as there has been any humanistic response to them, it has been a rolling of eyes heavenward and a shrugging of shoulders about the absurdity of it all" (Daston 2004: 361). Specifically in the context of literary studies, discussion has, quite by rule (apart from Swirski 2007; 1996, Lanham 1973), been prompted by game theorists. This thesis is intended as an opening of the literary studies' side.

I study the process of decision-making in two contemporary works of English speculative fiction, in order to argue for a premise of studying choices in literary fiction at large. Although my argument for the importance of studying literature in rational-choice terms concentrates more on the principles of decision theory than on their specific applications within the field of game theory, it is game theory that in the past has explored this combination most extensively. Therefore, the background discussion that I now proceed to focuses mainly on this sub-field of decision theory.

When it comes to analytic partners to literary studies, game theory is perhaps an unlikely one. Game theory is an established field of mathematics that studies strategic decision-making, which refers to decision-making where there are at least two decision-makers whose decisions affect one another. From game theory, technical terms such as *zero-sum game* and the *Prisoners' Dilemma*[1] have

---

[1] The game can be found in relevant literature in the forms of Prisoner's Dilemma and Prisoners' Dilemma. The latter is used in this thesis, because there are two prisoners who both have the same dilemma, even though the analytic practice usually focuses on the perspective of one of them.

been adopted into the vernacular (Rubinstein 2007: 635), which hints at the popularity that the field has achieved over the roughly 80 years of its existence[2].

After its inception, game theory has found its way to, at least, the study of economy, behavioral psychology, biology and evolution, law, and military. Game-theoretic interest to "make a contribution to literary analysis" (Brams 1994: 50) seems to have been born out of the long-established game-theoretic practice of presenting theorems with the help of literary examples drawn from the classics of literature, such as Edgar Allan Poe's short stories or Arthur Conan Doyle's *Sherlock Holmes* series (e.g. Morgenstern [1935]1978, see also Chwe 2013). In this study (in Chapter 2), I will look into many of these game-theoretic investigations of literature, and the critique such schools of analysis have aroused within the literary faculties, to understand why the road to cooperation continues to be so rocky.

The scholars who position their work in this (budding) interdisciplinary field maintain that game theory can offer "a parsimonious framework and important set of tools for the literary analyst" (Brams 1994: 33) and that "[game theory's] potential in literary studies is enormous" (Swirski 2007: 186). I agree with these optimistic statements, but also with the reserve expressed by game theorist Barry O'Neill: Game theory has the potential to clarify aspects of literary narratives, but in order to make a contribution, they must "take the literary work seriously in its details" and "relate [the work] to vocabulary already in use" (cited in Brams 2012: 24[3], see also O'Neill 1991). These words of caution and guidance reveal an imbalance: The interdisciplinary field integrates only a few ambitions and frameworks of the literary field, and this imbalance significantly drains the benefits of the cooperation.

To set a concrete pre-conception of what the imbalance that I target in this thesis looks like, I provide a brief example from previous studies. The example shows the game-theoretic emphasis placed on isolated excerpts that follow the principles of a given theorem or model. The excerpt drawn from the narrative is then evaluated so as to determine how closely—i.e. how well—it performs within the logic of the model. The game theorist Brams (1994: 38–40) studies how the American author William Faulkner makes the neighborhood vigilante Percy Grimm employ mixed strategies (or randomizing) when chasing a convict in the novel *Light in August* (1950). In his analysis of the passage, Brams focuses on the reporting of Percy's silent strategizing in his mind, showing how Percy's anticipation of the convict's moves guides his decision-making and how those strategic patterns can be seen as a game of randomizing strategies (Brams 1994: 38–40). It is easy to see how this can be interesting from a game theoretic perspective, but from a literary point of view, isolating a passage of text and interpreting it without connecting it to any question related to the work as a whole is seldom very meaningful, as the excerpt's sense, regardless of the

---

[2] The birth of game theory as a field is usually pinpointed to 1944, when Von Neumann and Morgenstern published Theory of Games and Economic Behavior.
[3] The reason why I cannot go to the direct source in this or any other citations that are marked as "cited in Brams 2012" or "cited in Brams 1994" is that these citations come from a survey Brams conducted as a part of his study on game theory and literature.

analytical perspective adopted in its examination, comes from its role in the narrative.

What this example teaches us, in my view, is that the literary component involved in the current definition of studying literature in rational-choice terms is not *literary* in the sense that a literary scholar understands it. It does not really matter that the excerpt under investigation comes from that particular literary work—it could be taken from any literary work, or from no literary work at all. It is simply an imagined sequence of strategizing approached as an illustration of a game, and its literary nature contributes very little. This is a starting point to exploring the imbalance of the interdisciplinary pursuit as an obstacle in the way of developing the cooperation between the fields.

Out of the scholars who recognize this obstacle to cooperation, I rely most heavily on the work of game theorist Steven J. Brams. He characterizes the imbalanced cooperation as a "coordination problem" (1994: 52), repurposing game-theoretic terminology to fit the budding interdisciplinary practice. A coordination problem, in game-theoretic practice, refers to a situation where two (or more) players have the same interests, but the actions needed to realize those interests in the best possible way are not fully clear. An example is a situation in which four drivers find themselves at an equal crossing at the same time: All want to continue their journey, no one wants to crash, but it is not clear what should be done to make this happen. In the case of forming the interdisciplinary practice, this situation leads to "game theorists and literary theorists not often benefiting from each others' insights" (2012: 27, see also Brams 1994: 52). The identification of the phenomenon and the formulation of the definition of the coordination problem is a result of Brams' extensive analysis of previous studies that combine a game-theoretic methodology with literary material. Brams complements his literary review with a survey sent to the scholars behind the studies he reviewed. Despite the word *problem*, Brams provides an optimistic starting point by choosing to call the phenomenon a coordination problem: The first thing that any Game Theory 101 course teaches about coordination problems is that they, quite by rule, can be solved by communication.

The communicative task of this study is now better highlighted—because the coordination of investigative strategies in the interdisciplinary field is lopsided, it is advisable to seek balance by adding literary insights. I aim to find out what a more literary approach to rational choices in literature would look like, and what kind of purposes game-theoretic tools could serve. I operate on the premise that studying literature in rational-choice terms can be worthwhile for literary studies because decisions are a central part of any work of literature, but they rarely find their way into the analytic limelight.

In effect, literary studies lacks methodology to address literary decisions or their impacts on other literary elements. Every literary narrative involves choices that shape the character, the world, and the plot. Therefore, I daresay that literary decisions are an obvious entry point for the reader to explore their relationship to the narrative's characters, world, and events. Any work of literature can offer its reader a medium to pressure-test their own attributes as a decision-maker:

What would *I* do in this situation? Immersing oneself into a literary world can enhance one's empathetic understanding of deriving viewpoints through the process of identification (see Keen 2006; 2007; 2011) and the experience of not being alone (Schäfer 2019: 19). While I do not study literary decisions from a reader-oriented perspective, these considerations medially motivate the text-oriented examination by showing how strongly issues related to decision-making are integrated in literary works.

In fact, many attributes of a narrative are presented through the choices made in it. To list some examples: In Cormac McCarthy's post-apocalyptic novel *The Road* (2006), the nameless Father and Son make choices based on necessity, where the boy's innocence is juxtaposed against his father's hardened practicality; in Margaret Mitchell's *Gone With the Wind* (1936), Scarlett O'Hara is depicted as resourceful and resilient through her (often immoral) solutions to problems arising from living through the American Civil War; in Fyodor Dostoevsky's *The Idiot* (1868), Prince Myshkin is perceived as an idiot in the eyes of other characters due to his disproportionately kind-hearted choices in the face of unfairness. In these kinds of literary works, the choices made state and show things about the narrative's world and characters. In this thesis, additionally, I focus on literary works in which choices have a more pronounced role; namely literary works that *speculate* on choices.

I place these novels under the category of *speculative fiction*[4]. Speculative fiction can be seen as a relatively niche subcategory of science fiction (see Atwood 2005, Heinlein ([1947]1991), but also as an inclusive supergenre for all antirealist narrative types, from traditional fairy tale to the most futuristic science fiction (see Oziewicz 2017, Gill 2013). Motivating my choice through an overview of the many possible sense of speculative fiction (in 3.1), I adopt a sense of it as a "fuzzy set" super-category[5] into which narratives fit by corresponding to "family resemblances" (Gill 2013: 81) rather than clear-cut, restrictive borders. Speculative fiction, when "compared with 'realist' fictions [...] relates to reality in more ways than [realist fictions] do, and 'refers' to the world in a less reductive, more comprehensive manner" (Martin 2003: 262). Speculative fiction "stimulate[s] the mind to new understanding" (ibid) by speculating on the question of *what if* (see e.g. Atwood 2005)—what if a society reached a state without poverty, crime, or disease? Or what if we had no fixed genders? To the extent that speculative fiction offers any answers to such speculations, those answers are strictly resigned from stating them as the non-refutable truth.

Speculative fiction has been for some time rising in popularity (see Ryman 2017; Vandermeer 2016, Vandermeer & Vandermeer 2016). The online community resource Speculative Fiction Database list 166,754 new authors and 1,575,555 new titles over the last 12 years, if we compare the numbers that R. B.

---

[4] Also called *ultrafiction* by Graham Dunstan Martin in An Enquiry into the Purposes of Speculative Fiction—Fantasy and Truth (2003, see also Heberle 2005: 142—145). I do not use the term in this thesis.

[5] The term was first applied to genre studies by Brian Attebery in the chapter "Fantasy as Mode, Genre, Formula" in *Strategies of Fantasy* (1992: 12—13, see also Attebery 2009. The use in speculative fiction is more inclusive than Attebery's original sense.

Gill lists[6] "[a]t the end of June 2011" (Gill 2013: 71—72) and that I found on the eighth of June 2023[7]. The numbers alone stand to suggest that something in the genre resonates with something that the contemporary reader looks for. Speculative fiction typically offers rich portrayals of dystopias, utopias, and other alternative societal portrayals resulting from the decisions made in the here and now—"that [speculative fiction] revolves in a world of imaginary or speculative events is no objection to its having a bearing on truth" (Martin 2003: 262). Truth is not found in the events described, but in their potential. In this sense, speculative fiction fulfills the task of the Aristotelian poet perhaps more aptly than any other narrative genre: "[T]he poet's function is to describe, not the thing that has happened, but a kind of thing that might happen, i.e., what is possible as being probable or necessary" (*Poetics* 1451a36—38). *Poetics* juxtaposes the speculative poet with the reporting historian who writes what *has* happened. Speculative description can, then, of course, refer to describing that which might become the reality, but it can also mean writing in a way that invites speculation of some kind.

While not all readers are necessarily invested in speculating on social issues, it can be expected that all readers are interested, at least, in their own lives. This is the kind of speculation that the two works studied in this dissertation, *Dark Matter* (2016) by Blake Crouch and *The Post-Birthday World* (2007) by Lionel Shriver, offer. Both of these novels are listed on the Speculative Fiction Database[8] I referred to above: In the category of speculative fiction authors, it lists Blake Crouch by the author record number #144343 and Lionel Shriver by the author record number #64141, and in the category of speculative fiction titles, it lists *Dark Matter* by title record #2014175 and *The Post-Birthday World* by title record #1285780. While the works can be approached from multiple perspectives, I focus on the narratives' focus on speculating on the problems that arise from the situation where, instead of living with the consequences of a choice, the protagonist is given another chance at the road they did not take. The fantastical, non-realist element is rooted on the counterfactual premise—*what if* the protagonist would have chosen differently?

I dub this kind of narrative type the *forking paths narrative*. Deriving from the vast, world-encompassing societal themes typical for speculative fiction, the forking paths narrative assumes a more restricted scope. Its agenda can be described as micro-speculative: Instead of speculating on possible trajectories of a whole society, it focuses on the possible trajectories of one person's life as a result of one choice. What sets forking paths narratives apart from the generic element of the protagonist dealing with a difficult choice or decision (is not every narrative a story of change that results from a difficult choice?[9]) is its intimate

---

[6] Gill reports that the database listed 83,815 authors and 569,219 titles (2013: 71—72).

[7] On the eighth of June 2023, the database lists 250,569 authors and 2.144,774 titles.

[8] The database states as its purpose to be "a community effort to catalog works of science fiction, fantasy, and horror" (ISFDB 1995).

[9] I thank Leila Kääntä for making a comment on this in a discussion on my introduction chapter in a small group discussion at the seminar that took place on 1 February 2019.

connection to the very act of choosing between (two or more) alternatives and speculating on these alternative trajectories consistently.

The forking paths narrative format can be met in great literary classics and post-millennial literature alike. In Charles Dickens's *A Christmas Carol* (1843), Ebenezer Scrooge gets a chance to change the course of his life after being shown the origins and future of the road he is on now; in Samuel Johnson's *The Story of Rasselas, Prince of Abissinia* (1759), Rasselas embarks on a journey to understand happiness, immersing himself in one definition after another in order to decide whether he should return to his home or leave it; in Henry James's ghost story *Jolly Corner* (1908), Spencer Brydon returns home to explore who he might have been had he made a different choice thirty-three years ago. More recently: In Kate Atkinson's *Life After Life* (2013), Ursula Todd dies and is reborn again to make the right choices through trial and error; in Jo Walton's *My Real Children* (2014), Patricia Cowan, suffering from dementia, oscillates between two versions of the present that branch from her response(s) to when she was proposed to; in Gillian McAllister's *The Choice* (2020), Joanna Oliva escapes an assault by tripping her pursuer so that he falls down the stairs and lives two very different lives depending on her choice to either call an ambulance to save the man's life or walk away. These stories place the protagonist at a fork in the road, building the narrative's spine at that juncture and speculating on the versions of what the protagonist's life might have become based on the path they chose.

Blake Crouch's science fiction thriller and love story *Dark Matter* (2016) and Lionel Shriver's domestic fiction romance *The Post-Birthday World* (2007) are both forking paths novels that lend themselves well to the examination of decision-making. These novels were chosen because they complement each other in the way they manifest the forking paths narrative format. Both novels feature a protagonist who encounters a life-defining fork in the road: The scientist Jason Dessen in *Dark Matter* is faced with a choice between family and career when his girlfriend finds out that they are expecting a child, and Irina McGovern in *The Post-Birthday World*, having lived in a steady relationship for almost a decade, finds herself dying to kiss another man. The main difference between the junctures is that Jason encountered it fifteen years before the diegetic present and now gets to reconsider that choice, whereas Irina encounters it for the first time, seeing the choices' consequences being unraveled into the unknowns. In both narratives, the forking paths reveal both versions of the trajectories: Jason chooses family *and* he chooses career; Irina kisses *and* does not kiss the other man. The novels provide two answers to the question of *what if* you could get another chance and experience the road not taken.

The rise of speculative fiction reflects the role of choices in the present day. The choices of individuals are called into question, as is the responsibility for their impact on elements vastly beyond the control of those individuals—perhaps climate change is the most obvious example. Political, educational, and marketing discourses alike make it clear that what we choose now will define our future, not only the lives of our offspring but our own life in the upcoming decades, while at the same time the so-called post-truth era (see Kalpokas 2019,

Harsin 2018) makes it difficult to rely on decision-makers. It seems reasonable that speculative fiction would gain popularity in this climate: The dystopian societies of *The Hunger Games* (2008–2010) and *The Handmaid's Tale* (1985), to name just two of the many stories that have been adapted to film or television recently, provide vistas of what cannot yet be seen. Without necessarily relieving any worries with their content, they provide a reference point to what might be, and that, in and of itself, can be consoling. Speculative fiction and game theory thus share a goal: That of extrapolating possible outcomes from prevailing conditions in order to clarify the distinction between good and bad choices.

1.1   Aim and research questions

In this thesis, I seek solutions to the coordination problem between literature and game theory by formulating ways in which systematic study of decisions can be relevant for the study of literature. Committing to this aim requires a thorough investigation of the reasons behind the coordination problem and an identification of solutions that serve literary studies. This aim is attained through two goals, formulated as research questions. I introduce them individually. The first question addresses the identification of the decision-making process in a literary work:

1) How is the decision-making process constructed in a literary narrative?

This first research question draws attention to the *details*, in the sense the term is employed by Brams and O'Neill, above (see Brams 2012). As they acknowledge, and I later elaborate on (in 2.3), the game-theoretic view of the ways in which literature yields knowledge relevant to decision-making is unnecessarily narrow. Increasing our understanding of how a decision-making process is constructed in a narrative argues for the importance of literary analysis as an equal companion to the game-theoretic conception of the choice. The second research question addresses the relevance of game-theoretic modeling:

2) How can game-theoretic modeling enrich the understanding of the narrative?

This question, like the first one, will become more obvious through the critical discussion of the coordination problem (in 2.3), in which suggestions for the enriching qualities are outlined. The coordination problem is the phenomenon I want to contribute to through the combination of speculative fiction and decision-theoretical rationality. At this point, it should be taken into account that in order to be able to enrich our understanding of the narrative, game theory must have something tangible to offer to aspects of the narrative itself. Brams

explains the need for the connection between the formal decision and the narrative depiction of the process:

> [S]everal of the applications […] are no more than off-the-cuff illustrations. While most of the authors are mathematically sophisticated, they seem to have made little effort to find nontrivial applications of game theory. People […] with the technical skill to do serious game-theoretic analysis are not attuned, it seems, to the more subtle literary issues that might be modeled. (1994: 50)

This study offers viewpoints into *how* those more subtle literary issues can be identified and systematically examined in a literary narrative. The aims of this study are more literary than game-theoretic, for which reason the games constructed in Chapter Five prioritize enriching the understanding of literary questions with game-theoretic modeling over mathematical sophistication. In sum, the responses I construct to my research question provide applicable and relatively generalizable information about how choices can be identified and studied in literature and what, for the literary theorist, can be the function of adding strategic modeling into their literary analysis. A possible contribution of my study to the game theorist is the lens into the subtler literary issues and their possible connections to game-theoretic interests.

1.2   Material

The role of the material in this study is to represent the forking paths narrative format as a decision-focused narrative protocol and to demonstrate the arguments made about the connection points between formal or decision-theoretical and narrative or literary theoretical views concerning decision-making. The material consists of two works of speculative fiction:

1. Blake Crouch's *Dark Matter* (2016) is a science fiction thriller and a love story that plays with the idea of curiosity about the futures that never realized. Fifteen years in the diegetic past, Jason Dessen had two lives forking in front of him: A life of devoting his time to scientific advances in the field of physics and a life spent with his family. He chose family. He is happy, but at the same time, he keeps feeling that he is not fulfilling his potential. One day, Jason is kidnapped and taken through the multiverse into the life he did not choose. There, he gets to experience what would have awaited him at the end of the road not taken.

2. Lionel Shriver's *The Post-Birthday World* (2007) is a domestic fiction novel that plays with the idea of making a mistake by showing two versions of the outcome of an important choice made by the protagonist. Adopting a parallel reality structure, the novel meticulously juxtaposes mundane and grandiose aspects of what Irina McGovern's life might have been after the titular birthday. On that birthday, she realized that she was not fully happy with her fiancé and found herself dying to kiss another man. The parallel realities show her both leaning into the kiss and withdrawing from it, and constantly speculating on the rightness of her choice in the post-birthday worlds.

Above, I have positioned the novels within the genre of speculative fiction and reflected on their connection to decision-making. Below, I focus more specifically on their themes and stylistic features.

1.2.1 Dark Matter

Blake Crouch dedicates his science fiction thriller *Dark Matter* (2016) to "anyone who has wondered what their life might look like at the end of the road not taken" (Crouch 2016: vi). Even though this alludes strongly to Robert Frost's infamous poem "The Road Not Taken" (1916), the dedication is in fact followed by an excerpt from T.S. Eliot's poem[10] *Burnt Norton* (1936). Eliot's poem embodies, and thus foreshadows, many aspects that become central in the novel:

> What might have been and what has been
> Point to one end, which is always present.
> Footfalls echo in the memory
> Down the passage which we did not take
> Toward the door we never opened

The excerpt encapsulates Jason's dilemma. Living with his family but in the void of professional success, he keeps traveling to the space of what might have been, toward the door he never opened, making the life he rejected follow alongside his own. The presence of *the road not taken* is almost tangible, a ghost-like being that Jacques Derrida calls "hauntology" (*hantologie*, 1994: 10) and Mark Fisher redefines through various (re)contextualizations as nostalgia for lost futures (2014: 28—29; 120). Even though Jason is happy with his family, he often feels misplaced in his world. This sensation he "can only describe as loss" (100). This loss of imagined futures is a result of the ambivalence he feels about his decision in the past, and the way in which that uncertainty keeps bleeding into the present.

Crouch's writing style is straightforward and pragmatic. Expression is often curt and replete with visual description of items and their placing, making the novel seem like a movie manuscript at times. A review by Alison Flood published in *The Guardian* describes this trait with humor (Flood 2016):

> Dark Matter is madly fast-moving, made even more so by Crouch's not un-irritating habit of breaking his narrative up into single-line paragraphs. Like so:
>
> "We're in a simple, finite box again.
> Four walls.
> A door.
> A lantern.
> A backpack.
> And two bewildered human beings."

In addition to extremely condensed lines, bouts of psychological reflection are typically short and often take place as fleeting thoughts between tasks or during an activity—something is moving all the time. The ascetic style is fast-moving

---

[10] The first of his Four Quartets; four meditations on the existential themes of life, universe, time, and purpose.

also because it is very easy to read. Flood describes also how the novel "appears to be very much aimed at film adaptation" as "[s]ome scenes go so far as to read like stage setting and direction" (2016), quoting excerpts from the book that describe the lighting, the decoration of the room, the positions of the people in the room and so on. Albeit the cinematographic qualities of the text could have left the text wanting depth, this is not the reality. In the few scenes where Jason slows down, the reflections on decision-making gain almost existential depth. To my best knowledge, *Dark Matter* has not been studied before in a scholarly setting.

1.2.2   The Post-Birthday World

Lionel Shriver's *The Post-Birthday World* (2007) resembles an apology. As a literary term, *apology* does not apologize for anything but rather defends the author's beliefs and viewpoint (Britannica 1999). To this effect, the belief is stated on the backside of the dedication page:

> "Nobody's perfect."
> —Known fact

The protagonist of *The Post-Birthday World*, Irina McGovern, is not perfect by any means: Her actions are far from consistent or virtuous, and her decision-making is fractioned. Apologies are often autobiographical, and it has in fact been suggested (see O'Grady 2007) that *The Post-Birthday World* could be semi-autobiographical, *autofiction*, because of the corresponding premises of Irina's dilemma and the events of Shriver's own life[11], especially a difficult choice she made in the past. In effect, the novel has been interpreted, by a reviewer, to discuss the existential role of choices (Kakutani 2007). In the vein of imperfection, Irina's dilemma never resolves, as she remains undecided until the end.

The novel's length (513 pages) is spent in meticulous juxtaposition of the opposing sides of the choice made on the titular birthday. The resulting, somewhat arduous flow did not elicit praise in the reviews (see e.g. O'Grady 2007). However, I personally am inclined to think that rather than a stylistic shortcoming, the element of tediousness is a carefully considered aspect of the novel, motivated by the format of an apology that the author as a university graduate from a language program can be expected to be familiar with. Be that as it may, at least for the present thesis's purpose of studying the novel's decision-making, the perhaps aesthetically tedious repetitiousness is a desirable feature.

At the heart of the novel is Irina's choice between two lovers, and aspects of her own growth that get repeated by recontextualization in the conflicting paths shared with different lovers. *The Post-Birthday World* can be situated in the genre of domestic fiction, and consequently, the conflicting paths are in essence two domestic spaces. Narratives of domestic fiction take place in the environment of the home and in the context of the family, often addressing

---

[11] Shriver studied Russian at the university and Irina is bilingual in Russian and English; they both suffer from Raynaud's disease; they both enjoy cooking; they both went through a period when they were attracted to a non-academic man while married to an academic one (O'Grady 2007).

conflicts arising within them (see Jacobson 2010). As a forking paths narrative, the domestic fiction novel juxtaposes two homes with their respective conflicts.

The forking paths of Irina's dilemma are two different houses and two different men with whom to make them a home. It is easy to see how the home, in general, is a restricted space where rules and values are different from the space beyond it, and how that allows their inhabitants to act in a specific way in that home-space. Indeed, spatiality is central for domestic fiction: "Reading domestic fiction as a spatial narrative takes into account space's influence on and reflection of domestic culture" (Jacobson 2010: 24)—domestic fiction narratives provide perspectives into how the space of the home defines the people living in it and the culture they create in the space of the home *by* living in it. To my best knowledge, *The Post-Birthday World* has not been studied in a scholarly setting before[12].

1.3 Theoretical framework and methods

In this section, I give a brief overview of the theoretical frameworks and methods that I employ when looking for solutions to the coordination problem through the research questions introduced above.

1.3.1 Rationality

Since I study rational decision-making in literature, *rationality* needs to be a part of my conception of the literary narrative as an object of study. As I will argue later (in 2.3), this is often problematic. My solution is to equip the narrative structure of the forking paths novel with the rational decision-making model introduced in the next subsection (1.3.2). To preface *why* it is important to implement rationality in the conception and analysis of literature when studying decisions, I explain here what *rationality* is and why it is non-negotiable for the formal study of decisions.

Game theory itself is not normative or descriptive, but its analytical tools are based on normative decision theory, also called Bayesian decision theory (see Peterson 2009). Bayesian decision theory assumes a *rational* decision-maker. In general, a *rational* decision-maker is one who always acts in a way that maximizes their outcome, regardless of the specific context (e.g. personal relationships, the stock market, food) of their decision-making process or the currency (e.g. affection, money, health) of its rewards. Rationality is thus defined through how the decision-maker treats their *preferences.* Preferences are needs, hopes, and wishes—likings—that dictate what is agreeable and what disagreeable for the decision-maker in a decision-making situation (see Weirich 2015). Formally, a rational decision-maker is one whose preferences are *complete*, *transitive*, and

---

[12] However, Shriver's so far most popular work, *We Need to Talk about Kevin* (2005), has received some attention (see Messer 2013; Muller 2008).

extensional (see Peterson 2009, Weirich 2015, Bermúdez 2021). These traits mean, respectively, that the decision-maker *assigns a value* to each available option, that the valuations thus placed are hierarchical, and that the order of the same set of valuations remains the same regardless of the context. This can be simply taken to mean that the decision-maker's preferences are, in one word, *consistent* (see Harrington 2009: 8—9, Beisbart 2012: 375—404). Rationality is a formal consistency restricted to the logic of the decision-making process (Bermúdez 2021: 82). Ethical points, therefore, are strictly irrelevant.

Formally, what matters is that the decision-maker's choices reflect their preferences and goals. This is the rational decision-maker that Bayesian decision theory assumes. It is largely admitted that Bayesian decision theory works for "small world" issues (Savage 1954: 13) and therefore fails to portray the complexity of real-world decision problems (March 1994). Yet the fact that normative decision theory fails to depict *all* the aspects of a problem does not prevent it from being useful in the scope of aspects it can depict. The very benefit of decision-theoretic rationality is that it requires restricting the focus to something manageable.

In effect, theoretical decision modeling always requires simplification. Rationality can be understood as a set of rules that governs the study of the event of decision-making. When the literary work is interpreted as the source for this event, the extracted information must concern the decision-makers, that is, the character's goals, their available strategies, and their payoffs connected to those strategies. In literature, meaningful decision-making situations are often subject to emotional and moral complexity. Traditionally, this would make them incompatible with rational analysis, but when they are understood through *frame-sensitive reasoning*, they can be studied rationally. I will proceed to this topic.

1.3.2   Frame-sensitive reasoning

The theory of *frame-sensitive reasoning* (Bermúdez 2021) is an alternative way to view emotionally and ethically complex decision problems. In fact, the theory argues that inconsistent preferences can, in certain situations, be rational and solved with the frame-sensitive reasoning method that the theory introduces (Bermúdez 2021: 98). Frame-sensitive reasoning is based on the psychological phenomenon of *framing* – the same situation receives different valuations based on how it is presented (Bermúdez 2021: 20—28). The parallel realities, or the forking paths of the forking paths narratives, can be viewed as different framings of the same situation at the juncture of the paths.

Frame-sensitive reasoning allows for inconsistent preferences to be observable. Bermúdez adds another tier to the process in order to be able to call the framing effect rational: Instead of being fully consistent, the preferences of a frame-sensitive reasoner are *quasi-cyclical* (2021: 90). Whereas cyclical preferences (without the prefix) would make the decision-making process irrationally run in circles, quasi-cyclical preferences acknowledge this and make the process of resolving the inconsistent preferences a sub-process embedded in the primary decision-making process. The primary decision-making process thus stops to

consciously observe the framing effect, and proceeds only when the framing effect is resolved (or stops altogether if it cannot be resolved in a way that would facilitate the act of choice).

In practice, the conscious act of observing *is* the frame-sensitive reasoning model. The process modeled as frame-sensitive reasoning abstracts the values at play in the choice and, in the context of this study, helps to identify the progress of the decision-making process from the narrative flow. The analysis (in Chapter Four) is adapted to the five steps of the model. The steps include the four steps of resolving the frame and the solution emerging as a result:

(1) *Reflexive decentering*, where the decision-maker becomes aware of the conflict in their preferences and stops to observe the competing preferences at play.

(2) *Imaginative simulation*, where the decision-maker constructs, in as much detail as possible, an image of their life as a consequence of choosing according to one and the other of the competing framings.

(3) *Perspectival flexibility*, where the decision-maker inhabits both the frames simultaneously, reflecting on their overlapping and incompatible aspects.

(4) *Reason construction and juxtaposition*, where the decision-maker is able to reason across the frames they have constructed in the previous three phases. If the frames can be juxtaposed, a solution ensues.

(5) The framing effect either is solved or is declared unsolvable.

Frame-sensitive reasoning thus abstracts the decision-making process so that it can be constructed on the basis of the narrative flow. Yet this framework alone would not be able to account for the literary representation of decision-making. An inherent part of my aim of finding especially literary-focused solutions to the coordination problem is making it relevant to study *how* the literary work presents the decision-making process. Therefore, I introduce a narratological toolbox for elucidating the individual aspects of each novel.

1.3.3 Narratological toolboxes

I employ a set of narratological tools to distill the details of the literary decision-making process. I discuss some problems with the metaphor of *toolbox* in 3.4 (see Dawson 2017), but here, I fast-forward to state that in the context of this study, I find the metaphor of the toolbox helpful. In traditional narratological literary analysis, the *tools* of the toolbox are reflected, one way or another, on the poetics of the text under scrutiny. The relationship between the tools and the text's poetics is somewhat different in this study, where the consistency of frameworks comes from rationality and the decision-making process.

The tools can perhaps best be described as selective facets, or simplified versions, of what the conceptual tool's explanatory potential in traditional literary analysis could be. Clearly, each of the tools alone could provide a rich focus to the narratives. On the other hand, some of the tools can seem, to the eye

of the narratologist, redundant; if I do not employ the concepts in a way that unleashes their full potential, I could just as well address those aspects of the story without connecting them to a framework. My justification here is that this thesis has the potential to contribute, albeit not equally, to both literary and game-theoretic fields, and in the odd case that a game theorist interested in the literary adaptations of their knowledge would come across my thesis and read it, I would want it to be transparent to them how I dissect the details and aspects of the novels that I do.

I employ altogether predominantly narratological concepts (apart from the quantum space, and, to some extent, the literary dialects) that help to navigate the interplay between the frame-sensitive reasoning model and the literary devices that bring out each of its steps. The following table (1) lists the eight concepts I use, placing them in the structure of the decision-making process organized according to the frame-sensitive reasoning steps:

TABLE 1   Narratological toolboxes

Frame-sensitive reasoning step	*Dark Matter*	*The Post-Birthday World*
Reflexive decentering	Spatial affect	Unreliability
Imaginative simulation	Symbol	Literary dialects
Perspectival flexibility	Fiction within fiction	
Reason construction and juxtaposition	Quantum (space)	Metaphor
Solution	Ending vs. Closure	

The first step of frame-sensitive reasoning occurs when the protagonist awakes to an inconvenient realization that they have been avoiding for years. The tools for interpreting the competing preferences in this context reflect the reluctancy of the process. In *Dark Matter,* I connect descriptions of narrative space (Zoran 1984) to passages that evoke the *affect* (Reddy 2001, Massumi 1995) of loss in him. In *The Post-Birthday World*, I connect unreliable narration, especially Irina's acts of misrepresenting and underrepresenting her reactions (Jacke 2018; Shen 2013) to the discomfort aroused by the reality of her competing preferences.

The second step shows the protagonist living through the frames and collects the protagonist's feedback. In *Dark Matter*, I focus on the symbolism of the items around the house that should be his home, but is actually a home to the version of himself that never raised a family in that house. I interpret the items as symbolic (Kövecses 2010; Rimmon-Kenan 2002) in a way that is informative of his dilemma. In *The Post-Birthday World*, similar effects are constructed by *literary dialects* (Määttä 2004). Both of her lovers speak with a distinctive accent or dialect different from Irina's. In effect, the competing domestic spaces sound different, and rules of the house are defined by the characterizational function of the literary dialect.

The third step stops to consider the data so far collected. In both novels, this step is examined through an *embedded narrative* (see e.g. Genette 1980) in the form of a *fiction within fiction* (see Herman 1999). For Jason, this is an art installation that he walks through, and for Irina, it is a pair of children's picture books that

she authors and illustrates. The fictions within fictions assume a metadiegetic role from which they reflect on the forking paths beyond the scope available to the protagonist.

The fourth step investigates both protagonists attempting to solve the framing effect. For both, reason construction leads to a plurality, an irresolution, that for Jason, I examine through the idea of quantum space. Jason's quantum space is investigated through a gadget, called the Box, that makes it possible to travel throughout the multiverse. The Box allows Jason — all Jasons from all realities within the multiverse — to be in a Schrödinger's cat state where they do not have to choose one life. If he is to solve his framing effect, he has to find it preferable to choose the act of making a choice itself. Irina's attempt at solving the framing effect is investigated through the metaphor (Zohrabi & Layegh 2020, Gibbs & Cameron 2008, Dorst 2011) of *snooker*. Building on the characterizational trichotomy established in step two, the conceptions of snooker held by the three main characters — Irina, her fiancé, and her lover — are interpreted through the dynamics of a metaphor as their attitudes to risk.

Finally, the solution phase evaluates and summarizes the conditions based on which the framing effect was or was not resolved. Arriving at the solution emerging from the model, the story's ending is investigated for the sense of closure it provides.

Together, these aspects of the two forking paths narratives provide an in-depth account of how the decision-making process is constructed in the forking paths narratives. I consider these carefully in order to gain an understanding of the elements that participate in the process of constructing the decision-making process. Having the plot run alongside the analysis in Chapter Four, I continuously argue how the plot-level description of the decision-making process is complemented by these elements — these *details*. Because of this goal, the first analytical chapter, Chapter Four, which reports on the literary analysis, is considerably longer than the following Chapter Five, which employs the *results* of the literary analysis. Next, I proceed to introduce the theory and the tools by which the game-theoretic analysis is done.

1.3.4 Game-theoretic modeling

Game theory studies strategic, *interdependent* decision-making between two or more decision-makers. The examination is performed, suggestively enough, through *games* in which decision-makers are *players* that follow the *rules* of the game and try to make the best possible outcome for themselves (see Dutta 1999). Game theory is not normative; it cannot say what a player *should* do from a moral perspective. Instead, it can say what would be consistent for a *rational player* — one focused on optimizing their outcome — to do based on their beliefs and goals (see Harrington 2009). Game theory is an agile framework of analysis that has been applied fruitfully in many fields. Extending to other fields of study is indeed a part of the game-theoretic agenda (Chwe 2013: 50 — 51). I discuss the possibilities for and problems of this pursuit extending to literary studies in Chapter Two, and here introduce the field through its versatile resources.

Games come in many forms, and these forms can be combined together in order to construct elaborate scenarios. Games can be *sequential* (the players move at different times), *simultaneous* (the players move at the same time or are unaware of what the other player has done at the moment they make their move), or a combination of both. Games can be *symmetrical* or *asymmetrical* depending on how many moves each player has. The players might know everything about the game and the players (*perfect information*), or they might be lacking some information concerning the game or the players. The players can also choose to *cooperate*, withdraw from cooperation, or to not cooperate to begin with. (See Harrington 2009, Dutta 1999, Binmore 2007, Peterson 2009, Bermúdez 2021).

In this study, I scratch the surface by studying four games: The Prisoners' Dilemma (a game where the individual and common good are juxtaposed), the Chicken game (a game where the goal is not solely to win but to avoid a mutual disaster), and two Signaling games (games where one of the players is trying to decipher the intentions of the other one). The games are introduced in more detail in the game-theoretic analysis in Chapter Five. In the analysis, the games are constructed on the results of the literary analysis preceding it. The results of the literary analysis (in Chapter Four) guide the choice of games by addressing questions that the literary narrative, to some extent at least, left unanswered. The games are constructed on just one scene, but because the game is informed by the results of the literary analysis, the game is played and solved beyond the scope of that scene. This way, the game-theoretic examination concerns the ways in which game-theoretic analysis can enrich literary analysis.

1.4   Structure of the thesis

This thesis presents the research conducted to find literary-focused solutions to the coordination problem in the interdisciplinary field between game theory and literary studies. The study argues for a premise to re-conceptualize the coordination problem, suggests new tools for studying literature in rational-choice terms, and employs these premises and tools in the analysis of two novels.

Chapter Two introduces the principle of rationality and the game-theoretic practice in detail, in order to preface the critical discussion of the coordination problem through previous research, criticism, and previous attempts at cooperation. Chapter Three introduces the genre of speculative fiction, adopting an inclusive view into which the narrative format of the forking paths narrative is positioned as a subtype. The chapter also introduces the frame-sensitive reasoning model and the narratological toolboxes used in the literary analysis of the material. Chapter Four reports the literary analysis that responds to the first research question. Chapter Five employs the results of the literary analysis in the game-theoretic analysis, and responds to the second research question. Finally, Chapter Six summarizes the course of the study and discusses its results.

2 FORMAL ANALYSIS OF DECISION-MAKING: WAYS TO EXAMINE PROBLEMS

> "… and in some ways strategic thinking remains an art."
> Dixit & Nalebuff 1991: 3

In literary studies, calling something an *art* is usually a praise. While it is not pejorative in Dixit and Nalebuff's quote above, it is not praise, either—it implies the dichotomy between art and science, perhaps. Twenty years later, this dichotomy is revived by the game theorist Steven Brams in connection with strategic thinking and literature: "[G]ame theory, as applied to literature, is still more an art than a science" (2012: 3). The values are exaggerated and generalized: The idea of the careless irregularity of the arts is juxtaposed with the parsimonious, predictable models of mathematics. Be the dichotomy accurate or merely perceived, bridges over this gap are, by rule, beneficial (see Snow 1961), and I step on the one started by Brams in order to strengthen the connection at the other end.

This chapter presents the *rational-choice terms* aspect of studying literature in rational-choice terms (whereas Chapter Three will address literature). The first two sections introduce the background and practice of formal analysis of decisions, to put a primer on the discussion of the coordination problem in the third section. Firstly (in 2.1), I introduce the premises of analyzing decisions and some of the field's central concepts. Secondly (in 2.2), I introduce fundamental methods of doing game-theoretic analysis by constructing, playing, and solving games. Thirdly (in 2.3), I delve into the coordination problem by establishing nine beliefs that sustain it.

2.1 Principles of formal analysis of decisions

The formal analysis of decisions is based on the principle of rationality, and this sense of rationality differs from philosophical rationality. Philosophical rationality is a morally bound concept that must address the distinction between internal and external reasons for actions (see Taliaferro 2013: 1947−1950). The internalist view, of which David Hume's *Treatise Concerning Human Nature* ([1737]1955) is the classic example, argues that reasons must be rational in relation to desire. On the contrary, the externalist view, of which Philippa Foot (1978) is a prominent example, argues that reasons are always grounded on objective truths that are unaffected by desires. Decision-theoretic rationality avoids these debates, due to the lack of substantive content it assigns to rationality. In effect, decision-theoretic rationality is *formal* rationality. Formal rationality is a premise that facilitates the analytic practice of normative decision theory. Normative decision theory "formulates principles for evaluating the options in a decision problem and for identifying rational option" (Weirich 2015: 2). Hence, rationality is "a source of standards" to land on an option among options (ibid). These standards are the topic of this section.

In the formal analysis of decisions, a rational decision-maker is rational because of the quality of their preferences. Preferences are derived from values, but values are not understood as good or bad in decision theory (see Beach 2009: 398). Values guide the valuation of available options through the agent's preferences. Preferences are needs, hopes, and wishes that emerge from the values held by the agent (see Bermúdez 2021: 17−19, Peterson 2009: 10−14, Beach 2009: 398−399). We can look at Scrooge McDuck for an example: He values wealth, his situational preferences are quite by rule tied to increasing his wealth, and therefore it is rational for Mr. McDuck to pursue wealth. The formal analysis of decisions does not, however, comment on one's reasons to pursue or not pursue wealth. It does not contextualize it as an act that has an effect on the world, but instead understands it as a linkage between one's beliefs and one's actions. When beliefs and actions are consistent, they are rational.

As preferences, if rational, guide what you choose, they have a connection to what you want to prioritize. Indeed, Paul Weirich characterizes preference as a mental state that resembles desire (Weirich 2015: 59). Thus, preferences are connected to values. Values and preferences "dictate what is desirable and what is not, and how much you desire or despise them" (Beach 2009: 398). Values are often considered to be stronger than preferences, as values often define whether there is a choice to begin with, whereas preferences are more transitory, operating within the situation created by competing values (ibid). Preferences guide the decision-making process by making some options more attractive and others less so. The resulting consistency from values to preferences to actions taken is the backbone of decision-modeling. As consistency is a non-negotiable element of decision-modeling, it is subject to requirements that ensure that rationality ensues.

These requirements are treated as *preference axioms*; founding statements to rationality. I will briefly introduce the three main preference axioms. *Main*, here, is intended to mean the most common, not the most meaningful: "The fact that the same, or almost the same, axioms occur several times indicates that the basic principles of rationality are closely interconnected" (Peterson 2009: 173). The three main preference axioms are the following[13]:

- Completeness

  - When the agent's preferences are complete, the agent can place a valuation for each available option. This means that all the available options could theoretically be assigned with a number expressing how attractive the option seems.

- Transitivity

  - When the agent's preferences are transitive, the values placed by the agent are hierarchical. This means that each available option gets a different number in every case but the one in which the decision-maker is truly indifferent between options.

- Extensionality

  - When the agent's preferences are extensional, the hierarchy of valuations would remain the same even if transferred to another context. This means that the valuations are invariable and not affected by the day, mood, or any other such situational factor.

It is not necessary to consider all axioms when solving decision problems. Even though they *can* all be considered, of course, the relevance of a certain axiom is relative to the nature of the decision problem. For example, frame-sensitive reasoning (discussed in 3.3) will focus on extensionality and intentionality, whereas in connection to the Prisoner's Dilemma (discussed in 2.2), the relevant axioms are completeness and transitivity. It can also be questioned whether all axioms are reasonable (see Peterson 2009: 111—112, 173—195). However, axioms define consistency, and without the stability provided by consistency modeling—turning decision problems into an interplay of numerical values—it would be impossible.

The numerical values reflect *utility.* Utility can be understood as the benefit or gain that an option has within a given strategy: How much wealth does an option yield, when the goal is to increase wealth for Scrooge McDuck, for example (see Harrigton 2009: 10). When preferences are consistent, "then there is a way in which to assign a number to each alternative that allows a person's behavior to be described as making the choice with the highest utility" (ibid). Therefore, models of decision-making measure the utility of different options based on how desired they are. This gradation of desirability (it is necessarily a gradation due to the requirements set by transitivity) is expressed by the

---

[13] As these axioms are common and defined more or less similarly throughout the body of literature (often complete with a set of formulae), I have not marked the references on the list. For completeness and transitivity, see Peterson (2009: 173—195), and for extensionality, see Bermúdez (2020: 84—87).

numerical value that each option (necessarily *each* due to completeness) is equipped with.

The utility yielded by an available option is always an estimation. It must be, as decision-modeling is predictive, not retrospective. Analyzing decisions always takes place in a parsimonious framework where a distinction between *good* and *right* solutions must be made. The philosophical work *Histories* by Herodotus, produced in Ancient Greece and positioned within the Old Period[14] of the history of analyzing decisions, is an early example of a text that recognizes this difference in an illuminating way[15]:

> A well-laid plan is always to my mind most profitable; even if it is thwarted later, the plan was no less good, and it is only chance that has baffled the design; but if fortune favor one who has planned poorly, then he has gotten only a prize of chance, and his plan was no less bad. (VII: 10D)

Herodotus makes a distinction between an option that, based on the available knowledge, can be expected to yield the best outcome, and the one informed by hindsight, as in one that actually yields the best outcome. Rationality is defined by a *well-laid plan* rather than the *prize of chance*. Analyzing decisions in a formal way can only lead to identifying the option with the best *expected utility* but it cannot guarantee results. Peterson explains:

> [A] decision is *right* if and only if its actual outcome is at least as good as that of every other possible outcome. Furthermore, we say that a decision is *rational* if and only if the decision-maker chooses to do what she has most reason to do at the point in time at which the decision is made. (2009: 14)

A rational decision-maker makes rational decisions: Choosing what *she has most reason to do* emerges from the analysis of preferences in each setting (or subsetting) of a decision-making process. A rational decision-maker does not necessarily make *right* decisions, but they necessarily make *good* decisions—decisions made as a result of careful analysis and consistent evaluation of its results (Binmore 2007: 93). The resulting decision-maker is a rational, ideal, and normative *construction*. Indeed, a rational decision-maker is a construction, as people in real life do not always act rationally[16]. However, descriptive approaches to decision-making must be separated from the present account on

---

[14] Martin Peterson divides the history of decision theory into three phases: The Old Period, the Pioneering Period, and the Axiomatic Period (2009: 19).

[15] This example is familiar to me through Martin Peterson's *Introduction to Decision Theory* (2009). Discussing this example as an example of the distinction between good and right, Peterson uses a different translation that dubs the decision either done according to good counsel or, in contrast, foolish (2009: 20). The more recent translation (that I used) by A. D. Godley dubs the decision straightforwardly either good or bad.

[16] The body of analysis and theory that approaches decision-making from this point of view is rich and worthwhile. By leaving it out I do not posit myself against it. This chapter is, simply, restricted to normative decision theory because game theory assumes a normative decision-maker and adheres to the formal principle of rationality. I do, however, touch upon theories and insights of descriptive decision theory in connection to frame-sensitive reasoning in 3.3, as it is a normative theory constructed on the knowledge achieved through descriptive analytic practices (see Kahneman 2013, Kahneman & Tversky 2000; 1992; 1979; 1972, Tversky & Kahneman 1986; 1981, Simon 1995, March 1994, Kruglanski 2004, Kruglanski & Orehek 2009).

normative decision theory and decision modeling. As I now proceed to an explanation of the practice of game theory in the next subchapter, I stick to the premises of normative decision theory (also Bayesian decision theory or Theory of rational choice)—an analytic practice that assumes a rational decision-maker.

2.2   Practicing Game Theory

While game theory is originally a mathematical theory, it can be and has been applied to other fields so widely[17] that game-theoretic practices with hardly any mathematics at all have emerged[18]. Students and scholars of these fields "have a common desire to learn about strategic reasoning" but "they differ tremendously in their mathematics comfort zone" (Harrington 2009: xv). In literary studies, mathematics is rarely essential. In order to be persuasive, the version of game theory offered must look possible for the literary theorist to learn. It is also less than intuitive that literary theorists would have a desire to apply strategic reasoning in the literary context. My aim in this thesis is to identify reasons to do so and explore the uses of, generally, studying literary works from a rationality-of-choice perspective, and specifically, applying game theory in literary analysis.

This section introduces the practice of strategic reasoning in game theory, approaching it through the key principles and central concepts of the field. This introduction to game theory as an analytic practice follows the principle of minimum mathematics that is practiced in most introductions to game theory, especially those that are crafted for cross-disciplinary audiences. In this introduction, I combine insights primarily from introductory works by Harrington (2009), Binmore (2007), Dutta (1999), and Dixit and Nalebuff (1991), occasionally diverging to the classic text by von Neumann and Morgenstern (1944) that is often seen as the starting point of game theory19. I introduce the following matters:

- Purpose(s) of game theory;

- purpose(s) of a game-theoretic game;

- two ways to construct a game;

- three aspects of playing a game; and

- three ways to solve a game.

---

[17] Including but not limited to the biological study of evolution, behavioral economics, political sciences, computer science, military sciences, and sociology (see Binmore 2007).
[18] I do not mean to sound delighted, but perhaps appreciative; while expanding and deepening the uses of the theory in other disciplines is no doubt tied to, at least to some extent, evolving the mathematical skill set, the fact that game-theory can be harnessed to the examination of other fields' issues without a sophisticated knowledge in mathematics speaks for its flexibility and versatility.
[19] Another option, supported by some instead, is Frank Ramsey's article from 1931.

In keeping with the inter-disciplinary focus of the present study, I point out some elements of these ways of constructing, playing, and solving games that need to be modified when applying them to the literary narrative. This might sound alarming; after all, game-theoretic models and theorems are tried and tested and definitely not to be loosely modified. To be clear: I do not mean that I suggest any modifications to the game-theoretic analysis, but instead I point out some aspects related to the way the analysis gets the information it analyzes. I believe that the connection between the literary text and the game-theoretic expressions of it (that is, the games constructed from the text) should be tighter and more literature-bound. This proposal will hopefully be crystallized by the end of the section.

Game theory can be seen to have both methodological and societal purposes, and those two are tightly interlinked. Prajit K. Dutta approaches game theory as an analytic practice. He defines game theory as "a formal way to analyze interaction among a group of rational agents who behave strategically" (1999: 4). For Harrington, who emphasizes the value *yielded* by the analytic practice, game theory is a way to "understand the manner in which people behave—why they do what they do" (Harrington 2009: 2). Whether you stress one purpose or another, focus on the analysis or applying its results, the form of game-theoretic analysis is a *game.*

To outline the purposes of a game-theoretic game, I start by describing the components of a game. Constructing a game-theoretic game starts with the four elements of a game: *Players* who act, *interaction* between the players who act, the *strategic* nature of the players' actions, and the *rational* nature of the players who choose the strategies (Dutta 1999: 4—5). These are the non-negotiable elements of a game. Expanding far above and beyond the field's original task of addressing "some fundamental questions of economic theory" proposed by von Neumann and Morgenstern (1944: 1), games like these can be, and have been, applied to versatile contexts to illuminate the strategies involved in those contexts.

Games in game theory are always strategic in nature. Strategic decision-making "allow[s] for the conflict, and utilize[s] cooperation" (Dixit & Nalebuff 1991: 2). The strategic component dictates that the decision problem cannot be understood nor solved in a vacuum inhabited by only one player. It becomes important to think about what the other player is thinking, and what they think you might be thinking[20]. The solution is made bearing in mind that the opponent, too, is a rational agent who is assessing their opponent's considerations to get the best outcome for himself. "Such interactive decisions are called *strategic*, and the plan of action to appropriate them is called a *strategy*" (Dixit & Nalebuff 1991: 2). In effect, the solution must take into account not only what the decision-maker would like to achieve through their solution, but also how likely it is that their opponent will act in a way that facilitates this gain.

---

[20] When this loop of reciprocal assessment becomes a problem, it is called *infinite regress* (see e.g. Harrington 2009: 3). I will not talk about it in more length, as in the literature the focalization explains how much the decision-maker knows, and the analysis should therefore concern the narrative, from which a certain information set is transferred to the formal analysis as a given.

Decisions in games are always *strategically interdependent.* Strategic interdependence is more intense than just a group of people being affected by what happens to one of them; it "is present in a social situation when what is best for someone *depends* on what someone else does" (Harrington 2009: 2). Other people, or players, are "active decision makers whose choices interact with yours", making the interaction a key element of your decision (Dixit & Nalebuff 1991: 1). Therefore, the strategic component also dictates that the way of thinking about your opponent or partner is formal and neutral; not virtuous, evil, or otherwise morally loaded.

It follows that game theory cannot be used to tell what people ought to do. Game theory cannot tell moral right from wrong (Dixit & Nalebuff 1991: 1). This trait is sometimes viewed as a flaw that makes game-theory a soulless practice by extension. Ken Binmore describes the phenomenon as follows:

> Game theory models of social relationships are sometimes criticized as reductionist because they make no reference to notions like authority, blame, courtesy, duty, envy, friendship, guilt, honour, integrity, justice, loyalty, modesty, ownership, pride, reputation, status, trust, virtue, and the like. The inference is that game theory is an inhuman discipline which treats people like *robots*. (2007: 73)

Binmore's formulation is provoking, but the inference is not uncommon (more in 2.3). The way game theory approaches human behavior requires simplification and rational versions of the often irrationally behaving humans. This perspective has the unfortunate effect that, excuse me in advance, a trait like *hating dogs* needs to be called a preference, and if you kick a dog, you must be called *rational*. This does not mean that it is good or applaudable behavior in the theorist's mind or that the game supports the act of kicking animals—it simply revealed that the player was acting consistently. The game and its result should rather be seen as court evidence showing plausibility of action than as a moral opus of behavior.

For the ease in which the *robotic* label mentioned above is attached to game-theory in literary faculties especially (more in 2.3), the apparent *coldness* of the practice is a matter to consider in more detail. I find it a curious paradox that it is deemed ethically problematic to investigate something extremely emotion-evoking in a strategic manner, while such situations would clearly be the most crucial to pay attention to. For example, Dixit and Nalebuff discuss the scenario of nuclear war in their work. Published in 1991, their book became available at the closing of the Cold War (1947—1991). Their introduction reflects on the process of choosing games and decision problems for their book:

> [A]t one point many readers would have thought the subject of nuclear war too horrible to permit rational analysis. But as the cold war winds down and the world is generally perceived to be a safer place, we hope that the game-theoretic aspects of the arms race and the Cuban missile crisis can be examined for their strategic logic in some detachment from their emotional content. (1991: 3)

They ask the reader to engage with the events on a level somehow different from reality. Thus, they seem to suggest that reality, the real balance of horror and the actual dread of an apocalypse, would altogether prevent accepting actual events of the Cold War as a game to speculate on. They ask the reader to delve into the

events as if they were fiction and something that can be *played* with. This is an argument different from saying that emotions must be removed because they blur decision-making[21]. Instead, it implies that emotions connected to ethical matters might prevent the reader from engaging in a decision-making situation to begin with. The robotic nature of game theory must then be seen as the ability to obtain distance into emotionally disturbing matters to see the strategic patterns that underlie them, not to be stripped of one's emotions.

In fact, game theory is able to involve emotive components in the models insofar as they can be represented in the preferences that, in turn, translate directly into how favorable different outcomes seem to the decision-maker. Game theory, as a branch stemming from normative decision theory (see 2.1), "has no substantive content […] We can only say that if they believe this, then they would be inconsistent not to believe that" (Binmore 2007: 56). The player of game theory is by default rational, not a full-fledged character with a complicated past and character-flaws to distract their decision-making. This requirement has been frequently brought up in the existing attempts to combine game theory and literature. I discuss those criticisms in detail in the following section. First, I proceed to the two ways to construct a game.

I will use the Prisoners' Dilemma as the example game of this section. Introduced in the introduction already, perhaps the most well-known game in game theory goes as follows: Two convicts that have committed a crime together are locked into separate rooms at a police station. They have to choose whether to confess the crime or not. The officers who captured them tell them their options: If both confess, they get sentenced to prison for 5 years. If neither does, they get 1 year. If only one of them confesses, that person walks free whereas the other is sentenced for 10 years.[22]

Constructing the story into a game, the frame-narrative is fitted into the four elements of the game mentioned above: Group of players, interaction between them, strategic interdependence of their decisions, rationality of the individual decisions (see Dutta 1999: 4—5). In the Prisoners' Dilemma, the players are the *two convicts*. Their interaction follows the condition that one player's choice to *confesses* or to *not confess* has an effect on the *length of the other player's sentence*. The strategic nature of this interaction means that each player tries to assess the other player's choice as a function of her own choice. The rational nature of the players means that each player will choose the option they believe will benefit them the most.

---

[21] This does not align with contemporary thought. Ken Binmore, for one, "share[s] the widely held view that tradition is plain wrong in seeing no useful role for our emotional reactions to social events" (2007: 75, see also Damasio 1994). Further discussion on this matter is, however, beyond the scope of the thesis.

[22] There are multiple versions of the Prisoners' Dilemma. This is the one taught by Ben Polack in an introductory course to Game Theory, my first acquaintance with game theory, and for this reason only I found these numbers comfortable. In contrast, Dixit and Nalebuff tell the story with the sentences from 1 to 3 to 10 to 25 years (1991: 12); Dutta represents the game through convicts named Calvin and Klein, and the sentences stand 0, 1, 5, and 15 (1999: 11). All of these are the same game in all the relevant ways.

The game can be constructed as two possible formal expressions. The first of them is the *strategic form*, often referred to as a *decision matrix*[23] (Table 2):

TABLE 2   Decision matrix of the Prisoners' Dilemma

| | | Player 2 | |
		Confess	**Not confess**
	Confess	5,5	0,10
Player 1	**Not confess**	10,0	1,1

When reading the matrix, Player 1 is seen as the *row player* and Player 2 as the *column player*, because the options available for Player 1 are placed in the rows whereas Player 2's options read in the columns. Each cell in the matrix shows the values, payoffs, of each player's decision *when* the other player makes the choice marked in the same cell (that is, as a function of the other). This means that in each cell, the number before the comma reveals Player 1's payoff whereas the number after the comma reveals Player 2's payoff. Thus, the matrix reads, from right to left:

- When Player 1 chooses to confess and Player 2 chooses to confess, they both get the payoff of 5, meaning that they get five years in prison.

- When Player 1 chooses to confess but Player 2 chooses to not confess, Player 1 gets the payoff of 0, meaning that she gets to walk without any prison time, whereas Player 2 gets the payoff of 10, meaning that she is sentenced for a decade.

- When Player 1 chooses to not confess and Player 2 chooses to confess, Player 1 gets the payoff of 10, meaning that she is sentenced for a decade, and Player 2 gets the payoff of 0, meaning that she gets to walk without a day in prison.

- When Player 1 chooses to not confess and Player 2 chooses to not confess, they both get away with only one year spent in prison.

The Prisoners' Dilemma is different than most games in one important way. Most often it can be expected to read as the higher the number, the better the outcome. In the Prisoners' Dilemma, however, and therefore in the above matrix, the numbers reflect the sentence length, and the best outcome is 0. As a rule, numbers can go below zero, and the exact value of the numbers is not that important (Harrington 2009: 25). In fact, they might equally well be, say, letters[24]. Instead of focusing on the values as such, the key to interpreting the payoffs is the *relationship* between them (Harrington 2009: 10):

> To ensure that choosing the option with the highest utility is equivalent to choosing the most preferred option, numbers need to be assigned so that the utility of option *A*

---

[23] This is the expression I use, but also *payoff matrix* can be met in contemporary literature, and in the older, classic works the matrix was also known as the *normal form*.
[24] See, for example, Giannakis et al. 2009: 8.

is greater than the utility of option *B* if and only if *A* is preferred to *B* and the utility of *A* is equal to that of *B* if and only if the individual choosing is indifferent between *A* and *B*.

This echoes the principles of rationality addressed in the previous section (2.1): As long as the options' mutual relations are stated, they can be purposefully differentiated with. The decision matrix expresses a situation where the players make their moves *simultaneously*. This does not mean that no time must pass between the decisions, but that they make their choices without knowing what the other player has done or will do. This element becomes clearer through the second way of constructing a game.

The second form is called the *extensive form*. It differs from the strategic form in that it can be used to show *sequential* games. Sequential games are strategic situations that resolve in multiple steps instead of one. To show how these elements play out in the Prisoners' Dilemma, I construct the extensive form, a *decision tree*, of the game in the following figure (1):
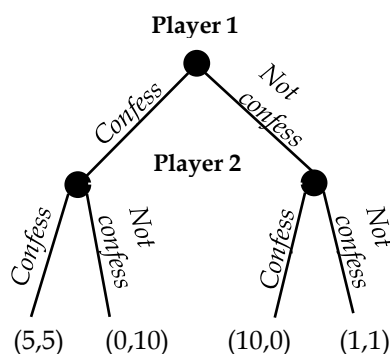
FIGURE 1   Extensive form of the Prisoners' Dilemma

Compared to the decision matrix that gives an objective view into the decision-making situation, the *decision tree*[25] has a perspective to it. In this decision tree, the point of view is that of Player 2. In the Prisoners' Dilemma, both players have only one move to make; *confess* or *not confess*. In this tree, player 1 has already made their move[26] and we observe Player 2 about to make theirs. This is the sequential aspect that denotes the passing of time and the perspective that is a result of it.

Decision-making situations are marked with *decision nodes* (the black dots). Each player's payoff is marked at the ends of the *branches*[27] using the same logic as in the matrix (Player 1's before the comma, Player 2's after it). The final nodes at the end of the branches are called *end nodes*. They are often left undrawn, in

---

[25] For other explanations on how to read the extensive form/decision tree, see, for example, Binmore 2007: 40 or Harrington 2009: 19–21.
[26] Because of this difference, the game above is not truly a Prisoners' Dilemma; the lack of knowledge of the other player's move is of fundamental importance. I explain shortly in this section how such uncertainty is marked into the decision tree.
[27] Some scholars refer to them as *edges* (a matter of taste).

which case an end node refers to, simply, the end of the branch (but not necessarily the tree, as it has many branches). The route through a decision tree is called a *path*. The path signifies the decisions that are made (this or that node), and the path taken is shown as a thickened line.

Neither of the two ways of constructing the decision problem is better than the other. The choice between the matrix (the strategic form) and the tree (the extensive form) depends on the nature of the decision problem and the information that is relevant to be shown. The matrix shows the decision at once; at a moment frozen in time, and the tree shows the passing of time (Harrington 2009: 49). The tree and the matrix are simply two ways of expressing a problem. When the games are played to solve the problem, the same rules bind both.

The first aspect of playing a game concerns *information*. It is always important to keep track of what the players know and when do they know it (Dutta 1999: 20). The information that a player has or does not have cannot be marked into a strategic form, but it is readily available in the extensive form. The following decision tree showing Prisoners' Dilemma explicitly expresses what is known by the players and what is not known by them (Figure 2):

Player 1

Player 2

(5,5)   (0,10)   (10,0)   (1,1)
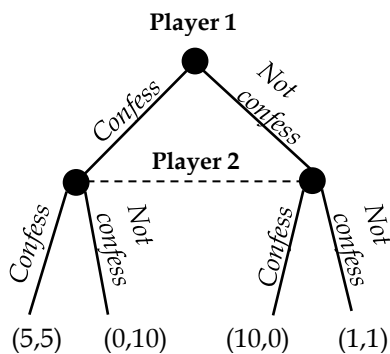
FIGURE 2   The Prisoners' Dilemma with information sets

When Player 2 makes their choice, they do not know what Player 1 has chosen (the tree is read from top to bottom). Player 2 does not know whether she is making the decision at the left or the right situation — in a situation where Player 1 has confessed or not[28]. This is marked by the dashed line between the decision nodes. Here, the line together with the dots signify Player 2's position in the game (she is in a situation where she does not know what Player 1 does). The dashed line and the decision nodes it touches signify an *information set* (Dutta 1999: 20, Harrington 2009). An information set is a way to express what the player knows and when they know it.

An information set is equal to what I referred to as simply *situations* above; the decision-making situations the players find themselves in. Therefore, a decision-making situation is in essence simply "finding himself at an information set" where one "strategy assigns one action to each of a player's information sets"

---

[28] The setting would necessarily be the same for Player 1, should that be discussed.

(Harrington 2009: 34). In the above tree, there are two strategies, and therefore, two actions that can be taken. As Player 2 does not know whether she is positioned in the node where Player 1 has confessed or the node where she has not confessed, Player 2 cannot be sure which strategy would yield the best outcome for her: "A player is assumed to know which information set he is at, but nothing more. Thus, if the information set has more than one node, then the player is uncertain as to where exactly he is in the game" (Harrington 2009: 27). Having and not having information is an important element of constructing a game, and also an important part of playing a game.

Information is the first of the three aspects of playing a game that I take up[29]. The way a game is played depends largely on what or how much information is shared or available to be observed. In a game of *imperfect information*, the decision-maker does not have full knowledge of what the other player(s) have done earlier in the game (Dutta 1999: 309). Their information is lacking in terms of the events within the game. This is central, for example, in the Prisoners' Dilemma. Then again, in a game of *incomplete information*, the player does not have all the information about the other player(s) preferences (Dutta 1999: 8, Harsanyi 1967). Therefore, their information is lacking in terms of the player's qualities—what they can expect them to do. (This will be important in the *signaling games* constructed in Chapter Five[30]). Finally, in a game of *perfect information*, all players have access to all information, such as the moves of other players, their reasons for making those moves, and the results of those moves.

In any game, there are aspects of the game that are known by everyone in the game. These aspects are called *common knowledge.* Common knowledge is "much more than players knowing something: it involves them knowing what the others know, and knowing what the others know about what the others know, and so forth" (Harrington 2009: 44). Certain elements are common knowledge by default: "The rules of the game are common knowledge" (Harrington 2009: 47), and "[u]nless someone says otherwise, a rational analysis of a game takes for granted that the types of all the players are common knowledge" (Binmore 2007: 94). Knowing the type of another player means knowing their reasons for choosing specific strategies.

The second aspect of playing a game concerns the players' ability to cooperate and not cooperate. Cooperation has nothing to do with being a good person or thinking of the other player altruistically. Instead, cooperation is sometimes the best way to get a high payoff (Binmore 2007: 113). It simply means that the rational players work together to maximize their utility *because* that is the most rational strategy to take.

The third and final aspect concerns the payoffs. The rules of the game may dictate, or it may be affected through the rules, that the division of payoffs is binary. If so, when one wins, the other loses. Such games are called *zero-sum games* (see von Neumann & Morgenstern 1944: 169−185). Conversely, games that

---

[29] The three-point list is not comprehensive, but tailored to the needs of the present study.
[30] I do not want to burden the thesis at this point by presenting the intricacies of signaling games in the theoretical context, and will instead leave that to Chapter Five.

distribute the payoffs more evenly are called *non-zero sum games* (Binmore 2007: 22, see also Dutta 1999: 7—8). In practice, everything that is not a zero-sum game is a non-zero-sum game.

These three aspects, information and its availability, cooperation and uncooperation, and types of payoffs, construct the basis of interpreting any game. As a last matter to be discussed in this section, I will introduce two ways of solving a game.

Solving a game means finding out the best course of action. As the players are rational, the best course of action is found by identifying the strategy with the highest utility as a function of the other player's choice. A *solution concept* is a systematic way of identifying such a strategy. Applying a solution concept means focusing on certain aspects of the game and defining the rational action to take from that perspective. I will introduce three solution concepts.

The first solution concept is *domination.* A game is solved for the strategy that dominates the others (if such is found). Strategy, to be clear, refers to a specific cell in a decision matrix or a specific path through a decision tree. It is a choice or a series of choices that leads to a specific outcome. Strategies are either dominated or dominating—indeed, dominated strategies are dominated by dominating strategies (Dutta 1999: 35—36, see also von Neumann & Morgenstern 1944: 60). Dominated strategies are weaker than the strategies that dominate them because they yield lower utility than the dominating strategy or strategies. A strategy is *strictly dominated* if all other strategies yield a better utility, and vice versa, a strategy is *strictly dominating* if it yields a better utility than all others. When analyzing (playing) the game with this solution concept in mind, the player identifies weak strategies (those which yield the lowest utility) and removes them from the game. The result is a restricted game, in which the same is repeated until it becomes obvious which strategy is likely to yield the best utility in all possible scenarios within the game.

The second solution concept is *best response* (also *best reply*). Best response yields the highest utility for the player regardless of what the other opponent chooses. A player's best response is the one that yields them the highest utility against the choice that they either know or assume their opponent is going to take (Dutta 1999: 63). In the Prisoners' Dilemma, the players' best response is to confess, because they believe that it is likely that the other will confess in order to walk free, or at least they cannot be fully sure that this would not happen. In the strategic form, that is, the decision matrix, best responses are marked by circling a payoff that meets the condition.

The third solution concept is *Nash Equilibrium*, developed by John Forbes Nash[31]. Nash Equilibrium is a situation where both players play their best response, and therefore, they have no incentive to change their strategy (Dutta 1999: 63—66). Nash Equilibria are "easier to spot in the strategic form" (Dutta 1999: 195). They are found by first looking at best responses:

---

[31] The life of John Nash is familiar to many from the film *Beautiful Mind* (2001).

> A Nash equilibrium is just a pair of strategies whose use results in a cell in which *both* payoffs are circled. More generally, a Nash equilibrium occurs when all the players are simultaneously making a best reply to the strategy choices of the others. (Binmore 2007: 25, emphasis in the original)

Indeed, as best responses are marked by circling payoffs that meet the best response condition, a Nash Equilibrium is found when the markings are in the same cell.

Here, at the end of this introduction, it is clear that a very narrow set of tools from game theory will be applied in this study. I find this necessary for three reasons. The primary one is manageability. In order to be persuasive, the version of game theory, a totally new set of tools to apply, needs to be manageable for a literary theorist. The second one is that I do not wish to clutter the information flow, as the game-theoretic framework will become strictly relevant only later in this thesis. For this reason, I chose to introduce only the very basics here, and build on that in the fifth chapter, where I construct two games per novel. Thirdly and finally, the task of finding and formulating ways in which systematic study of decisions can be relevant for the study of literature requires a more in-depth examination of the connection points between formulations of decision-making and formulations of literary narrative. While I find it important and valuable to promote the cooperation between game theory and literary theory by using game-theoretic methods in literary analysis, the weight of this study is on understanding how the decision-making process is constructed in the literary narrative. This, I believe, will make it easier for anyone to contribute to building a bridge between these two fields in their budding interdisciplinary.

This brings us to the topic at the center of this study—cooperation between the fields. As Ken Binmore straightforwardly advices, "it is important not to take the stories used to motivate games too seriously. It is the payoff tables […] that define the [games]—not the silly stories that accompany them" (2007: 20). His advice is accurate in the context he applies it in, but what happens when the payoff tables are constructed from literature in order to study them as literature? A problem between stories and payoff tables emerges, and to that problem I proceed now.

2.3   Coordination problem

To justify approaching literature from the rationality-of-choice point of view requires finding a way to make these in many respects conflicting practices work together. The conflict arises from the differing needs of the fields. Of the many sub-branches of decision theory, game theory has made efforts to create cooperation between the fields. Within its own needs, the field has successfully applied literary material to its question-setting. The same practice, however, cannot as such be transferred over to the literary studies' side of the bridge.

Where game theory requires information that adheres to a set form, literary theory creates information by interpreting breaches made in set forms. To

exemplify: The literary critic Frederick Jameson describes the genre of fantasy as a "celebration of human creative power and absolute freedom" (2005: 60, see also Oziewicz 2017: 3) whereas game theorist Steven Brams names fantasy one of the genres "least amenable" for game-theoretic scrutiny (1994: 36). It seems obvious that the fields value different aspects of literature.

Attempts at interdisciplinary cooperation thus face a *coordination problem*: Despite wanting to cooperate, we do not know what that would require. The coordination problem was identified and named by Steven Brams in a literary overview of previous studies in this young interdisciplinary field; studies that were conducted by game theorists and in which game-theoretic tools were combined with literary material (1994; 2012). In this section, I introduce his formulation of the coordination problem and adopt it as a starting point to a critical discussion. The discussion expands the scope of examination from only the views of game-theorists to those of literary theorists as well.

The views that I construct are constructed on the basis of the perspectives presented by the individual texts in the bodies of texts that I draw from. The views are collectively labeled as the *game-theoretic* or the *literary-theoretic* view, or a view *held by game theorists* or *held by literary theorists*. Obviously, these constructions are specific to this context. I do not wish to suggest that the game-theoretic or the literary-theoretic views are held by absolutely all game theorists and literary theorists, or exactly in the ways I express them. The purpose of these labels is to simplify the argumentation in this discussion.

I start by introducing Brams's formulation. In the first chapter, "Game Theory and Literature[32]," of his monograph, *Game Theory and the Humanities: Bridging Two Worlds* (2012), Brams provides an overview of previous studies in which literary works of fiction have been analyzed "in rational-choice terms" (1994: 34). Brams deems his overview "reasonably comprehensive" (2012: 1). The overview covers thirty-four studies[33] performed by game theorists that have used literary material in varying scopes in their analysis. These studies examine altogether thirty-five literary works[34] whose genres range from tragic plays to

---

[32] The chapter is an updated version the article "Game Theory and Literature", published in 1994. Updated are the list of previous studies (from 22 studies published between 1935 and 1991 to 34 studies published 1935−2009) and nuances in the way certain claims are made. I have used the article and the book chapter side by side due to these changes in argumentation. When relevant, I point these changes out in the text.
[33] Morgenstern (1935); Von Neumann & Morgenstern ([1944]1953); Vorob'ev (1968); Williams ([1954]1966); Rapoport (1960; 1962); Teodorescu-Brinzeu 1977; Schelling (1960); Rasmusen (1989); Schelling (1966); Dixit & Nalebuff (1991; 2008); Brams (1994a; 1994b; [1980]2003; 1997); Howard (1996; 1988; 1971); Lalu (1977); Steriadi-Bogdan (1977); Elster (1979); Mehlman (1990; 2000); Brams & Kilgour (2009); Riker (1986); O'Neill (1991); Chami (1996); Brams & Jones (1999); Holler & Klose-Ullman (2008); Huck (2008); Harmgart, Huck & Müller (2008; 2009); Chwe (2009). (Brams's study lists these studies but does not provide the references—they are not listed in my works cited either; just here for information).
[34] *The Odyssey* (Homer [725−675 BCE]1614, translated by George Chapman); *Lysistrata* (Aristophanes [411 BCE]1835); *Sir Gawain and the Green Knight* (anonymous, 14th Century); *The Feast of Brichriu* (anonymous, 14th century); *Richard III* (Shakespeare 1597), *Henry V* (Shakespeare 1599); *Merchant of Venice* (Shakespeare 1600); *Othello* (Shakespeare 1603); *Hamlet* (Shakespeare 1603), *King Lear* (Shakespeare 1606), *Macbeth* (Shakespeare 1606), *Measure for Measure* (Shakespeare 1623); *Bible* (KJV 1611); *Much Ado About Nothing* (Shakespeare 1623); *Wallenstein* (Von Schiller 1799); *Faust* (von Goethe 1808); *Eugene Onegin*

modern künstlerroman to *Bible* and medieval poems. To support the literary overview, Brams reports the results of a survey that he sent out to the scholars behind these thirty-four studies. The survey inquired about three things: The criteria for choosing the material, whether the results served game-theoretic or literary-theoretic aims, and what (if any) contribution to game theory the analysis of the literary work yielded (2012). The overview's "primary purpose is to emphasize literary themes amenable to game-theoretic treatment" (2012: 1). The most important findings of his overview are that the clarity required from a written work by game theorists seems to exclude vast bodies of literature from the group of amenable literary themes.

From this result, a juxtaposition between literary merit and game-theoretic relevance emerges. This phenomenon he dubs the *coordination problem*. He states first the problem and then suggests a way to fix it:

> Situated, as they are, in different worlds, game theory and literature have their own coordination problem, with game theorists and humanists[35] not often benefiting from each others' insights. What makes a literary creating succeed is not just its overall structure but also its details, including the emotional lives of its characters. Game theorists need to ponder these and adapt their theory accordingly, just as literary scholars need to appreciate that game theory has its own richness that goes beyond mathematical symbols and abstract forms. (Brams 2012: 27)

I connect the problem of not benefiting from each others' insights to the notion of valuing different aspects of literature, and I use Brams's dichotomy of *structure/details* as a starting point to navigating the disparity. The dichotomy is very simple: *Structure* refers to the plot — the logic of the events and the reasons given to individual trajectories within it — whereas *details* refer to everything else, from characterization, genre, period, and world-building to motifs and symbolism, and so on. The dichotomy suggests that Brams expects structure to incorporate all the necessary information for game-theoretic analysis, and that the details should only be taken into consideration to, perhaps, give credit to the literariness of the material.

I discuss the game-theoretic and the literary studies' views separately. When I discuss the studies conducted by game-theorists (in 2.3.1), I pay attention to aspects where a more profound understanding of *details* would have been relevant; perhaps to improve or deepen the analysis, or at least to explain something that is left unexplained. When I discuss the literary theorists' side (in 2.3.2), I will pay attention to their conception of *rationality* as a game-theoretic principle. Seeing that literary studies in rational-choice terms are few and far

---

(Pushkin 1825−1832); "The Purloined Letter" (Poe 1844); *Tannhäuser* (Wagner 1845); *Lohengrin* (Wagner 1848); *Rigoletto* (Verdi 1851); *The Adventures of Sherlock Holmes* (1892); *Tosca* (Puccini 1900); "The Gift of the Magi" (Henry 1905); *The Secret Agent* (Conrad 1907); *Light in August* (Faulkner 1932); *Black Boy* (Wright 1945); *The Masters* (Snow 1950); *The Mousetrap* (Christie 1952); *Dr. Zhivago* (Pasternak 1957); *The Caretaker* (Pinter 1960); *Catch-22* (Heller 1961); *The Princess Bride* (Goldman 1973). (Brams's study lists these studies but does not provide the references — they are not listed in my works cited either; just here for information).

[35] Brams's chapter is published in a volume that combines many aspects in the cooperation between game theorists and the humanities. In this chapter, "Game theory and literature," the meaning of humanists is specifically those humanists who study literary narratives.

between (Swirski 2007; 1996, Lanham 1973), and that Brams's plea for the literary scholars to consider the richness of game theory echoes the relatively long history of rejections (see Chwe 2009: 30; Daston 2004: 361; Brams 1994: 35n2), it is crucial for the attempt at coordination to explore not only the few examples of literary-theoretic use of game-theoretic tools, but also a number these rejections. To concretize the results of the critical discussion, I sieve out a selection of nine beliefs (five in 2.3.1, four in 2.3.2) that the fields seem to hold about each other. Finally, I make an effort to coordinate these nine beliefs into a set of guidelines (2.3.3) that can be employed in the present study that for its own part contributes to the formation of the practices of the interdisciplinary field.

2.3.1 Game theorists' beliefs

The first game-theoretic belief is that game-theoretic analysis should target the plot of the narrative. This aspect was touched upon already in connection with introducing the coordination problem above, and concerns the literary narrative as an object of game-theoretic analysis. Bearing in mind that the game-theoretic interest to literature involves the ambition to "make a contribution to literary analysis" (Brams 1994: 50), Brams suggests that the value of game theory lies in its ability to clarify "the strategic choices of characters by illuminating the linkage between their motives and their actions" (Brams 2012: 2). This posits certain requirements for a literary work. I present two of them in a row and then address them both.

Indeed, Brams maintains that "[g]ame theory makes plot front and center; when there is no strong plot or a storyline, as is the case in much contemporary fiction, then the theory has little to offer" (2012: 25; 1994: 51). Clearly, plot is central to the narrative in also literary terms: Aristotle's *Poetics* names "the combination of the incidents of the story" the very most important element of a narrative (1450a15) and Henry James views the plot and the character as functions of each other in an inseparable way (1986: 174). The plot does indeed give a story its structure. Game-theoretic trade is one that studies interaction through the notion of strategic choices, and obviously the data for constructing those choices must be available. Plot-centeredness implies that all the necessary data is found in the plot, and the use of details is not obvious for the game theorist.

The second game-theoretic belief is that game-theory should prioritize realistic narratives. In effect, the second belief concerns further restrictions for the material; unrealistic literary works do not have a plot in the sense in which Brams uses the term. Brams quotes Nigel Howard's survey response, in which the scholar, who has used literature and film classics to develop game theory, maintains that "plot is essential for the kind of great art which really changes people" (1990, quoted in Brams 2012: 25). Relying on this, Brams states that he is "not worried that game theory will suffer from lack of literary material to which to apply its methods, *some contemporary fiction notwithstanding*" (2012: 25, my

emphasis). Contemporary fiction, in Brams's use, refers to "[p]lotless [36] or surrealistic works" (Brams 2012: 5), or simply "works of surrealism and fantasy" per the first published version of the study (Brams 1994: 36). To Brams, surrealistic and fantastical narratives "may have aesthetic appeal" but they are the "least amenable to this kind of analysis" (Brams 2012: 5, see also Brams 1994: 36). Brams's starting point is that game theory can be applied to "literary works in which there is a plot and characters indicate reasons for acting the way they do" (2012: 5), *ipso facto*, it is suggested that this is not the case in surreal and fantastical storytelling.

Granted, fantasy and surrealism can be far-removed from the actual world in many ways. The world of fantasy can be physically or societally different, causing actions to have different meanings or consequences. For example, meeting the King of Hearts, Alice is told to leave the court because of rule 42, which applies because she is "more than a mile high" (Carroll [1865]1996: 113). Similarly, the world of surrealism estranges its world from the real world by, perhaps most importantly for the present context, making the characters act in unexpected ways. For example, upon waking up, Gregory Samsa props his head up to realize that he is a giant insect, but dives right into sulking over his career choice of commercial traveler (Kafka [1915]1972: 89). The linkage between the characters' actions and motivations, or the context of interpreting them, is not entirely straightforward. Brams does not argue that game-theoretic modeling would be viable exclusively to literature that would have no fictive elements (such narrative would be impossible[37]), but he clearly suggests that the more mimetic a literary work is, the better it serves the game-theoretic trade.

A literary work's representation of reality is an issue much more complex than physical resemblance. Therefore, excluding entire genres is throwing the baby out with the bathwater. Plot-centeredness (the first belief) and adhering to the realist paradigm (the second belief) can be understood as two facets of the same requirement of clarity: A literary work amenable to game-theoretic analysis needs to, according to Brams, above, have "a plot and characters [that] indicate reasons" (2012: 5)—there needs to be a structure and a rationale for the steps within it. This requires a clarity that plot-centeredness and realism can be expected to deliver, but it is not guaranteed that they do; they are simply two possible ways to achieve clarity.

Going through the list of previous studies that Brams overviews reveals that detective novels and tragedies are well represented in the material. Such genres

---

[36] I assume that when employing the term, Brams refers to an implicit plot rather than the absence of plot altogether. The plot of the work emerges "when we specify how this is related to that, by causes and motivations, and in what ways all these matters are rendered, ordered, and organized so as to achieve their particular effects" (Abrams 1999: 224). Even in surrealist works (such as Kafka's *Metamorphosis*), where these relations are blurred, a certain structure of incidents can be identified, as events happen as a result of certain motivations producing a certain effect. A plotless narrative is not a narrative at all, and hence it is an impossibility. I continue to use the word *plotless* within this argument, but without a fixed definition.

[37] Absolute mimesis (or absolute realism) is not practically feasible (as famously argued by Erich Auerbach in the opening chapter to *Mimesis*, "Odysseus' Scar" (1953: 3—23, see also Den Tandt 2005: 68—70).

can be expected to describe the reasoning process in detail: Sherlock Holmes explains his train of deductions to John Watson, and Floria Tosca shares her rationale for betrayal with the audience. Both characters and stories provide a clear structure of events and reasons for them moving in the sequence they do. This does not have to be achieved by excluding genres that *might not* cater to clarity as readily. Clarity can be achieved by more rigorous consultation of the details. This becomes clear in connection with the third belief.

The third game-theoretic belief is that the character's actions should be considered mimetic. I address this through Brams's discussion of Nigel Howard's (1971) analysis of Harold Pinter's play *The Caretaker* (1960). *The Caretaker* is an absurdist, tragicomic play set in a domestic environment. The play involves three characters and three scenes. Its themes investigate power and sanity that play a part in the repeated attempts at coalitions between two of the three characters (compositions vary).

I provide a summary: The characters are a homeless man called Davies and the estranged brothers Aston and Mick, who live together in Mick's house. One day, after a coincidence, Aston brings Davies into the house to live with them for a while. They all have their problems: Mick is renovating his house but the project advances very slowly; Aston is recovering from a series of electric shocks he was given in a mental asylum, but it is not clear if he ever will fully recover; Davies keeps insisting that he needs to get to Sidcup[38] to get his papers and set his life in order but does not seem to get there. The gist of the play is that none of these problems will ever be solved. The play ends in a situation where no solution is formed, and a similar cycle is expected to be continuously repeated in the future.

To Howard, the logic of the play corresponds to the game of split-the-dollar. Normally a two-person game, it becomes a three-person one in the play. The idea remains the same; "two players simultaneously make demands to divide a dollar. Each player receives his demand if the sum of the demands does not exceed one, a payoff of zero otherwise" (Anbarci 2001: 295). Howard explains how "[t]his zero-sum game has no stable solution, because however the dollar is divided, there are always two players who can do better by agreeing on another split that excludes the third" (Brams 2012: 11). Neither the game nor the play really has an ending.

Howard finds the play "almost classically austere and simple from a game-theoretic point of view" (1971: 145); not more than a dramatization of the game. The dramatization, to Howard, is not a success: "Pinter's view is the bleak, cynical one obtained by supposing that adults do not grow out of the 'zero-sum' mentality of children" (2012: 12). This Howard finds, simply, "unrealistic […] people are both more clever than this […] and more stupid" (Howard, in Brams 2012: 12). While it might be that Brams's excerpt of Howard's survey response is unfavorable, it seems that Howard confuses the descriptive with the normative. What he accuses *The Caretaker* of is that the play is not strategically accurate because it is staged as zero-sum. Because the characters do not find a way to cooperate and share, it does not describe reality as it is, and thus it is false.

---

[38] An area in South-East London.

Considering the present context of the role of interpreting the narrative in game-theoretic analysis, Howard's characterization is problematic in two ways. Firstly, it is unreasonable to expect a normative model to have substantive content and relevance[39]. Secondly, and more importantly, it seems that Howard interprets Pinter's play through the lens of realism, not appreciating that its interpretative premises are different by virtue of the play's genre. Again, Brams can obviously offer only brief glimpses into the survey responses, so it is possible that Howard did contemplate the matter further. However, as it stands in the published overview, Howard does not consider the play as a part of its movement, the Theatre of the Absurd[40];the bleak, cynical view that Howard identifies in the play is in fact an insightful description of the human condition as viewed by Absurdism. It comes across as a flaw to Howard, however, as he does not adopt an interpretative lens that acknowledges the stylistic nuances.

To Howard, literary narratives are instructive of reality. The belief is in line with the (inventive and insightful) way Howard has employed literary classics in the creation of drama theory, a variant of game theory that leverages on well-known literary and film classics to model situations where emotional reactions change the game (Howard 1994: 187−206; 1990: 215−227, see also Howard et al. 1993, Howard 1992). The instructive role of literature is further confirmed in his survey response (Howard, quoted in Brams 2012: 26):

> [Game theorists] benefit from the great store of intuitive wisdom about human behaviour contained in the world's fiction. They should continually be testing their theories against this. If it doesn't make sense to Shakespeare, perhaps it doesn't make sense!

While this humoristic and good-willing statement praises the insightfulness of literature, it also assigns to it a role that it is not necessarily fit to play. Literary narratives and their characters are not exclusively mimetic representations of reality; they are not *only structure*. The conventions of a genre belong to the group of *details* whose importance is revealed through this example: Focusing exclusively on the work's structure is likely to cause confusion. The work's genre, along with its other details, must be taken into account already when constructing the game.

The fourth belief is that game theory should study characters with consistent preferences. This fourth belief thus echoes the lineation of plot-centeredness expressed by the first belief: The character is in a very literal sense taken as an incident of the plot (see James 1986: 174), and thus, also the character's actions are analyzed by structure rather than detail. To justify this belief, I look at Brams's analysis of a scene he finds formally successful in William Faulkner's

---

[39] (see Binmore 2007: 54). Assuming that people would act differently from a normative game in real life is likely to be true, as they might not "take the trouble to think through the problem" (see e.g. Kahneman 2013: 42, see also Tversky & Kahneman 1986, 1981) or they might not have all the necessary information at hand (Harsanyi 1967: 163).

[40] Harold Pinter was a prominent artist in the group of dramatists who "shared a pessimistic vision of humanity struggling vainly to find a purpose and to control its fate" (Britannica 2021).

Light in August (1932/1950 [41]). Brams praises Faulkner (2012: 2, 9−10) for logically accurate game-theoretic representation of strategic thinking in a game between the officer Percy Grimm and the prisoner Joe Christmas. The game is constructed from the basis of a brief excerpt in which Grimm chases Christmas. Brams describes how "Grimm thinks, as the pursuit by bicycle and on foot nears its end, like a game theorist" (2012: 9). Brams's excerpt from the novel jumps into the chase in medias res, reporting Grimm's thoughts: "He can do two things. He can try for the ditch again, or he can dodge around the house until one of us gets shot" (1950: 404). When Grimm runs for the ditch and realizes that he made a mistake, the narrator renders Grimms thoughts: "[H]e had *lost a point*" because "Christmas had been watching his legs all the time beneath the house" (Faulkner 1950: 405, my emphasis). Brams analyzes the scene through *mixed strategies*[42] (simply put, randomizing), and finds the arbitrariness of landing on an option and the pervasive confusion that Grimm feels typical and accurate for anyone using mixed strategies (2012: 9−10). In this excerpt, Faulkner "captured the spirit of the theorem[43]" (Brams 2012: 2) in the at least seemingly random choices that Grimm makes during the chase.

The scene narrates like gameplay. This is visible in the expression *lost a point* and in the device of "invoking a fictitious 'Player'" (Brams 2012: 2): Grimm pretends that he is a pawn moved by a Player, a literary device that provides a distanced, as-if objective focalization to Percy Grimm, referred to in the text by the lexicon *player*, in the game of catching the criminal. This makes the decision-making process extremely lucid and adds to the feel of the chase as "all cool calculation" (Brams 2012: 9). Therefore, Brams expresses surprise when the chase ends in a violent outrage in which Grimm castrates and kills Christmas. Brams contemplates: "The beast in Grimm coexists with the cerebral Player, which is a juxtaposition that game theory normally does not entertain when it posits a player with one set of preferences" (2012: 9; 1994: 39). For Brams, it is surprising that the otherwise undisturbed character was incongruent with the savage intentions he, instead and also, entertained. He does speculate that the authorial purpose of the distancing focalization might have been to create a fanatic impression of Grimm, but still continues to find the *cool calculation* and *gruesome* behavior mismatching, failing in finding a way to include these two different motivations into the same set of preferences.

This is where details of the narrative can help the game achieve clarity. It is non-negotiable for game-theoretic analysis that the character's preferences must

---

[41] Brams has used the 1950 version in his analysis whereas my excerpts come from the 1932 version.

[42] Mixed strategies is a way of randomizing between *pure* strategies. Pure strategies are the ones listed in the decision matrix. By default, choosing one of them is choosing that 1/1 of the time. A mixed strategy takes place when the player chooses all or some of the strategies less that 1/1 of the time. An illustrative example is rock-paper-scissors, where the ideal strategy is to randomize 1/3 rock, 1/3 paper, 1/3 scissors—keeping the opponent guessing (see Binmore 2007, Harrington 2009). I do not use mixed strategies in my analysis in the fifth chapter and so I do not explain them in more detail in the thesis.

[43] Specifically, the spirit of the *minimax* theorem that provides a certain minimal utility when using mixed strategies.

be consistent, but a literary character's consistency might not always be available without interpretation in the literary sense. I proceed to argue that what Brams sees as problematic duality in Grimm's character is not duality at all but, in fact, consistency. This becomes clear when the excerpt is analyzed as a passage in a narrative rather than a unit separate from it. To spell out what I mean, I take a closer look at Percy Grimm's character in William Faulkner's *Light in August*[44] (1932), drawing from parts of the novel that Brams did not consider.

Preceding the description of the chase in the novel, Grimm is introduced in detail through an analepsis that takes the reader back to Grimm's teenage years. He is described as a boy of little prospect, predominantly regretting that he was not born earlier so that he could have fought in the European War (what contemporary history knows as WW1). When the new civilian-military act[45] makes it possible for him to enlist in the military, he finds a purpose for his life (Faulkner 1932: 426—427, my emphases):

> He could now see his life opening before him, *uncomplex* and inescapable as a barren corridor, *completely freed now of ever again having to think or decide*, the burden which he now assumed and carried as bright and weightless and martial as his in-signatory brass: a sublime and implicit faith in physical courage and *blind obedience,* and a *belief* that the white race is superior to any and all other races and that the American is superior to all other white races and that the American uniform is superior to all men, and that all that would ever be required of him in payment for this belief, this privilege, would be his own life.

Grimm is aggressively consistent and deeply enjoys being so; *blind obedience* in the face of the *beliefs* he holds makes his life *uncomplex*, completely *freed from thinking*, from defining motivations for his *decisions*. Within the ideological background that problematizes socio-cultural power-relations in the interwar Southern America, Grimm's character in the supporting cast is that of a white vigilante, a fervent defender of his unquestioned truth he feels entitled to (see Jackson 2011: 201—204). His prey, Joe Christmas, is not white but mixed race — abandoned as an orphan, his roots are unknown. He passes as white by complexion, but he and the majority of characters who describe him consider him having both black and white "blood" in him (Faulkner 1932: 100, 113, 424). In this light, Grimm's assault on Joe Christmas becomes a direct consequence of Grimm's beliefs: Christmas disrespects and therefore threatens Grimm's truth by disgracing the American man not only by disobeying the law but also, and perhaps even more importantly, by being non-white. To Grimm, Christmas is an abomination (see Jackson 2011: 189—206). The violent outrage in which Grimm both murders and, importantly, castrates him, can be interpreted as consistent

---

[44] As a sidenote: *Light in August* is a surprising example of a work that would yield itself in an exemplary fashion to an analysis of rationality. Faulkner's novel is archetypally modernist in its jumpy, inconsistent structure built on flashbacks that the two main characters experience, independent of each other. Yet, the part of chapter 19 in which Grimm's hunt for Christmas takes place is told by an omniscient narrator rather than shown through dialogue between varying focalizations without any hierarchy provided by a narratorial figure. This digression from the narration mode of the bulk of the narrative further dehumanizes Grimm and, at the same time, makes the resulting, more straightforward style of the text yield itself better to game-theoretic analysis.
[45] Referring to the National Defence Act of 1916 (see Jackson 2011: 202).

with the beliefs Grimm holds about being worthy and being a man. Grimm is a *flat* character (see Forster 1976: 66—67), and therefore highly consistent. The discrepancy identified by Brams between the calculated hunt and the brutal catch is one of situational demeanor rather than introducing a second set of preferences. When viewed through a more rigorous consultation of details, the calculation and bestiality go together, under the same set of preferences.

The focus of the fifth belief remains on the character, stating that game theory should not consider the character's emotions. The "emotional lives of the characters" were also named by Brams as one of the elements for game theorists to "ponder" (2012: 27). Game theory invariably and necessarily assumes rationality of the players, and emotions are often difficult to rationalize (see Bermúdez 2021: 122; Brams 2012: 4, 13, 19; see also Howard 1994). Continuing to draw on Brams's overview, I proceed to his discussion of the political theorist William H. Riker's analyses (1986; 1962) of Charles Percy Snow's[46] *The Masters* (1950), one of Snow's most well-known works.

Riker's game-theoretic analysis of the novel focuses on coalition-building amongst the group of thirteen boys who study in (a fictive version of) Cambridge. The novel's plot revolves around the election of the new master for the boys' college, and the plotting that ensues around the election campaigning forms the basis of the games. All emotions in the novel, Riker maintains, concern "political ambition" or "political success" as opposed to "seductions, quarrels, and chases" (Riker 1986: 52, see also Brams 2012: 12). Indeed, Riker describes *The Masters* as "so far as I know, the only one [novel] in which politics is not mere background but the very plot itself" (1986: 52). This is a praise, as "*all other novels* concern character development, love affairs, hurried journeys, family history, etc." (Riker 1990, quoted in Brams 2012: 12). At the same time, he admits that coalition-building is "hardly the stuff to release readers' adrenalin" (Riker 1990, quoted in Brams 2012: 12). The underlying message juxtaposes literary merit and game-theoretic adaptability.

Whether Riker's claim in the case of Snow's novel[47] or concerning literature in general is fair and accurate is up for debate, but this is not essential for the discussion. For the purpose of constructing the beliefs that hold up the coordination problem, the important notion is that, in Riker's view, lack of emotions serve the game in *The Masters* because the characters are not distracted from the game by anything whatsoever.

---

[46] C. P. Snow (1905—1980) was both a scientist and an author. He is well-known especially from his Rede Lecture speech given at Cambridge in 1959, later published as an essay called *The Two Cultures and the Scientific Revolution* (1961), in which he drew a sharp distinction between the cultures of the sciences and the humanities. The second level title of Brams's monograph, "Bridging two worlds", can be interpreted, at least indirectly, to refer to Snow's essay.

[47] Concerning Riker's statement on the absence of character-development in *The Masters,* it is curious that a review on *The Masters* describes it as "at times slow moving, the emphasis on character and background rather than advancing the plot" (Kirkus reviews 2022). In the context of the present section, this point is not labored any further, but the general point implied—that the two sets of scholars read literature very differently—is.

Brams addresses the question that arises from Riker's statement: Are literary works like *The Masters* "only plot and calculation—or *something more.* And if the latter, does the something more require that characters transcend their own rationality?" (2012: 13, my emphasis). He does not explicate what he means by *something more.* However, the meaning can be drawn from the answer to his own question that ends his examination on this issue: "I argue not: In an appropriate game, rationality—with respect to some plausible goals—perfectly well explains the choices of most characters we find *compelling* in literature" (2012: 13, my emphasis). In effect, he juxtaposes the game (only plot and calculation) and the quality of being compelling, and breezes through this rather complicated question by throwing his faith into *appropriate games* with *plausible goals.*

This brief notion aligns the scholar's task with the act of coordination more precisely than Brams seems to understand: Game theory, indeed, must study characters with straightforward emotions, but the emotions need to be straightforward *within a game*, not within the entire literary work. Delimiting the game *appropriately* with respect to *plausible goals* is the scholar's task.

2.3.2 Literary theorists' beliefs

Shifting to the literary studies' side of the coordination problem now, I start by introducing the literature I draw from. If the number of studies was low in Brams's overview[48] focusing on game theorists studying literature, employing game theory in the faculties of literary studies is even more niche. Here, I draw primarily from the literary scholar and philosopher Peter Swirski's monograph *Of Literature and Knowledge: Explorations in Narrative Thought Experiments, Evolution, and Game Theory*, and especially its fifth chapter, "Literature and Game Theory"[49] (2007: 183—200), which provides an overview of previous studies into the interface of the two fields. Swirski's overview has a different starting point than Brams had: Brams's task was to identify literary themes that would yield themselves to game-theoretic analysis, whereas Swirski's task is to promote interdisciplinary literary research in general, game theory being one of the possible partners. In his monograph, Swirski revises and revisits his earlier writings, through which he problematizes the current state of literary studies, as well as its procedure for conducting interdisciplinary research in general.

Here, I construct four beliefs (numbered 6—9) from the perspective of literary theorists. On this literary side of the coordination problem, the beliefs do not solely describe the interdisciplinary practice of analyzing literature in

---

[48] Brams's "reasonably comprehensive" (2012: 1) overview involved thirty-four studies conducted in the course of 87 years (1935—2012, if we include the monograph in which the overview was [re-]published).

[49] This chapter (2007: 183—200) revisits and revises Swirski's earlier articles: "The Role of Game Theory in Literary Studies" (Swirski 1995) and "In the Blink of an Eye" (Swirski 2000), and elsewhere in the work, within the same theme of game theory and literary analysis, also "Literary Studies and Literary Pragmatics: The Case of 'The Purloined Letter'" (1996: 69—89). When something of importance from my perspective is left out of the chapter, I refer to the original articles instead without signaling it otherwise than in the reference.

rational-choice terms, as for literary theorists, formulating an interdisciplinary practice with game theory is not a question of *how*, but rather *whether to* at all. Consequently, the following four beliefs concern reasons for and against forming, promoting, or developing the interdisciplinary field, and critically evaluate the compatibility of game-theoretic frameworks and literature as an object of study to begin with.

The sixth belief that holds up the coordination problem is that game-theoretic rationality restricts the narrative. This becomes clear by looking at three reasons that Swirski (1996, see also Swirski 2007: 1813−200) names for the scarcity of previous studies and, consequently, reasons to reject the interdisciplinary practice. Echoing Brams's claim that game theory is often "misunderstood by humanists" (Brams 2012: 4), Swirski critically observes three main veins of criticism specific to literary studies (Swirski 1996: 71, my emphases):

> In departments of literature, the most ardent criticism of [game theory] seems to come from three sources. One is a *misguided form of feminist scholarship* that brands anything that purports to study rationality as patriarchal and oppressive. The second is the *"anti-humanist" rejection of concepts of individual agency*. The third strain, partly overlapping the second, is the rising tide of *epistemological relativism* which, although sweeping the humanities in general, is particularly strong in literary studies. Here, as far as one can make it out, the argument seems to be that a *study of strategic and rational choices is irrelevant, since any human choice is as valid as any other*.

As in Brams (2012; 1994), the claim of humanists misunderstanding game theory is not accompanied by citations, nor are the studies discussed in further detail[50]. Therefore, I analyze the beliefs of these three groups or schools of thought—feminist criticism, anti-humanism, and epistemic relativism—by their key ideas. I discuss each line of criticism individually and proceed to argue that despite the differences between their premises, they reject game theory based on one and the same belief.

The first field of literary studies to reject game theory, according to Swirski, is feminist criticism. Swirski's comment on the feminist biases against the concept of rationality pokes at a larger debate than it perhaps immediately seems to. As Swirski implies, the feminist critique against rationality is against the philosophical concept and formulation of reason and rationality[51]. This sentiment is also present in Deborah Heikes' exploration into the connection points between the concept of rationality and feminist philosophy (2010, see also Heikes 2004: 315−335). Heikes defines these concepts as follows: "[R]eason is the faculty of forming beliefs, making judgments, and choosing action. Rationality is the

---

[50] I contacted Peter Swirski for sources, but, understandably, the 25 years between the article and the inquiry were "too long to add anything" (6 May 2021).

[51] I believe that Swirski's argument is less potent now than it was 15 years ago, when it was made, due to the advances in feminism since then: The waves of feminism obviously overlap, but the development over this 15 year period involves, roughly put, the movement developing from its third wave to its fifth wave. The third wave focused largely on expanding equality to marginalized groups, whereas the fourth wave focused on visibility of the movement, and the currently unfolding fifth wave, intertwining with the previous waves, concentrates on changing societal structures from the inside. (Courtemanche 2021.) The latest development, in my view, makes working with some sort of rationality a necessity.

activity of that faculty. Put another way, rationality is about responding to reasons both for and against beliefs and actions" (2010: xvii). Technical formulations of rationality, which include the game-theoretic, are accused of blurring the meaning of rationality by over-complicating it (Solomon 1992: 599, my emphasis, see also Heikes 2010 xviii):

> [Rationality] has been obscured; ambiguities and equivocations have been plastered over; ever more technical meanings have been invented and then undermined (*for example, Bayesian and other concepts of maximization in decision theory*); and ever more stringent criteria have been applied to guarantee that, in the last analysis, no one could possibly qualify as a rational agent unless he or she had pursued at the minimum a baccalaureate, if not a Ph. D., in philosophy.

Making rationality technical and academic in the way Solomon describes, rather than making it "pedestrian and ordinary" (Heikes 2010: xviii), can indeed be seen as an act that promotes patriarchal and oppressive values, creating inequality. The traditional (i.e. Enlightenment) sense of rationality is characterized as a rigid framework by Heikes: "[O]bjective, universal, totalizing, autonomous, transcendent" in nature (2010: xviii). It is difficult to see how studying literature from a normative, elitist, evaluative standpoint like that would be persuasive. When this is what rationality has to offer, the game-theoretic adaptation of rationality is rejected by extension.

The second strand of criticism Swirski mentions is the *anti-humanist.* Here, the logic is straightforward. Especially within the field of literary studies, anti-humanist approaches to the literary narrative have been studied through the experiments of modernist and post-modernist writers on the literary focus[52] or *focalization* as the narrative focus (Genette 1980: 189, see also Brooks and Warren 1943). While anti-humanist perspectives can take many forms according to the context they are applied in, the fundamental idea with the school of anti-humanism is to question the default role of the human subject: "Anti-humanism posits that the rationality associated with consciousness in the Enlightenment ideal of historical progress through autonomous individual agents is a myth" (Kuhn 2009: 1). Instead of the subjective, anti-humanism focuses on the interrelated; instead of *I*, it focuses on a *group* (Kuhn 2009: iii, 6). It refuses the point of view that is tied to the time and the space occupied by the subject. Accordingly, the agent of anti-humanism is necessarily one where the *I* coexists with the *other* (see Bilgisel 2016: 243−261) and that does not focus on the diachronic development of a single agent (see Kuhn 2009: 8, 174). This makes it unnecessary to analyze the strategic decisions of individual agents, resulting in the relative lack of relevance of game theory for this field.

The third line of criticism in Swirski's summary is "epistemological relativism" (Swirski 2007: 71), better known as *epistemic relativism*. Epistemic relativism denies the possibility of objective truth, stating that instead the truth is context-bound and subjectively justified (see Seidel 2014: 7−45). In literary

---

[52] Such as the protagonist Robyn Penrose in David Lodge's *Nice Work* (1988): Robyn Penrose insists on being aware of "the discursive formations that determine [her]" (1988: 22).

studies, this notion is a central premise held by many postmodern authors and reflected into the premises of studying postmodern literature[53]. In practice, this can be witnessed in, for example, experimental narrators who resign from the role of an "all-powerful storytelling authority" and come across as untrustworthy instead (Sharma & Shaudhary 2011: 189). It follows that instead of trying to establish a sense of truth concerning the world (as often is the task of Modernist literature exploring Enlightenment ideas), postmodern literature shows a "distrust of totalizing mechanisms" that would make such meaning emerge (Sharma & Shaudhary 2011: 189). Rather than educating the reader by offering a perspective to truth, postmodern literature problematizes the very representation of it. In this sense, Swirski's characterization that "a study of strategic and rational choices is irrelevant, since any human choice is as valid as any other" (2007: 71) translates through a less prestigious sense of being *valid* altogether; when truth is irrelevant, validity is an empty concept.

These three branches of literary criticism (and philosophical thought) differ vastly from one another. Yet they include the same aspects of incompatibility between game theory and literary studies. According to these three veins of criticism—the feminist, anti-humanist, and epistemic-relativist—any framework operating from the paradigm of rationality forces a restrictive agenda on the interpretative practice. Game theory's quality of being restrictive is based on rationality as the founding element of strategic thinking. Yet the way it restricts the literary analysis must be seen as separate from a restriction of the substantive content of the literary work. The claim that these three criticisms present, according to Swirski, is that game theory restricts literary analysis *by making it substantively normative*. That, however, it is not able to do. Binmore explains:

> Game theory can never be a threat to any *consistent* religious or ethical system, because it has no more substantive content than arithmetic or logic. It only says that some propositions aren't consistent with other propositions. Like arithmetic or logic, it can therefore be used on either side of any argument. (2007: 62, my emphasis)

Game-theoretic approaches to literary material must be understood apart from the philosophical notion of rationality that the feminist line of criticism brought up, because it does not carry the content that the philosophical notion does. The anti-humanist point of view to a work of literature can facilitate game-theoretic analysis even though it presumes the perspective of a player, because *player* is not synonymous with *individual.* Finally, even though game theory always aims to establish a solution by shedding light on the patterns of consistency, it obviously illuminates different facets of the question as a natural part of the analytic procedure. Having now discussed why game theory must be rejected as an intruder to the departments of literature, excavated the underlying belief(s) and argued that the fears that this belief incorporates can be relieved by understanding the role of rationality in game theory better, I move away from criticisms whose rejection is based on principle. The following three beliefs are

---

[53] I refer to frameworks such as *metanarrative* (Lyotard [1979]1984) or *simulacra* (Baudrillard [1981]1983).

grounded in the accounts of literary scholars who have employed game-theoretic tools in the analysis of literature.

The seventh and eighth beliefs are constructed on the basis of the philosopher and literary critic Richard Lanham's influential study that "for more than a generation […] vaunted its allegiance to game theory" (Swirski 2007: 183). Lanham's chapter "Games, Play, Seriousness" in his monograph *Tristam Shandy, Games of Pleasure* (1973) studies the game-like elements in Laurence Sterne's *The Life and Opinions of Tristram Shandy, Gentleman* (1759). It can be speculated that the study, "[a]uthored by a scholar known for discerning work in the field" (Swirski 2007: 183) is likely to have contributed importantly to the conception that many literary scholars have of the prospects of employing game theory in literary analysis.

I introduce the three beliefs in rather rapid succession, for their rejection of game theory is very lucidly expressed in one footnote (albeit a somewhat lengthy one). Noteworthy is that Lanham's negative perception of the potential of the interdisciplinary practice is based on methodological considerations rather than on the concept of rationality in and of itself (cf. belief six). However, it must be admitted that, at places, Lanham's conception of game theory is simply flawed. While game theory is generally "used to explore and understand social phenomena" (Harrington 2009: 2) ranging "from cooperation to conflict" (Mimbang 2016: 4), Lanham describes it as incapable of understanding "conflict as it occurs" and describes it instead as a collection of "special games" (1973: 38n2), which presents a misunderstanding of the role of games in game theory on a fundamental level. However, these misunderstandings do not negate the relevance of Lanham's work in the context of the present discussion; on the contrary, it is for that very reason that Lanham's solutions can shed light on the beliefs that, on the side of literary studies, sustain the coordination problem.

Leading into the analysis, Lanham contemplates that game theory "provides some beguiling metaphors for the literary critic" (1973: 38) and sets to analyze the use of them. The study's game-theoretic background is explained mostly in hefty footnotes. This use of footnotes signals a certain weariness: Lanham admits openly that he has "neither space nor competence here to explain game theory even in its simplest outlines" (1973: 38n2). Despite declaring his lack of space and competence, Lanham does explain his conception of game theory in the footnotes, and explores the relevance of "a body of knowledge called 'game theory'" in the context of Sterne's novel (Lanham 1973: 37). While explaining how game theory, in his interpretation, works, he makes several claims about the compatibility of the fields. I discuss two of them as beliefs that sustain the coordination problem.

The seventh belief is that a narrative cannot be reduced into a matrix. This belief is based on Lanham's perception of game theory as a narrow field restricted in its relevance. He explains the restrictions that game theory introduces (1973: 38n2):

> To be reducible to a matrix and hence to fix into game theory, a game must be very simple. Most of what the layman would call games are far too complicated for

treatment by game theory. Special games, in fact, are usually invented for it, the most complicated being the simple kind of dilemma most of us had in our elementary logic class at school. With conflict as it occurs either in ordinary life or in imaginative literature, it cannot deal at all […]

Deriving from the sixth belief, Lanham is not concerned that game theory's restrictions would restrict the literary material or threaten its analysis by simplifying it. Instead, he sees that the two are inherently incompatible: Literature is too complex to be analyzed in the framework of game theory.

Indeed, to be reducible to a matrix, a game must be very simple. However, Lanham seems to suggest that a substantial part of a literary work, if not the whole work, should be reduced into a matrix. His argument is subject to a logical fallacy; when game theory cannot explain all the aspects of a literary work, it should not be used at all. A game, however, can fruitfully be used to shed light on an aspect of a narrative, not the whole narrative (apart from what the narrow scope reveals about the narrative as a whole). It cannot embody the literary narrative, but this does not mean that it would not be useful in the study of it. Not considering this possibility, Lanham ends up compensating for "the beguiling metaphors" of game theory (1973: 38) with tools from other disciplines. The concept of *game* assumes a philosophic-ludological definition (Ehrmann et al. 1968; Huizinga [1936]1964, see also Lanham 1973: 38−39) where its connections to humanity and culture are centralized, and its analysis is performed using rhetorical tools (Berne 1964, see also Lanham 1973: 39−40). In practice, he shifts the focus of the analysis from form to content. I do not explain these concepts nor the analysis in detail[54]. Instead, I focus on understanding the minutiae of why, in Lanham's view, game theory cannot serve literary analysis.

Secondly, and concerning the eighth belief, what game theory lacks as a framework for studying literature becomes apparent from what Lanham adds to compensate it. Lanham states that the analysis of play in *Tristam Shandy, Gentleman* requires a theory between the freedom of philosophy and the restrictions of mathematics: "[O]ne that allows some of the mathematicians' *schematic clarity* but does not depend on their—for our purposes crippling— premise of *rational players*" (Lanham 1973: 43, my emphasis). The premise is crippling because game theory, "restricted to the rational player, can afford much more formal coherence" than "provid[ing] strategies […] for people as they are" (1973: 44). Per Lanham, neither people nor literary characters are rational players, and therefore, the rational player of game theory cannot depict them. Whereas the seventh belief concerned the (negative) correspondence between the game and the narrative, the eighth belief concerns the (equally negative) correspondence between the rational player and the character: A literary character is not reducible to a rational player.

---

[54] The analysis shows that Lanham does not consider game theory a sufficiently comprehensive framework for literary analysis. Yet the way this comes through in the analysis involves some misuse of game theory. Critical analysis of Lanham's procedure in the chapter using game theory can be found in Swirski 2007: 183−186 and a brief review of the entire work in Hartley 1974: 136−140. I am more interested in what belief(s) led Lanham to perform the analysis he did.

In Lanham's view, rationality is understood in the mathematical sense of consistency that makes the complex literary character and the simple rational agent incompatible. The rational player must be restricted to fit the game they play, whereas the character is, at least in the scope in which literature is discussed in the present thesis, restricted to the literary work. The coordination problem is sustained by the insistent misunderstanding of the relationship between these frameworks: These two actors and these two contexts are not commensurate. Instead, a rational player is a simplified construction of the character, present only for the duration of the game. It initially serves the purpose of the game and its delimitations, and through that, ultimately, the analysis of the literary work. Analysis of a literary work in rational-choice terms is always restricted to the game, but the game does not restrict the interpretation of the literary work as a whole: Rationality is, after all, the guideline only of the formal, strategic analysis, not of the analysis of the substantive content. *These are two different analytic activities*. The scope of the game cannot be the whole work, as the whole narrative is not a game but holds multiple game-like settings that can be constructed into a game. Rationality is a tool that sheds light on these restricted contexts from the point of view of the strategies at work. Thus, the game and player are restricted versions of the narrative and character.

This dualistic view of character/player, narrative/game, and their sequential treatment in the analytic practice can be supported even by the very sources used by Lanham. He names the game theorist and social scientist Anatol Rapoport (1960; 1962; 1966) as his main source of knowledge concerning game theory. Rapoport characterizes game theory as follows: "The great philosophical value of game theory is in its power to reveal its own incompleteness. Game theoretical analysis, if pursued to its completion, perforce leads us to consider other than strategic modes of thought" (1966: 214). Hence, Rapoport describes game theory as a tool rather than an interpretative framework. Indeed, this is what it must be for literary studies. Lanham, however, fails to see the use of game-theoretic modeling as a tool or a framework. One reason for that might be that Lanham is asking questions that game theory cannot answer. He does posit the question of what a body of knowledge called game theory can say about Sterne's novel (Lanham 1973: 37), but ends up studying what *game* is in Sterne's novel from a strategic point of view (which brings along the toolkit of rhetoric). He shifts from analyzing the form of the game with rationality to analyzing the content of the narrative with the toolkit of rhetoric to complement the game-theoretic "metaphors" (Lanham 1973: 38). Lanham observes the play but ends up disregarding its rationality.

Interpreting rationality as a suggestion is perhaps the clearest case of humanists misunderstanding game theory (see Brams 2012: 5, see also Chwe 2013; 2009). Players can be rational or irrational, but regardless, rationality remains as the reference point from which deviations in rationality are understood. It seems to me that, in practice, the misunderstanding of the role of rationality happens when the scholar is trying to ascribe rationality to the literary character too early. Studying literature in rational-choice terms does not require that their rationality

should be pre-approved in any way — the character does not need to be rational in the scholar's eyes prior to conducting the game-theoretic analysis. Rationality is the *result* of the game-theoretic analysis. This dynamic is evidenced by the previous studies conducted on, for example, the Shakespearean tragedies (see e.g. Lalu 1977; Rapoport 1960). In these studies, the result was that, when fitted into a certain game, tragic characters who faced terrible ends were, against the scholar's intuition, acting rationally all the time (Brams 2012: 13—16). Rationality was not a pre-requirement, nor was it the starting point. Perhaps the result that the characters were rational is not a sufficiently attractive *ending* point to a literary scholar, either, but this is the point when rationality is "pursued to its completion", and the result "leads us to consider other than strategic modes of thought" (Rapoport 1966: 214). The coordination problem is sustained by the mistaken idea that rationality restricts the literary analysis or the literary material. Discarding rationality does not provide more freedom in the game-theoretic analysis, but it prevents it: For the irrational player, everything is possible, all the time, and there are no rules to the game, making it pointless to analyze. Literary works are not free from rules — the narrative structure is a form, a set of rules, whose analysis can be enriched by game-theoretic tools.

The ninth belief is that literary studies can use game theory as an evaluative framework. In "Literary Studies and Literary Pragmatics: The Case of 'The Purloined Letter'" (1996: 69—89), Swirski studies game theory's potential to enhance literary pragmatics through Edgar Allan Poe's short story "The Purloined Letter" (1844).

I summarize the short story by necessary elements: The hero of the novel, C. Auguste Dupin, is an amateur detective who is asked to help with a difficult case. The case concerns a letter that has ended up in the wrong hands, and the client is now being blackmailed. The police says that a certain minister is in possession of the letter, but that the letter has not been found among his belongings or in his apartment. Dupin visits the apartment. Fooling the minister with a convoluted plot, he gets hold of the letter. At the end, Dupin gives the letter to the police, who deliver it to the client. Closure of the story involves Dupin explaining how he solved the case. A famous part of this explanation is an embedded narrative of a game of marbles: Played at a school among students, the game involves one person putting a freely chosen number of marbles in his hand, and the other person's task is to guess how many marbles there are. One boy in the school was a prodigy of this game; he would assume the same expression that the opponent has, and that way could understand what he is thinking. This boy got all the marbles. Dupin explains to have used a similar tactic, and explaining his train of thought, he amazes his listener. In his analysis of Poe's short story, Swirski struggles to keep the formulaic analysis of the conflict and the substantive content of its narrative context apart. Swirski explains his conception of "The Purloined Letter":

> Poe sets out to analyze the essence of a reciprocal guessing game. This emphasis on the deep structure of the conflict gives the story its sparse analytic appearance. One would look in vain in "The Purloined Letter" for the psychological (or pathological)

complexity of a Roderick Usher[55], or even for an action-driven plot of Arthur Gordon Pym[56]. Instead the reader is presented with a parsimonious, logical structure of a game of cops and robbers[57].(1996: 75)

To be clear, I do not mean that the content of the literary narrative should not be part of the game. Quite the contrary—the literary conflict is the game. But game theory can only be used to shed light on relations, interaction, and consistency between beliefs and actions, as repeatedly dictated within the ongoing discussion. Game theory cannot evaluate substantive content. The way Swirski sidesteps this fact is subtle but problematic. Instead of continuing to focus the analysis on the strategic consistency of Poe's short story (which he otherwise analyses impressively), he takes rationality as an indicator of aesthetic value. Swirski explains how the "generic types" of characters play out the "credulity-defying coincidences" that construct the "unrealistically" unraveling plot (1996: 75). The embedded fiction of a game of marbles (that Dupin recounts to contextualize the story of how he bettered the minister) has traditionally been reviewed rather unfavorably for its logic by game theorists for its naivete[58] (see Morgenstern [1935]1978, Brams 2012), and Swirski echoes these existing views (1996: 78–80), dwelling on the "mathematical blunders" (1996: 79, see also Wylie 1946: 227–235) embedded in Poe's narration[59]. All this criticism is well-founded and fair, but at the same time, it seems irrelevant from the perspective of literary pragmatics. It is only loosely connected to the author-reader interaction, and its literary-theoretic merit is not spelled out. In fact, it seems that the short story is analyzed only as a description of a strategic situation and not at all as a narrative.

Studying the strategic merit of specific literary works might well be interesting once the theory has gained a firmer hold on literary studies. However, at this point of the cooperation, being judged by standards that many critics see incompatible with literature to begin with is likely to sustain the coordination problem rather than help solve it. Even more problematic is that the evaluative analytic standpoint must assume knowledge of the actual author's intention—it is not automatically persuasive to claim that the author's goal was to be as strategically sound as possible.

Both fields provide insights into human behavior, but where the literary theoretical investigation of literature provides variation and detail into such

---

[55] The main character of Poe's short story "Fall of the House of Usher" (1839).
[56] The main character of Poe's short story "The Narrative of Arthur Gordon Pym of Nantucket" (1838).
[57] Swirski does not follow up on this parallel, so the name of the game is used metaphorically rather than empirically. However, for those interested, the graphical game of cops and robbers "is a game played with a set of cops (controlled by one player) trying to capture the robber (controlled by the opposing player). The cops and the robber are restricted to vertices, and they move each round to neighboring vertices"—that is, along the same line of a graphical table—"The smallest number of cops needed to capture the robber is the cop number" (Bonato & Nowakowski 2011: xv). Indeed, finding out "what […] the minimum number of cops needed to ensure capture" is the question that this game examines (Konstantinidis 2014: 599).
[58] Simply randomizing the expressions would have ruined the strategy that the boy uses.
[59] Poe did study mathematics for a while, and references to mathematics are frequent in his works. In "Mathematical Allusions in Poe" (1946), the mathematician Clarence R. Wylie overviews and reviews the body of Poe's works for their mathematical merit.

behavior, game theory reveals their consistency and structure. I have identified nine beliefs that in diverse ways sustain and contribute to the coordination problem. I have critically considered them and found common ground between the reservations, fears, and hopes that both sides seem to have toward and against each other. The conclusions achieved in this discussion inform the present thesis' process of coordinating the interdisciplinary practice in a way in which both parties benefit from each other's insights. The next subsection summarizes what this means in practice.

2.3.3   From beliefs to guidelines

The nine beliefs can be divided into three categories: 1) Those that comment on the *text-conception* of a narrative as an object of study in interdisciplinary practice; 2) those that comment on the *scope* of the narrative that such analysis can target; 3) those that comment on the *purposes* of analyzing literature in rational-choice terms. I examined the coordination problem in detail in order to conduct my study within the interface of the two fields from an informed starting point. Therefore, I construct the guidelines on the basis of these categories. Below each guideline, I explain its contents and the way it informs my study's design.

> 1. *Details should be considered alongside the plot.*

The text-conception concerning the narrative, as held by game-theorists, saw the literary narrative subject to restrictions and limitations that were necessary for the fields to work together. However, as I argued above, these restrictions actually hinder cooperation. Furthermore, these restrictions are often founded on claims that certain kinds of literature (e.g. surrealism) would lack structure. From a literary perspective, there is no need to restrict the literary material amenable for rational-choice analysis for the fear of *lack of structure*. Understanding the structure in some bodies of works requires a more careful consideration of the *details* — everything else but the plot — and as seen in some of the analyses (e.g. belief four), a more careful consideration of details such as genre or characterization can improve the understanding of even, at least by the standards used in the previous studies, more obvious narratives. Instead of maintaining that the narrative is studied by its plot (belief one), that the narrative must be realistic (belief two), and that by extension, the characters follow the requirements of structure and realism (beliefs three and four), the details of the narrative must be considered alongside the plot. For this reason, the emphasis of the literary analysis in Chapter Four and the related first research question that concerns the ways of structuring the decision-making process in the narrative stress the role and importance of the narrative's details.

> 2. *Strategic analysis should target brief excerpts of work.*

Many of the restrictions placed on the literary narrative as an object of study were born out of attempts to understand the entire narrative in rational-choice terms —

the effort to find literary works without impulsive actions (belief five) or the impossibility of fitting narratives into decision matrices (beliefs seven and eight). While narratives as a whole can be studied in rational choice terms, the restrictiveness of rationality must be taken into account: It does not restrict the narrative, but it does restrict the scope of the narrative *that can be analyzed* with this methodology. A single narrative has multiple venues for strategic analysis. In order to identify them, the narrative must, first, be analyzed as a narrative in order to understand its details that, per my argumentation, provide valuable information from the rational-choice point of view, too, and the strategic analysis should be targeted at brief excerpts of the work that facilitate consistency. For this reason, I carefully consider how the games constructed in the game-theoretic analysis (Chapter six) complement the results gained in the literary analysis (Chapter five).

3. *Literary content and strategic form should be kept apart.*

In the studies conducted by game theorists and literary theorists alike, the literary patterns of strategic thinking were often fitted to specific games or theorems and then evaluated according to their correspondence. As a result, aspects of the literary narrative were explained by gamified retelling. This involves the danger of restricting not the narrative itself but the way it is examined (belief six) through questions asked. If the question-setting targets the author's competence in crafting a strategically sound storyline (belief nine), the scholar operates from the standpoint of expecting to know the actual author's intention, and the results as well as their contribution become problematic. The strategic form should not be considered correlative of the quality of the literary content. For this reason, when examining the strategic form or the literary narrative in the games of Chapter Five, I target intra-narrative aspects, such as the character's actions, rather than the author's part in creating them.

3   LITERARY ANALYSIS OF DECISION-MAKING: WAYS TO EXAMINE SPECULATION

In the labyrinth/
You stand in front of a million doors/
And each one holds a million more/
Kate Bush, "How to Be Invisible" *Aerial*

Human imagination rarely stays in the present. From the reference point of the present, it wanders into the future or into the past. Kate Bush's lyrics describe this dynamic; how the mind extrapolates possible futures resulting from the now, and the possible futures resulting from them, and the resulting possible futures from them to the extent that the present becomes a rhizome[60]; a kind of labyrinth without the right way out (or in, for that matter). The song's name, "How to Be Invisible", can be interpreted to refer to the present *you* as an entity beyond location in the labyrinth of possible trajectories that define *you*.

This experience is at the core of my research material, which consists of two forking paths narratives. This chapter introduces the methods and frameworks used to position (3.1) and identify (3.2) forking paths narratives on a general level and to analyze (3.3 and 3.4) forking paths narratives in the rational-choice context of this study in specific.

---

[60] A rhizome is a conceptual tool developed by Deleuze and Guattari in *A Thousand Plateaus* (1980). A rhizome is a non-structural multiplicity that defies directionality; more prosaically—it represents resistance to the Enlightenment sense of structural knowledge, arguing that structure is an object imposed by the observer, not a quality of the observed (Deleuze & Guattari 1980: 3—28). The concept is central also in differential narratology (see e.g. Askin 2016).

3.1 Speculative fiction – development of the definition

Speculative fiction is a versatile category of complex narratives. In this section, I discuss its alternative formal definitions and arrive at the one adopted in this study (3.1.1), finally locating the material's position (3.1.2) within this definition.

3.1.1 Speculative fiction as a category

The definition of speculative fiction adopted in this study, while based on previous studies, differs, at least in some respects, from the commercial use of the term (more about this below). To justify the choice of definition, I deem it important to provide a detailed, even slightly technical, mapping of existing terminology and its development.

Literary categories, including speculative fiction, are defined by form and content. Marek Oziewicz (2017) identifies three ways in which the form and content of speculative fiction have been understood throughout its history until the present day. Oziewicz's overview guides this discussion by presenting a three-fold scale of definitions, ranging from restrictive to inclusive. I start from the narrowest definition and end in the broadest definition.

In its narrowest, speculative fiction is "a subgenre of science fiction that deals with *human rather than technological* problems" (Oziewicz 2017: 1, my emphasis). This distinction was originally suggested by the author Robert A. Heinlein in his essay "On the writing of speculative fiction" ([1947]1991: 5−11), in which he shares writing tips and experiences as a speculative fiction author. While the essay's primary goal is not to define speculative fiction, Heinlein's coinage of a *speculative story* aroused significant attention in the literary world. His definition is based on a simple dichotomy, making it easy to grasp and perhaps contributing to it becoming so influential: "[t]here are at least two principal ways to write speculative fiction−write about people, or write about gadgets" ([1947]1991: 5). The gadget-story falls into hard science fiction, whereas "human-interest story," leading to his definition of the *speculative*, "[is] another type of honest-to-goodness science fiction story that is not usually regarded as science fiction" ([1947]1991: 9). He does not explain who does the regarding, but as the essay is directed to (prospective) authors, it is likely to refer to the marketing chain consisting of publishers and readers.

To Heinlein, the speculative science fiction story differs from a science fiction story proper by its *what if* function. This function remains central to speculative fiction today: He emphasizes that he refers to "the story of people dealing with contemporary science or technology […] the speculative story, the story embodying the notion 'Just suppose −' or 'What would happen if' ([1947]1991: 9). Heinlein ardently paints the distinction between human and technological problems:

> In the speculative science fiction story accepted science and established fiefs are extrapolated to produce a new situation, a *new framework for human action*. As a result of this new situation, new human problems are created—and our story is about how human beings cope with those new problems. *The story is not about the new situation; it is about coping with problems arising out of the new situation*. (Heinlein [1947]1993: 9, my emphases)

Dark Matter is a great example of a Heinleinian speculative story. Described by its author, Blake Crouch, and generally by the critics and marketers, as a science fiction thriller and a love story, it creates a *new framework for human action* by introducing the Box as a kind of quantum time machine that makes it possible to move horizontally in time and to explore the roads not taken. It is not about the new situation, as traveling the multiverse is never explored on a societal level. Instead, the story explores the very personal level of the protagonist and his love for his family, and the problems that *arise out of the new situation*, created by the box, of another Jason stepping into his family *as* him. (*The Post-Birthday World* is quite different and ill-fit for Heinlein's definition, and will thus be touched upon further in the discussion.)

Oziewicz problematizes Heinlein's formulation. As a "subset of science fiction," speculative fiction has a "proscriptive component, subjective and exclusivist at the same time" (Oziewicz 2017: 4). In the debate at the time, Heinlein's division was seen as unnecessarily qualifying, even elitist, arousing a counter-reaction among the speculative fiction and science fiction authors of the time (Oziewicz 2017: 4, see also Delany 1977). Heinlein's definitions was still influential, however, as "most publishers, at least, still use it in this sense" (2017: 5), Oziewicz maintains.

If this claim was true at the time Oziewicz interrogated the matter, things have changed in half a decade[61]. At present, especially among magazines that publish novellas, short stories, and flash fiction, the field is more varied. A quick look into the submission guidelines of speculative fiction journals reveals this more versatile consensus[62]: *Seize the Press* asks for "[b]leak sci-fi, dark fantasy and horror only"; *GigaNotoSaurus* accepts "Science Fiction or Fantasy (or any combination thereof)"; *Three Crows Magazine* wants "dark and weird fantasy, horror, and sci-fi"; *Apex Magazine* agrees, naming "dark and spectacular science fiction, fantasy, and horror" within its interests. Obviously, the practices may vary between the publishers of journals and publishers of books, and it would make sense that practices concerning journals would be quicker to change simply because journals get published quicker than books.

While this narrow definition of speculative fiction may be relevant in some uses, especially in commercial contexts, it is too restrictive to meet the versatility and popularity of speculative fiction at present. Furthermore, it is too restrictive to comfortably host a sub-genre of any kind. Echoes of the distinction between technological gadgets and human interest can, however, still be seen in the later formulations.

---

[61] As I write this, it is the year 2023.
[62] I use these examples, as all of them mention speculative fiction in their submissions page.

The second formulation is also stipulated through a contrast to science fiction. Oziewicz summarizes this view as "a genre distinct from and opposite to science fiction in its exclusive focus on possible futures" (2017: 1). Oziewicz raises especially the name of the author Margaret Atwood, who "began using 'speculative fiction' in the late 1980s as a term that best describes her dystopian novels" (Oziewicz 2017: 5). Choosing to be more decisive than Heinlein, Atwood suggested a formal definition based on her view. In her essay "Writing *Oryx and Crake*" (2005: 284—286), Atwood emphasizes that "*Oryx and Crake* is a speculative fiction, not a *science fiction proper* […] no intergalactic space travel, no teleportation, no Martians" (Atwood 2005: 285). Whereas the Heinleinian definition would theoretically allow all of this, space travel and teleportation and Martians alike[63], the Atwoodian one dismisses them as specific to science fiction. In another essay "Writing Utopia" (2005: 92—100), Atwood elaborates on the distinction (2005: 92):

> I define science fiction as fiction in which things happen that are not possible today—that depend, for instance, on advanced space travel, time travel, the discovery of green monsters on other planets or galaxies, or that contain various technologies we have not yet developed.

The description relies heavily on technological advancements, thus roughly resembling Heinlein's *gadget-story*. Taking her novel *The Handmaid's Tale* (1985) as an example, she defines speculative fiction in juxtaposition to science fiction (2005: 92, see also Atwood 2005: 243):

> In *The Handmaid's Tale,* nothing happens that the human race has not already done at some time in the past, or that it is not doing now, perhaps in other countries, or for which it has not yet developed the technology […] the projected trends on which my future society is based are already in motion. So I think of *The Handmaid's Tale* not as science fiction but as speculative fiction […]

Oziewicz finds the second definition unconvincing. Positing that it has not been vastly adopted for theoretical use (see Gunn & Candelaria 2005; Thomas 2013), he concludes: "The key weakness of Atwood's restrictive strategy, then, appears to be the anchoring of the definition of 'speculative fiction' in the story's predictive value" (Oziewicz 2017: 6). Another weakness of Atwood's definition is that it falls prey to a frequent trap for many a literary critic (see Iser 2012: 58—59)— that the definition becomes too tightly informed by the reference material, hindering the definition's general usability.

In sum, it seems that Atwood's definition argues for a position against science fiction from a standpoint that views science fiction more narrowly than it really is. At the same time, Atwood is a much-loved author whose speculative works have played an important role in the rise of speculative fiction even if the definition that speculative fiction assumes in the contemporary dialogue is broader than her suggestion.

---

[63] In fact, Heinlein provides a guideline specific to including Martians in a speculative science fiction story: "[I]f you are going to assume that the human race descended from Martians, then you've *got* to explain our apparent close relationship to terrestrial anthropoid apes as well" ([1947]1991: 9).

The third definition reflects the broadness of speculative fiction in the sense it has obtained today. By the third definition, speculative fiction becomes "a super category for all genres that deliberately depart from imitating 'consensus reality' of everyday experience" (Oziewicz 2017: 1). Instead of being defined as anti-technological, speculative fiction is anti-realist. Oziewicz maintains that the third definition is influential mostly "among readers, authors, and scholars who are either younger or speak from the minority perspective" (2017: 6). These voices are prevalent especially in the discussions of online communities (see e.g. Kelly Writers House 23 April 2020). Within these networks, consisting of contemporary authors starting out, enthusiasts, and miscellaneous writing professionals, the essentially non-realist nature of speculative fiction is often taken very seriously.

Oziewicz overviews different veins of criticism against the above definition, inspecting them, in turn, with a critical eye. He reports that to some[64], defining speculative fiction through the "departure from verisimilitude to consensus reality" can be "too baggy", because it automatically involves texts beyond science fiction and fantasy (Oziewicz 2017: 6). Indeed, he maintains, while speculation as a narrative protocol (see Landon 2014) has been rigorously studied, the speculative narrative protocol does not automatically translate into a supergenre (2017: 7, see also Nicholls & Langford 2017). Lacking taxonomic clarity, the classification becomes porous and loses its purpose, as some sense of speculation surely applies to all fiction. Focusing primarily on anti-realism challenges the boundaries of the two genres "in ways that are not productive", as this focus leads to involving works that "may not employ any fantastic devices" but be "speculative socially, politically, or philosophically, but not scientifically" (Oziewicz 2017: 7). As this is what happens with one of the two books that I study in this thesis—Shriver's *The Post-Birthday World* (2007)—I explore the adequacy of such inclusive sense of the category in detail.

Oziewicz refuses to accept the flexible definition and brands it automatically unsuccessful. More so, it is a distinction of the old and the new: "[T]he debate about the usefulness of the term 'speculative fiction' is generational and attitudinal" (2017: 7). Brian Attebery, in Oziewicz's description, reflects on the "increasing gap between scholars extremely competent in fiction and criticism up to about the 1990s, and scholars more familiar with recent output but not necessarily aware of these works' antecedents" (2017: 7, see also Attebery 2009: 7—9). These younger scholars have adopted "the label of speculative fiction as a way to conceptualize its experience of new types of non-mimetic writing and to position them in a contiguous relation to older, ideologically loaded forms" (Oziewicz 2017: 8). In this emerging approach to studying literature, the relative taxonomic unclarity is, by contrast, appealing.

Oziewicz argues that such a flexible approach to the category of speculative fiction is the consensus emerging from the developments over last 70 years:

---

[64] Oziewich does not specify the critics behind these criticisms, but later in the article refers to Isaac Asimov ([1978]1983) in a similar context. In addition, according to my best knowledge, similar or relevant arguments have been made at least by the following authors and critics: Gary K. Wolfe (1986), David Ketterer (1976), and Samuel R. Delany (1977).

> [S]peculative fiction in its most recent understanding is a *fuzzy set super category that houses all non-mimetic genres* — genres that in one way or another depart from imitating consensus reality—from fantasy, science fiction, and horror to their derivatives, hybrids, and cognate genres, including the gothic, dystopia, zombie, vampire and post-apocalyptic fiction, ghost stories, weird fiction, superhero tales, alternate history, steampunk, slipstream, magic realism, retold or fractured fairy tales, and many more. (Oziewicz 2017: 2, my emphasis)

A fuzzy set super category for all non-mimetic (or anti-realist) genres can, then, involve any genre insofar as it deviates from the received reality. This is the basis of the definition that I adopt in this thesis, but as the simple juxtaposition to reality was already described as being too broad (as it, in some form, applies to all fiction), I spend the rest of the section exploring how this quality has been specified and will be specified in this study.

In this endeavor, I rely on Russell B. Gill's take on the definition of speculative fiction. Echoing Oziewicz's notion of distinguishing between new and old ways of creating literary categories, Gill stresses that the "looseness of the category [of speculative fiction]" challenges the existing ways of classification and genre-forming (2013: 71). Drawing from Darko Suvin's classic text on the poetics of science fiction, he explains that literature, as a body of literary works, is a spectrum that runs "from the ideal extreme of exact recreation of the author's empirical environment," that is, realism, "to exclusive interest in a strange newness, a *novum*" (1972: 373, emphasis in the original). Within this spectrum or spread, science fiction stands out as "*literature of cognitive estrangement*" (1972: 372, emphasis in the original), located at the *novum* end of the spectrum. Works with the quality of *novum* "present modes of being that contrast with their audiences' understanding of ordinary reality" (Gill 2013: 72−73), creating distance between the reader's world and the world of the narrative through, for example, possible worlds and counterfactual elements (see Ronen 1994, Ryan 2013; 2006a; 2006b; 1992; 1991, Lewis ([1973]2001, see also Doležel 1998). In addition to being not-realist, speculative fiction per Gill is also essentially *unfamiliar*.

Indeed, to Gill, simply constructing alternative worlds is not enough in speculative fiction, as it "characteristically embraces a wider, more radical vision of alternative conditions" (2013: 73). This is the final tweak: Oziewicz's third definition described speculative fiction as non-mimetic and anti-realist; literature written in opposition to the realist standard, but to Gill, this is not the defining quality:

> Speculative fiction, then, is not defined by contrast with literary realism, if by that term we mean an aspect of the author's treatment of material (faithful, objective, independent of the observer, low, or squalid). *It will be more useful to define it by contrast with the operational rules of the normal world.* (2013: 73, my emphasis)

Instead of acting as a counterforce to the realist standard, speculative fiction addresses the rules by which the world works (Gill 2013: 74). Gill suggests two categories for interpretative purposes. These categories estrange the reader from *the normal world* in different ways: First, "[c]ategories of *engagement* or social critique" (Gill 2013: 79, my emphasis) operate by presenting other realities to "comment on this world—negatively to satirize its shortcomings, or positively to

provide a model for emulation" (Gill 2013: 81), whereas secondly, "categories of replacement or *surrogate* experience" (Gill 2013: 79, my emphasis) "emphasize contrast and replacement rather than the intention to reform," thus providing the narrative "as a surrogate for ordinary reality" (Gill 2013: 80). While these "in broad sense apply to all fiction" they become especially relevant for speculative fiction due to speculative fiction's "interest in approaches to reality" (Gill 2013: 79). Gill's definition of speculative fiction thus is a set of narratives that create a contrast "with the operational rules of the normal world" (2013: 73) by either adopting a normative approach through commentary (engagement) or adopting a neutral approach through representation (surrogate).

The definition is pragmatic rather than traditionally stylistic. Gill maintains that he consciously chooses to prioritize "what is actually happening" in the narratives over "judg[ing] them according to traditional canons" (2013: 82). However, he carefully argues that this functional definition is not supposed to overrule the role of genres. In fact, "fuzzy and centred divisions" (such as his) "*cannot* replace traditional genres" but the two must work together (Gill 2013: 82−83, my emphasis). They serve different but compatible purposes. In speculative fiction, "the body of works is rapidly changing and [...] the concepts of the field are subject to a wide variety of influences from commerce to canons" (Gill 2013: 83). For this reason, the development of the category is at all times subject to internal developments of the individual genres that belong to it, but also to the perspective of resemblances that tie them together into a fuzzy-edged set of narratives.

3.1.2   My research material within this category

Adopting Gill's definition, I take speculative fiction to be an inclusive category of narratives that are connected by their function of speculating on the ways the world works, by offering an alternative that either creates an argument of the actual world (engagement category) or consciously resigns from arguing on, instead choosing to demonstrate aspects of, the actual world (surrogate category). Both novels of this study's material question or problematize−speculate on−the deterministic role of decision-making in the real world by loosening this condition.

The consequences of making a choice are different from how the real world works. *Dark Matter* engages with and comments on the tensions that operate in the world, whereas *The Post-Birthday World* offers a venue of detaching from them. Both works take their protagonist to a juncture in their lives from which the world forks into two different versions that both resign from the responsibility of being the right one, or the one that *actually* happens in the narrative. The narrative is *both*. Locating the narratives in this definition of the narrative category of speculative fiction, the expectation is that *Dark Matter,* speculating by engaging, is likely to propose a strong argument on the subject matter of decision-making and its consequences, whereas it can be expected that *The Post-Birthday World*, speculating by offering a surrogate experience, is more likely to refrain from making strong arguments.

Both stories are built on the interplay of these two versions of the protagonist's world, speculating on one of the most profound questions that operate the world: Did I make the right choice? This is also the premise of the *forking paths narrative* category that I position within speculative fiction, defined as it is above, and explore its connection to existing close concepts below.

3.2 Ways of speculating on the forking of paths in a narrative

In this section, I build on the outcome of the above discussion. The outcome, for clarity, was that *Dark Matter* and *The Post-Birthday World* fall into the fuzzy set super category of speculative fiction, whose defining feature is deviation, whether argumentative or not, from the operating rules of the world of the reader. Furthermore, I specified that the two narratives I study deviate from the operating rules of the real world by removing the deterministic condition of the results of their protagonists' decisions. In this section, I suggest that this kind of deviation, with its specific focus on decision-making, is a literary phenomenon substantial and frequent enough to be discussed under its own title. In what follows, I suggest this title to be the *forking paths narrative,* a narrative protocol that I define here by exploring the following set of close concepts and frameworks:

- *The hypothetical* (Karttunen 2015)

- *Forking-path narrative* (Abbott 2021: 174−176)

- A fan-made category of *Sliding Doors novels* (Goodreads 2021)

- *Reflexive double narratives* (Frangipane 2019: 37−70, 2017: 569−587)

- *Labyrinthine text* (Weed 2004: 161−189), as exemplified by Jorge Luis Borge's short story "The Garden of Forking Paths" (1941)

Addressing these concepts and frameworks one by one in a comparative critical discussion, I arrive at a definition of the forking paths narrative. The definition centers around the mechanism of *forking* and the nature of the *paths* in the context of the narrative.

3.2.1 Karttunen's hypotheticals

At their core, all the close concepts listed above, as well as the forking paths narrative itself, are essentially hypothetical rather than purely factual. Therefore, the forking paths narrative shares many elements with Laura Karttunen's work on role of emotion and emplotment in hypothetical elements of storytelling (2015). While drawing from a rich theoretical base, her work can be seen to build primarily on the mechanism of narrative branching acknowledged by Marie-Laure Ryan (1991) and thus contributing to the experiential narrative paradigm proposed by Monika Fludernik (1996). From this standpoint, Karttunen makes a case for a tool of narrative analysis that targets that which is not specifically told

in a narrative (2015: 33, 54—67); a story that a narrative tells beyond the words it consists of.

The hypothetical narrative consists of three main features: It must "reference to a hypothetical or counterfactual event or state of affairs," essentially tied to "a human being immersed in an emotionally charged experience," and the text should do it in a "concrete and specific" way (Karttunen 2015: 11). Karttunen offers the (according to an urban legend) Hemingwayan flash fiction as a representative example: "For sale: baby shoes, never worn" (see Wright 2012: 327). If we pause to consider this extra-brief story, we realize that it is not the plot, but the "emotional significance of events" felt by the reader that defines the sequence's narrative quality (Karttunen 2015: 11). Therefore, regardless of its briefness, the passage is a meaningful story about the hypothetical baby steps that never took place. This is not a story told by the text, but it is a story that branches from the events implied in the text.

Such branching is, of course, an element of forking paths, too. On the other extreme, we can see the manifold narrative branching identified by Marie-Laure Ryan (1991: 111). While drawing from Ryan's work, Karttunen's approach is specific to and anchored in the textual substance of the narrative. Guiding the attention to the structural and emotional focus points that indicate and often introduce modalities, and thus also hypotheticals, Karttunen's work offers an important tool for studying various elements of counterfactuality and hypotheticals in texts.

Due to the focus on the protagonist's decision, however, the clearly signified forking point, i.e. the narrative branching in forking paths narratives, is deterministic and clearly juxtaposed. For this focus, the value provided by identifying and constructing the kernel of the hypothetical narrative structure is misplaced, as the two options between which the decision is to be made are, in forking paths narratives, invariably spelled out and weighed against each other.

3.2.2 Abbott's forking-path narrative

I continue with Peter Abbott's *forking-path narrative* (2021: 174—176), which he uses as an umbrella term for various kinds of embedded narratives found "everywhere in fiction, popping up in the 'actual world' of the narrative" (2021: 174). His example of a forking-path emerging in a narrative is from Alice Munro's short story *Miles City, Montana* (1991):

> "I wish there was some more lemonade."
> "I will just wave my magic wand and produce some," I said. "O.K., Cynthia? Would you rather have grape juice? Will I do a beach while I'm at it?" (1991: 387, see also Munro 1985)

The world that Cynthia's mother would wave up with her imaginary magic wand is, then, an example of a short forking-path narrative, a kind of possible world that blinks on and off in the story as an embedded narrative (Abbott 2021: 174). Forking-path narratives can also be more substantial, like the trips to Narnia through the wardrobe in C. S. Lewis' *The Lion, the Witch, and the Wardrobe* (1950).

However, the "two different conditions for what is possible, and two different kinds of time […] do not conflict and are connected by a secret passageway" (Abbott 2021: 175), like the imaginary wand or the wardrobe. Then, "extreme versions of the forking-path narrative" have "no indicators […] by which the reader […] can even begin to naturalize discrepancies in the narrative world" (Abbott 2021: 176, emphasis removed). A forking-path narrative, then, can be hinged to the temporal structure of the actual world of the narrative by various ways, and the moment of forking can be of varying importance; a constituent or a supplementary[65] element of the plot (see Abbott 2021: 22).

There are similarities and differences. Similarly to Abbott's forking-path narrative, my forking paths narratives emerge as embedded narratives that can have various durations in the story. Similarly to his formulation, they can have a clear mechanism that *introduces* the forking path, like the spirit in Dickens' *A Christmas Carol* (1843) or the Box in *Dark Matter* (2016), or they might not, as in Reid's *Maybe in Another Life* (2015), where the two lives manifest after a willy-nilly chain of events, or Shriver's *The Post-Birthday World* (2007), where the forking path has been developing for years in the narrative past, even if it is released upon the event of a kiss.

In forking paths narratives, the path is *born* within the narrative as a function of a choice. Therefore, the choice is a constituent event after which the plot is divided into at least two lifeworlds. The main difference to Abbott's forking-path narrative is the constituent and systematic role that the forking paths have in the narrative's structure.

3.2.3 Goodreads and the Sliding Doors novels category

Parallel worlds of any kind are still seen as primarily a trope of fantasy and science fiction (see Ryan 2006a: 633), but in fact, they are rather common in romantic and chick-lit novels, especially in the shape of constituent and temporally linear forking paths. Enthusiastic readers of the extensive online reader community Goodreads have allocated the term *Sliding Doors novels* for such stories[66] (Goodreads 2021).

The name comes from the movie *Sliding Doors*, released in 1998. In the movie, the heroine (played by Gwyneth Paltrow) is shown to go through two versions of her life based on whether she, on a given day, catches an earlier-than-normal train home. Going through the titular sliding doors to the subway, she gets distracted by a passer-by, and based on how she reacts to this distraction, she either makes it to the train or not. Making the train, she is home earlier than expected and catches her boyfriend cheating. Not making it, the boyfriend has known to anticipate her arrival and waits for her in the apartment alone. Going through the sliding doors, then, sends her life off to two contrasted trajectories.

---

[65] This is Abbott's dichotomy, but it is functionally similar to Roland Barthes' dichotomy of *nuclei* and *catalyzers* (Barthes & Duisit 1975: 250, see also Barthes 1982) and Chatman's dichotomy of *kernels* and *satellites* (see Chatman 1978: 53—56; 60—64; 94—95).
[66] The list was created on June 8th, 2018, by a user with the screen name Holly.

The webpage for Sliding Doors novels on Goodreads lists altogether thirty-one novels[67], including *Dark Matter* and *The Post-Birthday World*[68]. The list provides the following definition for the novels on it:

> This list is for fiction where *a random act of chance or a choice* creates two alternate dimensions for one character. It is named after the movie Sliding Doors. The books on this list should only be very lightly sci-fi - *except for the parallel dimensions, they should be mostly realistic fiction.* (Goodreads 2022, my emphasis)

The category focuses on replicates of the Sliding Doors movie by the mechanisms of chance or choice and by stylistic genre, that allows deriving from the verisimilitude of reality only in the form of the parallel realities. Out of the thirty-one novels on the list, *Dark Matter* stands out as the only science fiction title.

Compared to Sliding Doors novels, forking paths narratives are a broader category, but the two share some details. Similarly to Sliding Doors novels, forking paths narratives are specific to one character. Diverting from it, forking paths narratives are not restricted to romance, chick-lit, and light science fiction, because of the category's connection to speculative fiction. Furthermore, they are not restricted to *two* alternate dimensions, as the focus is on speculating on the choice through the interplay of the competing consequences: Narratives like Kate Atkinson's *Life after Life*[69] (2013), Ken Grimwood's *Replay*[70] (1986), or Claire North's *The First Fifteen Lives of Harry August*[71] (2014) are time-travel novels where time-traveling is specific to one character's decisions. Therefore, they can be interpreted as forking paths narratives despite the numerous times the same decisions occur. Finally, because the focus of forking paths narratives is on weighing two or more outcomes of a decision against each other, the consequences must result from a choice rather than coincidence, while in Sliding Doors novels, coincidence can be an acceptable trigger that forks the protagonist's world. In the decision-focused forking paths narrative, it cannot be, as the character does not have power over, and thus agency in, coincidence.

3.2.4   Frangipane's reflexive double narratives

Interplay of parallel narrative worlds is an important element of forking paths narratives. Aspects of such interplay are discussed and described in the framework of *reflexive double narratives* (2019: 37−69; 2017: 569−597) by Nicholas Frangipane. As the name suggests, the interplay between the narratives is a

---

[67] Withdrawn on 12 July 2023.
[68] Neither was added to the list by me.
[69] In the novel, Ursula Todd is born and dies again and again, remembering her past lives more and more clearly the more times the cycle is repeated. She realizes that she has a mission in life – killing a character that in the beginning is hinted to be Adolf Hitler – and life by life, she gets closer to this goal by making smarter and smarter choices.
[70] In the novel, Jeff Winston, 43, dies suddenly but wakes up again as an 18 year old version of himself, in the world as it was back then. He gets to live his life until the age of 43 again, when he, again, dies, and again, is born. He gets to try multiple ways of living the best life he can, learning important lessons about the nature of choices and his preferences.
[71] In the novel, Harry August does not understand why, but he keeps reliving his life again and again. At his eleventh life, he gets a message that defines all the choices he is to make in the next lives he has, until he manages to prevent a disaster from happening.

central element of reflexive double narratives, which Frangipane defines as "stories told in multiple versions that include commentary on why this technique was necessary" (2019: 37), guiding the expectations toward metafiction and a post-structuralist style.

Indeed, Frangipane's examples of such narratives are *Life of Pi* (2001) by Yann Martel and *Atonement* (2001) by Ian McEwan, as both feature "alternate versions of their stories and openly explored each version's historical accuracy (within their fictional worlds)" (Frangipane 2017: 569). As a narrative technique specific to the postmodern novel, the reflexive double narrative plays with the relativity of truth. Frangipane argues that "the contemporary novel has reconceived accuracy in a nonliteral way" (Frangipane 2017: 569), *nonliteral* denoting the relativity of accuracy, as "many contemporary writers are focused on literature's ability to reveal what it feels like to be other people in other situations" (2019: 37), resulting in the notion that for contemporary fiction, "experiential accuracy is more important than empirical accuracy" (2017: 569).

This way, reflexive double narratives as a narrative mode become negotiations in which what is actually said is built on the interplay between the two versions of the narrative, and through that interplay one more version emerges: "The errata complete the narrative, which means that narrative is necessarily, for postmodernists, incomplete, and they have found other strategies to point to the 'real'" (Frangipane 2017: 571). *The real* is an elusive concept, but by stressing the reality of the experience rather than objective facts, the quest for literary truth surpasses the criterion within which it is impossible, arguing that while the real is incomplete, it is not any less accurate because of it[72].

Similarly to reflexive double narratives, the embedded narratives of the forking paths create as if a third narrative through their interplay, and this additional narrative is reflected on by the protagonist as the discourse of questioning aspects of their choice. Deriving from reflexive double narratives, however, the examination of the tension between the versions is less argumentative of the narrative's *truth*. The narrative structure of the forking paths narrative, relying on alternative versions and their interplay, cannot offer an equally coherent argumentation than the reflexive double narrative for the artificiality of these two (or more) trajectories of events. However, I assume that these statements might not necessarily be fully clear after the comparison to only Frangipanean terminology. Therefore, the final point of comparison addresses in more detail the coherence and artificiality of the trajectories presented in a forking paths narrative.

3.2.5 Weed's labyrinthine text

To address the coherence and artificiality of multiple competing versions of events in a narrative, I discuss Jorge Luis Borge's short story "The Garden of Forking Paths" (1941) and reflect on the connections and disconnections of the

---

[72] For a more philosophical account of how so-called narrative thinking can release one from the requirement of the absolute truth, see Meretoja (2014).

labyrinthine text introduced by Borges and discussed by Elijah Weed (2004). I start by introducing the short story.

In the short story, the ideas of a novel and a labyrinth are discussed in relation to a complex idea of time. In the opening, the protagonist, Yu Ts'un, a Chinese spy, is running from his English commanding officer, Captain Richard Madden. Yu Ts'un's identity as a double agent has been exposed. He expresses that he must get a message through to the Germans he is working for, and acting on that need, he flips through a phonebook and chooses a name (without disclosing the selection criterion). He travels to see this person. The person turns out to be the renowned sinologist Stephen Albert, who has been studying the spy's late grandfather's heritage. This heritage seems to be two-fold, consisting of a novel and a labyrinth. The spy seems pained to be connected to this heritage. The reader learns that the novel authored by his grandfather is (within the world of the short story) considered atrocious by its readers because its structure is irrational: "[T]he hero dies in the third chapter, while in the fourth he is alive" and that the notion of the labyrinth is mainly embarrassing, as "no one could find the labyrinth" (Borges 1941: 4). Surprisingly, the sinologist has come to the conclusion that a specific kind of consistency can be identified in the novel, and that, in fact, the novel *is* the labyrinth: "Everyone assumed these were separate activities. No one realized that the novel and the labyrinth were one and the same" (Borges 1941: 5). The novel makes sense if it is read as a labyrinth.

Indeed, the apparent inconsistency of the novel is bound to the ever-forking nature of reality that Ts'ui Pên has created in the novel:

> In all fiction, when a man is faced with alternatives he chooses one at the expense of the others. In the almost unfathomable Ts'ui Pen, he chooses—simultaneously—all of them. He thus creates various futures, various times which start others that will in their turn branch out and bifurcate in other times. This is the cause of the contradictions in the novel. (Borges 1941: 5)

The novel's contradictions arise from lack of consistency, making the whole story irrational. In effect, the plot is not *deterministic*[73] (see e.g. Varotsis 2019a; 2019b; 2018) or linear. As opposed to much of English literary canon dating back to the Victorian era that favored the element of surprise and chance (see Paulos 1998: 63), contemporary literature holds "a consensus for the minimisation of chance and coincidences in whole" that results into "the emergence of more deterministic plots where the integration of tighter narrative causality and logic are the norm" (Varotsis 2019b: 437). A deterministic plot allows for only one version of the story to be true, or at least more true than all other versions of the story.

In the intra-narrative literary analysis, Stephen Albert understands that Ts'ui Pên did not commit to only one version of his hero in the novel. Instead, all versions of the hero, alive and dead, brave and cowardly, are true and equally possible, but tied to different trajectories. The novel is always focalized through the hero, but always tied to only one facet of the multitude he represents. Stephen

---

[73] In more detail: Deterministic plots motivate events through the "story's historic path, internal narrative logic and cause-and-effect forward progression" (Varotsis 2019b: 437).

Albert explains that Ts'ui Pen's textual, "infinite maze" is "[a]n invisible labyrinth of time" (Borges 1941: 4), an attempt "to create a maze in which all men would lose themselves" (Borges 1941: 2). Indeed, in an infinite maze there is no end, and when it forks, one gets lost in time rather than in space.

Ethan Weed describes such a spatio-temporally scattered point of view from the perspective of the reading experience (2004: 180):

> Ts'ui Pên wants to represent all the points of view at the same time, which implies an infinitely large novel, requiring a reader with an infinite amount of time (and patience), to say nothing of an author with an infinite amount of time (and imagination).

The reader is everywhere in the story at all times, and thus nowhere at all. Weed describes "the labyrinthine" of the *labyrinthine text* as "the experience of being lost, of moving without a clear direction" (2004: 162). The text provides no control to the reader. Weed suggests that this impossible mechanism is part of the text's attraction: "We are all of us in the labyrinth of life, making decisions and never knowing what would have happened if we had chosen otherwise" (Weed 2004: 176). Weed attaches to the labyrinthine text a motif that is easy to recognize also in the forking paths narrative: Choosing one trajectory means giving up all others.

Weed elaborates on this further. He suggests that Stephen Albert and Ts'ui Pên would be doubles, eventually concluding that "[t]he more we investigate the interrelations between the characters, the less they seem to be distinct individuals" (Weed 2004: 179). Through this observation, the short story can be seen as self-exploration of one's purpose and nature as a being in the infinite time-bound garden of forking paths. Indeed, towards the end of the short story, time is ticking, and Yu Ts'un knows that Richard Madden will soon reach him. He must make his move (the reader is unsure of what this means). When Stephen Albert turns his back to Yu Ts'un, the spy shoots the sinologist. By this surprising move he sends a message to his commander (not Richard Madden) that the Germans should bomb a *city* named Albert.

Killing Stephen Albert, Yu Ts'un then kills a version of himself. Killing a version of himself takes place in *Dark Matter*, too—concretely in the way that Jason kills the doppelgänger that stole his life, and more abstractly by that he is able to choose one path over another. In *The Post-Birthday World*, extrapolating from this, Irina's irresolution can be seen, also, as an act of self-preservation: She never chooses between her forking paths, and thus both versions of her remain alive.

If we imagine a line where deterministic plot is on one end and a plot like that of "The Garden of Forking Paths" (the intra-narrative novel), a labyrinthine text, on the other, the forking paths narrative is positioned in the middle. Forking paths narratives allow for more than one competing version of the story to be true at the same time, but they are unified within the framework of the character's decision-making. The labyrinthine text does not argue for any one truth apart from the absurd sense of representing all possible trajectories forking from all events and decisions. In contrast, while the forking paths narrative is decidedly artificial and incomplete by its representation of a selection (two or more) of possible trajectories, they are unified within the narrative's inherent connection

to decision-making. Therefore, unlike the labyrinthine text that is meant to be unsolvable, the forking paths narrative can be solved—one (or more) true versions of it placed above the others—by the character's act of resolution.

3.2.6 Definition of forking paths narrative

At the end of the discussion, the forking paths narrative has been defined, in comparison to the selected close concepts and frameworks, as follows:

(1) The point of forking is clearly indicated.

(2) The forking paths have a constituent and systematic role in the narrative.

(3) The paths fork as a result of a choice made by the protagonist.

(4) The tension between the forked paths does not argue for truth.

(5) The resolution of the story is consciously artificial, happening only on the level of the character's decision-making process and its resolution.

It follows that the forking paths narrative is a narrative protocol in which the narrative's world divides into two or more parallel realities as an effect of that one choice made by the protagonist. The contradiction present in the choice is introduced prior to the event of forking. As the forking is always a result of a choice, the contradiction guides the systematic progression of the paths. From the previous subchapter (3.1), I bring along the notion that the forking paths narrative speculates on the level of one character's life and the different possible outcomes of an important decision made in it. Thus, the simple definition I suggest for the subtype is this: **A micro-speculative narrative about the outcomes of a choice made by the protagonist**.

What most clearly sets the forking paths narrative apart from related concepts is its connection to choices and decision-making. It follows that the forking paths narrative invariably presents alternative lifeworlds as consequences of solving a decision problem, and the plot-structure of a forking paths narrative is that of decision-making, as it is the protagonist's task to choose again—by a careful weighing of the forking paths against each other, the protagonist's task is to find out which choice was the right one.

Yet the plot assumes the structure of the decision-making process through interpretation rather than overt description. Therefore, connecting the plot to a type of decision-making process looks different for each narrative and research goal.

In the first two subchapters so far, I have defined the general frameworks of studying speculation on choices and decision-making in literature. In the next two, I proceed to themes relevant to the material of this study in specific. They concern *frame-sensitive reasoning* as the method for revealing the structure of the decision-making process in the two forking paths narratives (3.3) and the methods for revealing the literary structures that communicate this decision-making process (3.4).

3.3 Mapping out the structure: Frame-sensitive reasoning model

Dark Matter and *The Post-Birthday World* have one crucial difference: The protagonist of *Dark Matter* is able to reach a conclusion whereas the protagonist of *The Post-Birthday World* is not. Both go through the same steps of reasoning, but for only one this leads to a solution. In this subchapter, I introduce the process of this reasoning, and explain why not finding a solution does not necessarily mean failing when it comes to complex, emotionally charged choices. I approach these with the decision model of *frame-sensitive reasoning*.

3.3.1 New approach to rationality

José Luis Bermúdez's frame-sensitive reasoning model is a four-step model, with a fifth step, the solution, emerging as a result of the four steps. Published relatively recently, Bermúdez's model (2021) offers new tools for decision-making in situations that have traditionally been regarded as challenging or even impossible to solve with the tools provided by traditional decision-making (see 2.1). Such situations involve *conflicting preferences*, that is, preferences that do not allow one solution to arise as a direct result of reflecting the preferences onto the available options.

The frame-sensitive reasoning model approaches conflicting preferences through *framing effects*. Framing is a multi-disciplinary term with many definitions, which I will not go into in too much detail here. Instead, *framing* is understood, simply, as considering a choice from two (or more) points of view, and its *effect* is that the choice seems to have two (or more) equally possible solutions that the decision-maker feels conflicted between (see Bermúdez 2021: 20−23). In decision theory, the resulting inconsistency can create problems. The role of framing effects in decision-making has been analyzed perhaps the most extensively by Daniel Kahneman and Amos Tversky (Kahneman & Tversky 2000; 1979; 1972, Tversky & Kahneman 1986; 1981), on whose results Bermúdez builds his suggestion for new tools for rational decision-making.

In Kahneman & Tversky's Prospect theory (1972), options are *framed* as gains or losses, and choices are made also to avoid losses rather than only to straightforwardly maximize utility (see also Binmore 2007: 56). In *Framing Decisions and the Psychology of Choice,* Kahneman and Tversky define their task and object of study as follows:

> [W]e describe decision problems in which people systematically violate the requirements of consistency and coherence, and we trace these violations to the psychological principles that govern the perception of decision problems and the evaluation of options. […] We use the term 'decision frame' to refer to the decision-maker's conception of the acts, outcomes, and contingencies associated with a particular choice. (1981: 453)

Violating the requirements of consistency and coherence means deviating from the requirement of rationality that facilitates the view of decision-making as utility maximization. The requirement of rationality (see also 2.1) means that the

decision-maker's preferences commit to the following axioms[74] as presented in table (Table 3):

TABLE 3   Axioms of the requirement of rationality

completeness	values can be assigned to every relevant option available
transitivity	values are in a hierarchical order in relation to each other
extensionality	the assigned values remain the same regardless of context

If the preferences are not complete, the preferences do not allow deliberation between the options. If the preferences are not transitive, the preferences go round in circles. If the preferences are not extensionative, the preferences are valued differently based on the context. Together, the requirements, when met, simply mean that the decision-maker's preferences are *consistent* (Bermúdez 2021: 82). Consistent preferences do not change within one session of solving the decision problem. In contrast, a framing effect *does* mean that preferences change while solving the decision problem, but not in a way that challenges consistency, argues Bermúdez's theory.

Framing effects take place when the agent's preferences lead to different decision solutions based on the way the preferences are contextualized. For this, the preferences, perhaps intuitively, concern the last axiom most closely, but they do influence the others, too: Because the preferences change according to the context, the two orders of preferences are *equally* appealing and therefore do not facilitate a deliberation between them. Ipso facto, they force the decision process to go in circles (Bermúdez 2021: 89) and not arrive at any kind of solution.

Studying framing effects in hypothetical decision-making situations in laboratory setting on actual decision-makers, Tversky and Kahneman (1986) observed that the normative axioms are rarely followed by the subjects. Their most arresting observation was that the decision-makers chose differently when the expected result was framed as a loss or as a gain—they avoid losses when they have a gain in sight, but when some loss is inevitable, they gladly take risks. In effect, *it seems that* framing effects are unavoidable in descriptive accounts, and that extensionality is non-negotiable in normative accounts (2021: 17—23). Bermúdez admits that it is only logical that Kahneman and Tversky thus arrived at the conclusion that "the dream of constructing a theory that is acceptable both descriptively and normatively appears unrealizable" (Tversky & Kahneman 1986:

---

[74] The list is not exhaustive. Depending on the requirements of the problem and the question, others could and should be added. One of them is the axioms of *continuity*, which I have left out as unnecessarily technical and thus cluttering the present conversation. However, for those interested: *Continuity* was originally proposed by von Neumann and Morgenstern (1944) to present the supposition that if the agent prefers A to B and B to C, there must be a situation where the agent prefers B for sure over A and C when A and C are equipped with certain probabilities (see also Peterson 2009: 109—110). I chose to stay with the three—completeness, transitivity, and extensionality—for they are the most relevant when discussing conflicting preferences through the specific theory of Bermúdez's *frame-sensitivity*, which pays little attention to probability and are the only ones to which Bermúdez pays attention in detail.

272.) If true, framing effects and rationality would be incompatible and framing effects would always be a sign of irrationality. Granting that this deduction is well-founded, Bermúdez challenges it in his work by taking a new approach to irrationality. His mission is to bridge the gap between normative and descriptive accounts. Thus, he sets to formulate a *normative* decision theory that takes framing effects into account:

> Bayesian decision theory tells it the way it ought to be. Prospect theory tells it the way it is. Framing effects are fundamentally irrational—but at the same time inescapable. This stark contrast between ideal norms and messy reality sets the agenda for the rest of the book [...] Framing effects can be perfectly rational. (Bermúdez 2021: 98)

Bermúdez's theory proves that framing effects can be rational and thus consistent. This theory will be introduced shortly, but a couple of prefacing notions are in place before that. In the context of the present study, mathematical sophistication is not of essence. For this reason, my description of Bermúdez's theory aims to be straightforward. In my view, it is necessary to understand the theoretical phenomenon that Bermúdez connects to rational framing effects, but less necessary to recite the minutiae of how it could be applied in a decision-theoretic laboratory setting or how to adapt it into calculus. I introduce Bermúdez's theory of rational framing effects through one of the example stories he provides and the decision theoretical reading he gives to the role of framing effects in it.

3.3.2 New tools for rational decision-making

The example story is a scene from Aeschylus's tragedy *Agamemnon* (458 BC), the initial part of the *Oresteia* trilogy (translated by Robert Fagles, 1977). In Greek mythology, Agamemnon is the King of Mycenae, and brother to Menelaus who is married to the famous Greek beauty Helen (perhaps best known as Helen of Troy). The setting of the scene is the Trojan War, sparked by the abduction of Helen. At the gates of Aulis (a Greek port town), Agamemnon has been introduced to a difficult decision.

The decision problem is communicated to him by the prophet Calchas: The goddess Artemis in infuriated with Agamemnon (who has insulted her by boasting about his hunting skills and killing one of her sacred stags) and has stopped the winds from blowing. (It must be kept in mind that both prophets and gods/goddesses were highly respected and frequently consulted in the world of the Antique.) Agamemnon's ships and troops wait at the port, unable to sail off, and Artemis demands Agamemnon to sacrifice his daughter, Iphigenia, to appease the goddess. This is the dilemma: He must choose between his pride as the leader of his troops and his love for his daughter as a father. He cries:

> And I can still hear the older warlord saying,
> "Obey, obey, or a heavy doom will crush me!—
> Oh but doom will crush me
>   once I rend my child,
>   the glory of my house—
>   a father 's hands are stained,

blood of a young girl streaks the altar.
Pain both ways and what is worse?
Desert the fleets, fail the alliance?
No, but stop the winds with a virgin's blood,
    feed their lust, their fury?—feed their fury!—
Law is law!—Let all go well." (Aeschylus, lines 205—2016)

Agamemnon is mortified; pain will come either way. Bermúdez suggests that "Agamemnon might more prosaically be described as in the grip of a framing effect" (2021: 16, 124). Agamemnon must choose between sacrificing his daughter in order to follow Artemis's will or failing his ships and people in order to save his daughter. The choice is not clear in the least. Bermúdez deliberates:

> Agamemnon's dilemma is that he evaluates the death of Iphigenia differently, depending on how it is framed. He certainly prefers *Following Artemis's Will* to *Failing his Ships and People*. At the same time, though, he prefers *Failing his Ships and People* to *Murdering his Daughter*. But he knows, of course, that *Following Artemis's Will* and *Murdering his Daughter* are the same outcome, differently framed. (2021: 17, emphasis in the original)

One way to look at the situation is that his preferences are *cyclical*. Rejecting the merely semantic difference between *Following Artemis's Will* and *Murdering his Daughter*, his preferences dictate that he simultaneously prefers *Murdering his Daughter* to *Failing his Ships* and *Failing his Ships* to *Murdering his Daughter*, depending on whether he looks at it from the perspective of a father or of a leader. Cyclical preferences are a violation to the axiom of transitivity (preferences should be in hierarchical order).

Bermúdez proposes a different approach: "[T]here is no cycle or intransitivity if we instead represent Agamemnon's preferences in a more fine-grained way" (2021: 89). This way requires dividing the preferences between two objects instead of one. It does not follow that there would be different outcomes of the situation, but that "[t]hey are really just different ways of thinking about the same basic outcome—the death of Iphigenia" (2021: 90). Agamemnon's way of placing preferences on the available options is conflicted because he valuates the options differently across two frames. He is aware that *Murdering his Daughter* and *Following Artemis's Will* necessarily leads to the same outcome but assigns different values to them (Bermúdez 2021: 90—91). This makes it impossible to solve the problem with the means available in orthodox decision theory (by any other means than just willfully rejecting one of the frames).

To solve the situation with his own approach, Bermúdez names two rationality requirements, or axioms, to be adopted in the discussion on Agamemnon's dilemma. These two requirements do not replace the requirements of rationality of traditional decision theory, but are added to them. The function of the requirements is to prove that framing effects can be rational.

The first rational requirement is *due diligence*. The requirement of due diligence means that all the relevant aspects of a decision problem should be taken into account—that a decision problem must be inspected in multiple frames *if* failing to do so would mean that ethically or emotionally valuable

nuances of the problem would be overlooked (Bermúdez 2021: 122). Stating that Agamemnon would be rational by, for example, ignoring his responsibilities as a leader and focusing on his responsibilities as a father now becomes *irrational*. The requirement of due diligence necessitates that both ways of framing Iphigenia's death are inspected.

The second requirement follows from the first one: "Adjusting the role of emotions in decision-making" (Bermúdez 2021: 122). Framing effects make it important to involve them in the conduct of decision-making. Rationality has traditionally been seen as largely dispassionate (Bermúdez 2021: 122), but Bermúdez, in contrast, claims that the role of emotions in decision-making is unavoidable, and thus important in the pursuit of creating a normative, rational model on an aspect normally allowed only in descriptive frameworks. It is unavoidable that emotions give rise to framing effects, but if this is viewed through the lens of *due diligence*, the emotional feedback contributes to rationality.

Frames become necessary. The second requirement follows from the first one: Bermúdez shifts "the role of emotions in decision-making" from being distracting to being informative (2021: 122). Traditional rationality, based on classical thought, is dispassionate (ibid), and this very premise contributes to the gap between normative and descriptive decision theories. Emotional engagement with the available actions and their outcomes in a decision problem "affects our valuations and preferences" in a way that, when frames are an inherent part of decision-making, adds to the rationality of decision-making.

Because the added requirements do not overrule, but add to, the traditional tools of rational reasoning, the decision-making phase of the processing of the framing effect must be embedded in the decision-making process as an extra step of it. This requires some adjustments to the terminology in use. Rational decision-making that considers framing effects an inherent part of the process must allow cyclical preferences when they are born as a result of adhering to the requirement of due diligence. As cyclical preferences *per se* still remain irrational in Bermúdez's model, he dubs rational cyclicality of preferences *quasi-cyclical preferences* (Bermúdez 2021: 89−90). Quasi-cyclical preferences do not violate the requirements of completeness, transitivity, or extensionality, as they are cyclical only within the context of the framing effect. The decision-maker is aware of this conflict, but as the conflict is necessary, them being aware of it is a merit and not a violation of rationality. Thus, the context of quasi-cyclical preferences is always *ultra-intensional* (2021: 124), granting that even when the decision-maker is fully aware that their thinking is conflicted, this is not a violation of rationality, as they are committed to both sets of quasi-cyclical preferences as well as solving them before proceeding with the decision-making process[75].

In effect, the prefixes *quasi* and *ultra* add a dimension to the process of deliberation. This dimension is the context in which the frame-sensitive

---

[75] My explanation of intensionality cuts many corners, but as the notion of intensionality does not need further justification in the analytic context of the narrative, I wanted to leave this part of the already heavy introduction to mininum. For a more extensive explanation on intensionality and ultra-intensionality, see Bermúdez 2021: 103−121.

reasoning model, its four steps and the solutions resulting from them, takes place. I have now outlined the premises of the model: The requirements of due diligence, the role of emotions, and the resulting elements of quasi-cyclical preferences and the ultra-intensional context. Before proceeding to the model's steps, it is perhaps instructive to illustrate the function of these premises in Agamemnon's dilemma.

We left Agamemnon deliberating on the dilemma posed by the conflict between his preferences as a leader and as a father. The dead end (or perhaps more accurately, the dead cul-de-sac) can perhaps be viewed more clearly in the context of frame-sensitive reasoning.

So, Agamemnon is conflicted. He "prefers *Following Artemis's Will* to *Failing his Ships and People*" and he simultaneously "prefers *Failing his Ships and People* to *Murdering his Daughter*" (Bermúdez 2021: 124). At the same time, Agamemnon is aware of his cyclical preferences. By dint of being acknowledgedly cyclical, Agamemnon's deliberation is actually subject to the rational due diligence requirement rather than irrationality. It follows that the axiom of intensionality is not violated but transferred to consider the two equally (while neither too highly) preferable framings (2021: 124−125). He is conflicted, because in the framing in which he is primarily a father, he cannot bear to sacrifice his daughter, but in the framing in which he is primarily a commander, he cannot bear to fail his troops.

Quasi-cyclical preferences do not lead to inaction like cyclical preferences do. Instead, inspecting the situation through the requirement of due diligence presumes acknowledging the emotional charge of the issue and the complexity it introduces (2021: 123). In short, "[h]aving quasi-cyclical preferences can be rational when those preferences result from satisfying the due diligence requirement" (Bermúdez 2021: 133). Bermúdez's final step in the process of proving the rationality of frames is to examine the story from the aspect of emotional involvement and rationality.

This requires acknowledging what emotions contribute. To prepare, Bermúdez asks the reader to envision a version of the character of Agamemnon who would be exactly the same in all respects but this: He would lack a certain psychological depth (that inevitably involves emotions). His reaction to hearing the prophet's news of Artemis's will would be "simply to salute, send for Iphigenia, and give order to his troops to prepare the sacrificial altar" (2021: 124). This Agamemnon frames the situation in only one way, not seeing Iphigenia's death as losing a daughter but only as the necessary sacrifice to embark on the war against Troy. Bermúdez agrees that this can be seen as rational in the way that the decision gets done more consistently in the sense of more linearly, straightforwardly (2021: 125). Yet it is intuitively clear that something relevant is left outside the scope of deliberation with this version of Agamemnon. That is precisely the role of emotions.

It should be kept in mind that Bermúdez under no circumstances parallels emotions with morality. He does not argue that quasi-cyclical preferences are rational because it is wrong to kill your daughter. Instead, it is irrational to

disregard the aspect that *Following Artemis's Will* is also *Murdering his Daughter*, and vice versa, it is irrational to disregard the aspect that failing to *Follow Artemis' Will* is also *Failing His Ships and People*. This is what the axiom of *due diligence* stands for, and effectively demonstrates the role of emotions in practicing the axiom (2021: 133−134). The axiom is crucial in understanding the decision problem at hand in full and misunderstanding the decision problem is undeniably a flaw in any decision-making process (Bermúdez 2021: 125−126):

> An important part of being a rational decision-maker is properly understanding the decision problem one faces. And that means understanding what one's options are, and what the different possible outcomes are. […] [The other Agamemnon's] perspective is unidimensional, when the decision problem he faces is multidimensional.

Identifying the complexity of a multidimensional decision problem means, in and of itself, meeting the rational requirement of due diligence. Bermúdez argues that when the due diligence requirement is adopted as rational, frame-sensitivity is a direct consequence: "In setting up a decision problem, rational decision-makers need to be appropriately sensitive to as many potential consequences of the different courses of action available to them as possible" (2021: 13). He argues that this is requirement is specifically rational (and not, say, common-sensical) because "[t]he way in which one sets up a decision problem directly fixes the content of one's reasoning" (2021: 131). Therefore, with complex problems, different rules apply than with *small world* problems (Savage 1954: 13). With complex problems, the due diligence requirement rationally demands *framing* to ensure a rational conduct when solving it.

It is clear that Agamemnon is conflicted and under framing effects as a result of the rational requirement of due diligence, and thus he is essentially rational in having quasi-cyclical preferences (2021: 132). This makes Agamemnon a prime example of a *model frame-sensitive reasoner*, that is, a decision-maker who is able to follow the steps of the frame-sensitive reasoning model and consequently arrive at a result.

3.3.3   Frame-sensitive reasoning model

Adopting the frame-sensitive decision-maker model means stepping into the added dimensions of decision-making that I discussed earlier. In practice, frame-sensitive decision-making can be criticized for slowing the process down but praised for increasing its accuracy. These ideals set apart traditional, efficacy-oriented decision-making and frame-sensitive, precision-oriented decision-making[76]. The ability to reason across frames in the way Agamemnon does is not allowed in the traditional model, but required in Bermúdez's one (2021: 225).

---

[76] Bermúdez summarizes this through a contrasting list of axioms (2021: 242−244). The description I provide is faithful to his description in that it does not contradict it, but I have left some aspects unmentioned as irrelevant for the purposes of the present context. For example, the rules concerning contradictory beliefs and factual propositions are assumed to be common-sensical enough in the current study, as opposed to being necessary in a more formal approach.

Indeed, the strategies of the frame-sensitive decision-making model are designed for reasoning across frames. Frame-sensitive reasoning is relevant in situations where "an action or outcome is sufficiently complex that no single frame-dependent, emotional perspective can be fully adequate to it" (2021: 227)—in a situation where the frames clash, where the inconsistency of the preferences creates a conflict. Agamemnon's story shows an example of how such a situation might come about. Attempting to solve this problem through frame-sensitive reasoning, the decision-maker can rely on the following four *framing techniques* (2021: 248–279):

- **Reflexive decentering**—stepping outside the personal frame when identifying a complex problem. The goal of this phase is to pinpoint the complexity of the framing effect and identify the competing frames.

- **Imaginative simulation**—imagining the contents of alternative frames and simulating being in that frame. The goal of this phase is to gather emotional and other feedback on occupying the competing frames.

- **Perspectival flexibility**—adopting multiple frames simultaneously to evaluate the competing reasons and their interaction. The goal of this phase is to understand the common denominators between the frames.

- **Reason construction and juxtaposition**—seeing and evaluating how values and emotions of different frames yield reasons. The goal of this phase is to understand how the common denominators of the frames act in the process of reasoning, and to reach a conclusion by evaluating them against each other.

I overview the steps according to how they manifest in Bermúdez treatment of *Agamemnon*, in which the steps are introduced in rapid succession. For Agamemnon, 1) *Reflexive Decentering* can be pinpointed to the first three lines, where he understands that "a heavy doom will crush" (Aeschylus, line 206) him no matter what he chooses. This realization leads to the framings offered by Bermúdez, in which the death of Iphigenia is framed as either *Following Artemis's Will* or *Murdering His Daughter*. Refusing to accept his daughter's death is to *Fail His Ships and People*. 2) *Imaginative Simulation* takes place when he fills these framings in by imagining what the different dooms involve. Is it worse that "a father's hands are stained, blood of a young girl streaks the altar" or that he should "[d]esert the fleets, fail the alliance"? These are frame-specific formulations of the umbrella question of how to relate to Iphigenia's death. 3) *Perspectival Flexibility* takes place when Agamemnon laments that the outcome is going to be "pain both ways". In *4) Reason Construction and Juxtaposition*, he realizes that he is destined to fail, immediately, either as a king or as a father. He sets the values of a father and values of a king against each other.

Employing these strategies leads to the brink of a solution to a complex decision problem. At the end of the reason construction and juxtaposition step, the problem and available options are understood in depth and can now be solved. Bermúdez lists possible scenarios for the endgame. The possible scenarios might involve (2021: 278–281):

(1) Bringing the conflicting values and reasons from across frames into a **competitive dialog**. In this scenario, it is likely that one framing will win out,

in which case the clash of frames is successfully removed, and traditional decision-making tools apply.

(2) Identifying a single scale that allows inspecting the reasons generated by competing frames through an **overarching frame.** In this scenario, a single scale would be an aspect that is defined differently in the competing frames *but* exists in all of them.

(3) Finding out that the quasi-cyclical preferences **cannot be solved**. In this scenario, one might still force a decision between the frames or refrain from action, remaining conflicted in either case.

If the quasi-cyclical preferences cannot be solved, it might still not lead to inaction. Sometimes, and in Agamemnon's case, definitely, a decision between the frames must be made *against* rationality. A rational, as in consistent, solution is not possible, and therefore all solutions would be done against the reasoning of a framing. An irrational solution means choosing something while aware that the choice is wrong. Consequently, it is inevitable the solution comes out unsatisfactory. Agamemnon cries, "[l]aw is law! Let all go well," displaying a stance of someone not exactly assured but forcing a solution.

Bermúdez returns to Agamemnon's situation. He reasons that "even making a decision might not have removed his quasi-cyclical preferences (because they would still be reflected in subsequent regret and similar retrospective emotions)" (2021: 226). The decision-making situation would be over but the decision problem unresolved due to the irrational solution. In this scenario, the merit of conflicting preferences is at identifying the complexity even though a solution to the decision problem is not yielded as a result.

Bermúdez points out that the lack of success would not equal a lack of rationality: "The rationality of frame-sensitive reasoning is determined by the process, rather than the result" (2021: 281). He concludes the book by discussing the restrictions and benefits of frame-sensitive reasoning. Frame-sensitive reasoning applies to complex problems that cannot be solved by a straightforward pursuit aimed at maximizing expected utility (see Savage 1954: 13). Complex problems are often fundamental and personal—reason enough to at least embark on a dialog rather than "to persist in deadlock" (2021: 281). These notions are reflected in the literary material I study in this thesis. The following final section of this chapter introduces the literary-analytical methodology of the analysis.

3.4   Mapping out the details: Narratological toolboxes

Typically, a narratological toolbox is a set of conceptual tools, chosen per theme or focus so that the tools support each other in the analysis of a work of literature. I do not use the narratological toolbox in exactly this way in this study. After some notions about the metaphor of the toolbox as an approach to literary analysis in general and in this study in specific (3.4.1), I introduce the toolboxes employed in the analysis of *Dark Matter* (3.4.2) and *The Post-Birthday World* (3.4.3).

3.4.1 About the nature of toolboxes

The field of narratology is a branch of literary studies devoted to the study of narrative structure, and the narratological toolbox is a central concept of its employment. Classical narratology traditionally explores ways to address the text through its parts, in order to find out the constitutive elements of narratives in general and to structurally define the quality of being a narrative (see Jahn 2005, Chatman 1978, Barthes 1975; 1982), whereas, it is often described, post-classical narratology is more hands-on, putting the toolbox into use in the analysis of individual narratives (see Alber & Fludernik 2010, Nunning 2003). Despite the difference in analytical emphasis, the role of the toolbox is the same in both traditions of narratology. Approaching the narrative text as a whole through its parts, narratology is able to create versatile conceptual tools for studying both the legalities of all narratives and the intricacies of individual narratives.

Yet the concept of a toolbox is not without its problems. Paul Dawson criticizes the field's tendency to overstress "the export value of narrative theory in terms of the transferable utility of its method" that gets concretized in the metaphor of the narratological toolbox (2017: 229). As a result, the metaphor threatens to reduce the practice of studying narratives to the identification of nuts and bolts rather than a study of the complex relations that create "the grammar of narrative" (Alber & Hansen 2014: 1, see also Dawson 2017: 231). Dawson guides to a more specific conception of the toolbox. He especially stresses the importance of defining the nature of the toolbox employed, as, "depending on how [a tool] is conceptualized, we will produce different interpretations, or rather, this dictates the interpretative questions we ask" (2017: 237). The toolbox, therefore, is the lens through which the narrative is examined, leaving certain questions (and answers) out and drawing the focus on others.

Throughout the analysis, I operate between the literary narrative and the decision model. Therefore, the frame-sensitive reasoning model described above (3.3) participates in the conception of the narrative as an object of study in a profound way. In effect, I conceptualize the text as a narrative *and* a decision-making process. The two are not heuristically overlapping, but rather alternating perspectives to the narrative structure, one being informative of the other. The research question of literary analysis is this: How is the decision-making process constructed in the literary narrative? The formulation of the question aims to express that I examine the narrative as an object with two hierarchical levels. Accordingly, the text is examined as a literary narrative when the question addresses what is stated in the text, and it is examined as a decision-making process when the interpretation of the text is reflected on the model.

The tools chosen for the examination of each book overlap partly. The overlap is due to the requirements of the forking paths narrative form that they share, and the differences between the toolboxes are due to their individual expressions of it. Moreover, the role of each tool in the analysis is significantly more restricted than it traditionally would be in a literary analysis of a literary

work. Because of this restricted role, the tools are also simplified: I employ only facets of each tool, and generally in a more practical manner than their potential would allow. I understand the risk of this delimitation, but at the same time see it necessary.

Studying literature in rational-choice terms has seen little use of narratological tools (apart from Swirski 2007), which makes my application exploratory. The analytical focus on decision-making that I have adopted necessitates that the narratological tools are informative of the decision-making process. Employing Brams' terminology, they guide the attention to the *details* (anything but the plot) that, alongside the *structure* (the plot), create the decision-making process. Narratological tools thus facilitate the analysis of literary language and its translation to rationality-of-choice language in the analysis of the connection points of the two.

My choice to use many tools superficially rather than one tool in detail is also dictated by the study's underlying strategic focus rooted in the coordination problem (discussed in 2.3). The coordination problem is an important context for this study and its contribution. After all, my examination of the coordination problem (see 2.3) showed that the existing conception of how the literary text constructs the decision-making process is rather one-sided and straightforward. This is why I deem it a coordinating action to shed light on the great variety of literary devices and other conceptual tools that construct the decision-making process outside the immediate scope of the plot.

The narratological toolbox, in this study, is thus an eclectic set of conceptual tools that are connected by their relevance in the analysis of the frame-sensitive decision-making processes that take place in the two narratives. As a final element of the study's theoretical background and methodological foci, I introduce the narratological toolboxes of *Dark Matter* (3.4.2) and *The Post-Birthday World* (3.4.3).

3.4.2   Details of Dark Matter

The next five subsections introduce the methods for addressing aspects of the forking paths narrative of *Dark Matter* (2016). The five sections denote the four steps of the frame-sensitive reasoning model (Bermúdez 2021) and the fifth step of solution that emerges from them. Each step is divided into scenes that I name below. The structure presented here will also be the structure of the analysis.

3.4.2.1   Affect-evoking spatial descriptions

The first step of frame-sensitive reasoning, *reflexive decentering*, makes the decision-maker aware of the complex decision problem. In *Dark Matter*, the frame-sensitive decision problem has emerged fifteen years in the diegetic past and has been with Jason since then. When the novel introduces Jason, he is already in the grips of a framing effect, and his method of coping with it is to suffocate the uneasy feelings it evokes. This coping mechanism is disabled, however, when he is kidnapped into the parallel reality where he made the other

choice fifteen years ago. This is the narrative content of the first chapter of the novel, which I use to analyze the first step of frame-sensitive reasoning by focusing on the *spaces* that Jason occupies and the affect that those spaces evoke in him. The first chapter shows Jason in four spaces that are each analyzed by looking at one scene:

- The Family Night scene in which Jason is *at home*.

- The Meeting Ryan scene in which Jason is *at his friend's party*.

- The Walk in the Autumn Night scene, in which Jason is walking *on the streets*.

- The Discussion with the Abductor scene, in which Jason is *at gunpoint*.

The spaces of these scenes are, one way or another, the result of Jason's choice fifteen years ago, and thus yield feedback on the outcome of the choice. Hence, his alignment with the space he is in reveals information about his framing effect and the conflicting preferences that define it. This alignment is grasped with the two-fold conceptual tool of *affect-evoking spatial descriptions*. Affect-evoking spatial descriptions are textual units where the space Jason inhabits evokes an affect in Jason's body. I focus on them mainly in the four scenes of the opening chapter. As *affect-evoking spatial descriptions* combine of the two tools of *affect* (see Massumi 1995, Reddy 2001, Sedgwick 2003) and *narrative spatiality* (Zoran 1984) for the purposes of this study, I introduce these tools separately.

Literary spatiality can be understood in multiple ways: it can be, for example, geometrical as in Edwin A. Abbott's *Flatland* (1884[77]), locational as in Michael Redhill's *Consolation* (2006[78]), or geometrical as in Selma Lagerlöff's *The Wonderful Adventures of Nils* series (1906]1950[79]). However, in *Dark Matter*, spatiality is not tied to the space itself so much as it is tied to the experience of being *in* that space. The space is a consequence created by a choice, thus

---

[77] Edwin A. Abbott's imaginative science fiction satire *Flatland: A Romance of Many Dimensions* (1884) is a vaguely adventurous but mainly encyclopedia-resembling story of "strange spaces peopled by […] geometrical figures that think and speak and have all too human emotions […] written […] when Einstein was a mere child and the idea of space-time lay almost a quarter of a century in the future" (Hoffmann 1950: iii). The story is geometrically spatial by experimenting with the mathematician Henry Poincaré's thought of "a world only peopled with beings of no thickness, and suppose these 'infinitely flat' animals are all in one and the same plane" (Abbott 1950: 37, see also Swirski 2007: 58). In *Flatland*, the spatiality of beings underlies everything from social interaction to architectural choices.

[78] An example of such a work would be Michael Redhill's *Consolation* (2006), a city novel in which the real-life topology of the city of Toronto is put into interplay with its fictive representation, making "the novel's intra- and extratextual worlds overlap and lend meaning to each other" (Vesala 2018: 114). The novel focuses on an urban excavation site, whose findings mix Toronto's actual history with fictive events, making the novel's Toronto an in-between space between confirmed and invented history of the city.

[79] In Selma Lagerlöff's children's book series *The Wonderful Adventures of Nils* ([1906]1950), the "plot serves to present, in several ways, a complete geography of Sweden" (Zoran 1984: 314). Here, the spatiality refers to the topology of Sweden's historical provinces that Nils travels through. The journey convinces the unruly youth Nils to discover that there is more to life than "to eat and sleep, and […] to make mischief" (1950: 7), quite literally broadening his perspectives by showing him more geographical space than his home yard.

inherently *felt*. Spatiality in *Dark Matter* means being somewhere in a more abstract and relative sense, which resembles Martin Heidegger's *Dasein* (1927: 36—40). The Heideggerian Dasein is a valuative apprehension of one's being-in-the-world (*In-der-Welt-sein*) in terms of the possibilities that lie within one's scope (see also Dreyfus 1991, Braver 2012). Such a humanist approach to space is prevalent in Gabriel Zoran's (1984: 309—335) theory of space in narrative.

Narrative space is space unraveling in time. As a starting point to the theory of space in narrative, Zoran admits that the narrative is an inherently temporal medium (1984: 312). Indeed, "nobody who has thought about narrative structure and interpretation is likely to deny that for narrative to make sense as narrative, it must make chronological sense" (Sternberg 1990: 903). This leads to "the necessity of structuring information about space in a temporal continuum" (Zoran 1984: 321), and thus the spatial information is layered according to the order it is given in the linear text and reconstructed according to that order. For example, my autobiography of this moment would state three spatial layers: (1) Sitting with my right side facing the window, (2) the computer-screen in front of me is slightly blurred (3) by the summer sun rising above the forest-line.

The linearity can thus be understood like the zoom-function of a video camera: "When, for instance, the text passes from high objects to low ones, the vertical dimension of space is stressed more than its other dimension" (Zoran 1984: 321). The literary camera, if you will, is always equipped with a point of view (in the above example, the doctoral student by their desk); the reconstructed space always has a perspectival (Zoran 1984: 322) and finite (Zoran 1984: 324) structure, expressing not only what the character sees but also what his relation to that is. Hence, when observing the alignment of Jason with his space, the arrangement of the visualization is important—what is behind him, what is ahead of him, what is close enough to grasp and what is beyond reach, and in what order these descriptions are given.

Seen this way, the character's spatial reference point is never neutral in the scenes that I focus on. My point of interest, the *alignment* between the character and their space, requires the feedback of the character's *body* in relation to the space he occupies. This is what the literary affect is employed for in the analysis—to help identify and address Jason's sensation of being out of alignment with his space.

As a theoretical concept, *affect* is a way to bring the body along into the cognition of the mind. Per Brian Massumi, "affects are virtual synesthetic perspectives anchored in (functionally limited by) the actually existing, particular things that embody them" (1995: 96), a stream of feedback more complex than the beings who interpret it. This makes affects autonomic, visceral forces that guide the intentions through the body's reactions to external movers such as people, smells, spaces, and colors (see Massumi 1996: 18—40). Affects evoked by the spatial descriptions in *Dark Matter* provide information about Jason's preferences without Jason, or any other vocal character, providing it *outright*. Everything affects the mind through the body in some way, creating intensities that guide all cognitive processes (see Reddy 2001). However, the

affect is precognitive, meaning that it cannot be put into words in its affective form.

At first sight, a work of literature, a medium of words, seems ill-fit to express something that cannot be put into words. Indeed, the affect is never in the text but is evoked by the text. The analysis of the literary affect is located in the subject of the affect—a body—and the data of the analysis is the textual description that evokes the affect. Affect-evoking descriptions are different from descriptions of emotion (cf. Hogan 2016). Emotions can be described in the text, but the affect can only be evoked in it (and by it). Therefore, the affect takes place in the one experiencing the text as they are identified with Jason as the protagonist of the story.

Although I refer to this complex experiencer simply as *Jason*, it is actually the reader's or the author's body that feels *as* (cf. *feel with*[80], Keen 2007) Jason. For the bulk of the novel, Jason feels something specific in and through a specific space. Jason's story is to find a place where he is in alignment with his spatial reference point and the space he is surrounded by and inhabits. Felt spaces are thus an important detail of the construction of his frame-sensitive reasoning process.

3.4.2.2   Symbolic items

The aim of the second step of frame-sensitive reasoning, *imaginative simulation*, is to understand the contents of the frames. I analyze this step through the fifth scene examined in this study, which I call the House/Home scene. In this scene, Jason steps into a house that should be his home, but since he has been transported to the parallel reality where this is the home of the Jason who prioritized his career over starting a family fifteen years ago, he cannot recognize the space of the house as the place of his home (see e.g. Creswell & Merriman 2011: 1—17). The scene describes what Jason sees as he goes from room to room: A chandelier, the fridge, his vinyl records—items that would also be in his home, but are in various ways different in this house. It is not a family home (a consequence of his choice) but the luxurious bachelor pad of a researcher (a consequence of Jason2's choice).

I pay attention to the selection of seven items that Jason describes and what he says about them. Thus, this scene is a prime example of the kind of "plotless" narrating referred to by Steven Brams as discussed in connection to the coordination problem (2012; 1994, see also 2.3). Jason does not directly indicate any motives for his actions, nor is anything *overtly* connected to decision-making. Granted, no decisions are made in the scene, but at the same time, the scene is

---

[80] Feeling *with* is an expression used by Suzanne Keen (2007) in her study of narrative empathy. Similarly to the affect, literary empathy is evoked by the text *in the reader*. However, the process is decisively cognitive; "Keenian empathy-engendering structures" (Ylä-Kapee 2014: 7) invite the reader to feel empathy, specifically, to "feel what we believe to be the emotions of others" (Keen 2007: 5). Despite its relatedness to what I study through the affect—Jason's immediate feedback on the space he occupies in order to understand his decision-making process better—the framework of Keenian narrative empathy is rather stressedly reader-oriented, and because of that, more difficult to employ for my purposes.

replete with information about the choice that defines the plot of the forking paths narrative.

This information is given through fourteen items—two versions of each of seven items—that obtain a symbolic meaning when reflected on Jason's decision problem. The seven items that appear in their two different guises and their locations in the building are (in order of appearance in the text):

- A chandelier in the dining room

- A photograph on the mantel

- The fridge door in the kitchen

- The jazz den in the living room

- Several pieces of wall art in the hallway

- The study as a separate room in the house/home

- The master bedroom upstairs

Rather than using a consistent framework of *symbolism*, I analyze this scene with a variety of tools to address the very way in which these items are symbolic of Jason's choice. By interpreting the symbolism of a set of items and elements of the space that fluctuates between being a house or a home according to the meanings he gives to the items, I construct the imaginative simulations of Jason's two possible lives.

Interpreting the items as symbols, the room for allusions and associations is extensive and relatively free (compared to, for example, the metaphor that combines two specific elements; see e.g. Kövecses, 2010; 2017)—symbols are a loose framework of context-specific allusions that often translate differently depending on the cultural background of the reader (see e.g. Ferber 2007). Symbols can be established (such as ♥ = love), when they do not require much contextualization, or unestablished, such as the shape of a tesseract, whose meaning in *Dark Matter* is not apparent without intra- and extra-narrative contextualization. Five out of the seven juxtaposed items are decipherable through this relatively simple pattern of identifying the symbol, examining its characteristics, examining its context, and concluding what its symbolic meaning in the narrative is (see Rimmon-Kenan 2002, Abbott 2021). Two items, namely the (2.) photograph on the mantel and (5.) wall art in the hallway, are representations of an actual location in the real world, and thus their analysis differs from the others on the list.

The photograph on the mantel (2.) represents two versions of Inspiration Point in Yellowstone National Park, and the wall art in the hallway (5.) represents either Navy Pier (in the house) or Wisconsin Dells (in the home). Seeing how central spaces and spatiality are in *Dark Matter*, I also involve aspects of these locations as spaces in the real world and the experience-related aspects of their spatiality in the analysis.

Treating them as locations with literary meaning, I employ the core principles from Jason Finch's *Deep Locational Criticism* (2016). Finch describes the

working principle of the framework as "a practice and an activity" (2016: 1) that "proceeds via an oscillation between readings (inside texts) and assessments of places (outside texts)"(Finch 2016: 17). The practice appoints the literary critic to an active role, contrasting the physical location with its textual representation through their own constructed (through maps, visits to regional archives or visits to the location itself) experience of the place.

The restricted scope of these locational symbols in my analysis does not warrant a full-scale locational examination in the style Finch outlines in his work (2016). Yet in the restricted scope in which they appear, their examination is guided by Finch's notion of operating "via a scaled viewpoint" to the text, using, for example, technologies such as Google Maps to choose the level and precision of scaling (2016: 22). In effect, my experience of the place is constructed by online resources such as Google Maps and its *pegman* function[81] and learning from the places' histories from written works and online. While still treating these items—photographs or drawings—as primarily symbols, their symbolic meaning is drawn from their quality of being locations in the sense Finch gives to literary locations, and therefore I include also details of the history and topography, and construct the experience of these locations as places to be in and spaces to occupy.

3.4.2.3   Fiction within fiction

The third step of frame-sensitive decision-making requires objective observation of both or all frames at the same time to see connecting points, overarching elements, or other features that are not as juxtaposed as they initially might seem (Bermúdez 2021: 254; Ryan 2017). The purpose of holding the frames in mind simultaneously is to reflect between the aspects of the two frames in order to see the decision problem from the perspective of both frames at the same time without making a choice yet. It does make intuitive sense that breaching the temporal continuum of the narrative flow into a restricted aesthetic experience would allow for such reflection. Fictions within fiction[82] (Herman 1999) are the narrative context of the third step in both novels, and this gives some reason to think that there might be something highly suitable in the literary device of fiction within fiction to do what the third step requires doing.

Fictions within fiction are common in literary narratives, and the network of them creates a whole system of layers into the narrative. Fictions within fiction can be anecdotes of the past, histories of items that the characters come across, dreams they had, visions they imagine, or other similar visits to another space and time from the one occupied by the protagonist in the narrative present.

Dark Matter's fictions within fiction can be divided into two main categories: Those of protagonist-Jason and those of the Jasons forking from him. When these little stories are told, remembered, or in any other way experienced by

---

[81] Dropping a virtual figure into a location to virtually explore it from their perspective.
[82] Also *embedded narratives*. Even though less cumbersome, this term was not chosen instead of fictions within fiction because of the possible confusion that might arise between roles of the parallel realities of the forking paths, which I already have described as *embedded narratives*, and the brief fictions focused on in the third step of analyzing each novel.

protagonist-Jason, we hear them through the first-person narrator, and thus they characterize his unique life. When they are told from the other Jasons' perspectives they are told and heard as counterfactuals for protagonist-Jason, characterizing the indistinct mass of opportunities he never took or hardships he never faced. In the specific fiction within fiction that I focus on in this step of the analysis, these perspectives are momentarily merged.

The fiction within fiction of the novel is an art installation in the shape of a Plexiglas maze (6. The Maze scene) that protagonist-Jason walks through. The scene is very intense, combining the slow, dream-like wandering through the maze with a rapidly looping stream of flashing pictures on its walls, and Jason is deeply shaken by the experience, feeling lost. In the context of perspectival flexibility, I connect his lostness to the multitude of perspectives he was forced to adopt in the maze: The maze was created by another version of his wife, who was inspired by a discussion with another version of Jason; it hints and foreshadows the fates of many other Jasons that will be made explicit later on in the narrative; and the theme of the maze speculates on the randomness of choosing a path.

The maze thus combines Jason's singular perspective to his life with the ultimate lack of singularity of the *cosmology* of the narrative's world. Signposted by Marie-Laure Ryan as "particularly rich in possible dramatic developments," a cosmology constructed on the "many-worlds interpretation of quantum physics" (2017: 78, see also Ryan 2006a) adopts a double-meaning in the context of *Dark Matter*, where each parallel reality of the cosmology is a decision made by one version of Jason but not the others. When Jason travels the multiverse into the worlds of other Jasons, he steps outside of mere speculation to experience first-hand the paths he never took.

Exposing Jason to all these other perspectives and decision outcomes, the scene does not only show him experiencing the aesthetic experience of the maze that resonates with his decision problem, but he also interacts with an aesthetic construction inspired by his binary double while simultaneously experiencing these deeply personal themes being projected onto the ontological vastness of the entire (narrative) world—themes that question the purpose of making singular decisions in the first place.

3.4.2.4 Quantum space

The fourth step leads to the solution. To that effect, it is a technique that helps us locate the criteria for making the solution. It does so by first constructing reasons and then juxtaposing them against each other until the solution emerges (Bermúdez 2021: 266—271), in doing so drawing from the previous steps of the reasoning model. As the worldbuilding of the novel relies on decision-making, Jason's increasing understanding of the quantum world directly influences his understanding of his framing effect.

The world of the quantum, of course, affects the real world in a myriad of ways (see e.g. Rovelli 2021), and it is not feasible to describe all of them here. In the novel, specific attention is paid to the phenomenon of superposition. It is often, and also here, explained through the famous thought experiment of

Schrödinger's Cat. In Erwin Schrödinger's (1887−1961) own arrangement of the thought experiment, originally published in the article "The Current State of Quantum Mechanics" (1935), the thought experiment goes as follows[83]:

> A cat is penned up in a steel chamber, along with the following device (which must be secured against direct interference by the cat): in a Geiger counter there is a tiny bit of radioactive substance, so small, that perhaps in the course of the hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges and through a relay releases a hammer which shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the cat still lives if meanwhile no atom has decayed. The psi-function of the entire system would express this by having in it the living and dead cat (pardon the expression) mixed or smeared out in equal parts.[84]

Translated to the world-building of *Dark Matter*, where decisions fork into different worlds, the experiment illustrates the process of decision-making and the shift of perspective that Jason must go through in order to resolve his framing effect. In this interpretation, the steel chamber becomes his life, within which the vial of cyanide and the suspended hammer attached to the Geiger counter aimed at radioactive uranium become his mind making the decision. The live cat is a decision not made, and the hour for which the box is left sealed and untouched is the window of decision-making. In the past, where he inhabited the singular universe, he was the observer of the test after the hour had passed, but he must become the *probability* that either sets the fatal sequence of actions in motion or not.

In the novel, this shift happens through the Box, which is literally a steel chamber in superposition. Thus, adapted to Zoran's terms, the Box becomes a field of vision where an infinite set of possibilities arise. In order to obtain this new spatial reference point that will lead to him being in alignment with it, Jason's perspective grows and develops in two main contexts, examined in two scenes. First, when he works his way into the frame of the binary opposite Jason in (8.) The Researcher scene, where he learns how the other Jason continued protagonist-Jason's research after he, in his own timeline, abandoned it. Then, by exploring the multiverse, trying to find his way home, but ending up merely *almost* there every time, thus working his way into dozens of other Jasons' frames in the (9.) Door to Door scene.

3.4.2.5   Ending

The fifth step is not strictly speaking a step in the frame-sensitive reasoning model, but a resolve that follows from completing the four-fold process. Frame-sensitive reasoning is a process-related framework, and its value does not therefore lie in its product but in the increased clarity and awareness of the

---

[83] Even though the Cat Experiment now has a life of its own in popular culture, Schrödinger originally brought the thought experiment up to demonstrate a categorical flaw in deduction: The fault, according to Schrödinger, is in transferring the atomic level indeterminacy (i.e. the potential that the uranium particle decays) into macroscopic indeterminacy (i.e. the cat's state as the result of the decay of the uranium particle), where it can—falsely—be resolved by direct observation. (see Mann 2020)

[84] Translation by John D. Trimmer.

conflict that permeates the decision problem (Bermúdez 2021: 281). Ideally, however, the solution does more or less naturally follow from the process. In *Dark Matter*, that is so, and the final step is therefore an analysis of how the aspects of Jason's framing effect are resolved in the final chapter and especially in the final scene, (10.) Blank Canvas. This scene, as well as this step, are succinct and do not require a lot of technical finesse in the analysis. However, I do want to connect some aspects of the ending and the closure it provides to the events created and held up by Jason's inconsistent preferences.

Despite being a cinematheque, fast-moving narrative, the novel plays with fundamental existential questions. Extrapolating from Jean-Paul Sartre's well-known claim of "existence precedes essence[85]" (1946)—you are given a life, but you need to create the meaning—the novel asks how a life's purpose can be defined when everything that can happen, according to probability, will happen. *Dark Matter* succeeds in being a fitting example of something that philosophers often praise literature for: Of concretizing that which philosophy discusses through the abstract[86] (Mikkonen 2013; 2011). Jason's search for essence becomes a physical quest through the countless worlds in which his life's purpose takes countless variations. In the core of this exploration are choices, their consequences, and the impossible need to foresee the latter before making the first.

As Jason finds the solution to his framing effect, the novel is allowed to really speed toward its ending. The ending provides closure to the suspense it has been building during the narrative through the events that, in one way or another, result from his framing effect. The ending is happy; diegetically, it can be expected that the world goes on, and Jason and his family are alive and about to embark on a new beginning in a world that sounds promising.

In the analysis, I pay attention to the description of this new world and the allusions it evokes, to the process of opening the door, and to how these descriptions reflect the change in Jason as a decision-maker and signify the shift from inconsistent to consistent preferences about the central decision problem of his life.

In sum, Jason's narrative is a journey from a sporadic perspective to a clearly defined one; from an undefined identity to a defined one; finding peace with the ghosts of his past that pull him back into the past as well as into the futures that were (for him) never realized. I examine this journey as a decision-making process from inconsistent to consistent preferences. It is essentially a process of breaking out of his framing effect by the continuous employment of reframing techniques. The analysis employs a versatile narratological toolbox in order to identify and discuss the literary representation of those techniques step by step and systematically in the continuum of the novel. By showing the connection between complex employment of literary techniques used in the

---

[85] The sentiment is found already in Soren Kierkegaard's writings (1844), but the idea was made famous by, and is thus usually credited to, Sartre (1946).
[86] I discuss the interplay of philosophical thought and narrative representation in *Dark Matter* elsewhere, in "The Horror of Choices: Aspects of Peter Wessel Zapffe's Existential Pessimism in Blake Crouch's *Dark Matter*" (Lehtimäki *forthcoming* October 2023).

forking paths narrative and knowledge required by the frame-sensitive reasoning model, I treat the novel as an instance of language of literature that needs to be translated or interpreted before discussing its knowledge-content.

3.4.3 Details of The Post-Birthday World

The second novel, Lionel Shriver's *The Post-Birthday World*, is a forking paths narrative about Irina McGovern's choice between two very different lives shared with very different partners. Studying the novel, I interpret Irina's framing effect through a more sporadic set of aspects than with the previous novel. This is partly because *The Post-Birthday World* is twice as long as *Dark Matter* and meticulous in the effort of mirroring the forking paths to each other, and partly because Irina never reaches a solution in the same sense as Jason. This subsection introduces the narratological toolbox for addressing the details of Irina's frame-sensitive reasoning process.

3.4.3.1   Unreliable narrator of the pre-birthday world

Irina's decision problem appears for the first time in the diegetic present (unlike Jason's). Perhaps because the reader becomes aware of the problem synchronously to Irina, the initial step of frame-sensitive reasoning is slow and meandering. Irina's struggles with making decisions throughout the novel fit this slowness and lack of direction.

I divide the first chapter of the novel into four scenes that together form the first step of frame-sensitive reasoning (that is, realizing the complexity of the problem[87]). These scenes include two completing partial analepses[88] into Irina's past with the men in her life (1. the Memories of Ramsey scene and 2. the Memories of Lawrence scene), a dinner scene whose easy mood is a stark contrast to Irina's anticipation of it (3. the Dinner scene), and finally, the scene where her suffocated needs, wants, and hopes catch up with her and force her to admit the decision she faces and the conflict it involves (4. the At the Snooker Table scene). The process is slow and meandering also because the narrator, which is a version of the protagonist (I elaborate on this in the analysis), is unreliable in reporting the development of the preferences. The first four scenes, then, are examined for the role of unreliability of the narrator in constructing the first step of frame-sensitive reasoning.

Unreliability is a heterogenous literary phenomenon. Referring as much to the act of narration as to its agent, the narrator, the phenomenon is "usually referred to as 'unreliable narration'" (Jacke 2018: 3); a situation where the story's verbal content cannot be fully trusted. Unreliable narration results from the narrator's position in relation to the events of the narrative. When analyzing this

---

[87] As the purpose of each step has been introduced in detail earlier in this chapter and briefly returned to in the beginning of the description of every detail in connection to *Dark Matter*, I will, here, remind the reader of the contents of each step in this simple way.

[88] *Completing* because Irina returns to a heterodiegetic moment in the past to fill in meanings of the present (see Genette 1980: 51), and *partial* as the chronological breach into the past ends at a moment preceding the diegetic present (see Genette 1980: 62).

position, the focus can be on the nature of the narrator's unreliability (what kind of unreliability is there in the narrative?), its premises (why is the narrator unreliable?), or its effects (what can the narrator's unreliability make happen?) (Jacke 2018: 3 — 28). An unreliable narrator "misreports, -interprets or -evaluates" or "underreports, -interprets or -evaluates" (Shen 2013, see also Rimmon-Kenan 2002: 100 — 103), obscuring the reader from some element of truth.

The analysis of unreliability is typically performed either from a rhetorical or cognitivist perspective, or a combination of those. A rhetorical approach identifies unreliability in the text, whereas cognitivist approach finds unreliability in the process of reception (see Hansen 2007, Shen 2013). It should be noted that a purely cognitivist analysis is difficult to maintain, as the analysis of reception necessarily involves structural notions of how that reception is guided by the text. Admittedly, structural analysis also involves the critic-reader who interprets the text, but the analytic focus, then, is on textual cues and structures that construct the rhetoric. (Sternberg & Yacobi 2015.) Somewhere between these two is Gregory Currie's view that distinguishes between *narrative unreliability* and *unreliable narrator* (1995: 19). Currie's framework is based on a narrative-conception that is not exclusively literary. To him, comprehension of a narrative relies on "intentional inference", whether it was literature or film (1995: 19 — 20). Reliability is thus a question of the intentions *and* the availability of those intentions. When the narrator is unreliable, they can be "identif[ied] as the source of unreliability" and when what is unreliable is the narrative itself, the source is the "complex intensions attributable to an implied author" (1995: 23). In both cases, the narrative provides inaccurate information, but only in the first this can be pinpointed to the person or figure of the narrator. As I discuss in the analysis, *The Post-Birthday World* involves a semi-omniscient narrator, whose figure can be pinpointed as the source of false information.

The task of pinpointing unreliability can be easy or difficult based on the way the act of narrating is written in the text. For Currie, narrators are either *backgrounded* or *foregrounded*, referring to a "signaled" or "inferred" presence of the narrator (1995: 21). The distinction is largely similar to Seymour Chatman's (1978) *overt* and *covert* narrators. The covert narrator is an implicit "interpretive device or mediator" whose visible actions are minimal (1978: 199), whereas the overt narrator guides the narrative visibly, by offering "explicit description, direct communications to a narratee about the setting that he needs to know" (1978: 219). The resulting "spectrum of narrator-prominence" (Chatman 1978: 222) thus resonates[89] with Wayne C. Booth's hierarchical approach to the narrator's objectivity, where the author addressing the reader as the actual author of the fictional work (in introductions and conclusions, for example) is on the one end and the implicitly ideal (and impossible[90]) narrator from whom all signs of

---

[89] In *Story and Discourse*, Chatman mentions Booth's hierarchy in a footnote, naming the hierarchy "degree of narratorhood" (1978: 196).

[90] Such a narrator is impossible, as the narrator is a product of the author: "Everything he shows will serve to tell; the line between showing and telling is always to some degree an arbitrary one […] In short, the author's judgment is always present, always evident to anyone who knows how to look for it" (Booth 1961: 20).

authorial manipulation have been abolished is at the other (1961: 16−19). Narrating is a manipulative act that unavoidably restricts the amount of information provided, and while not all manipulation is unreliable, the opportunity for unreliability lies in the narrator's role. I will show in the analysis that *The Post-Birthday World* has a narrator who oscillates between backgrounded and foregrounded roles. For long bouts, the narrator remains covert, but in certain, consistent contexts makes their voice heard and acts as an overt narrator.

The narrator's location within the narrative is also important regarding their power to manipulate the story either within the actual happenings or outside it. As Gerard Genette's says: "Absence is absolute, but presence has degrees" (1980: 245). Genette, then, offers a fourfold taxonomy to discuss the narrator's presence in a literary work. The first two categories place the narrator in relation to the story's characters: Heterodiegetic and homodiegetic narrators are, respectively, located either outside or inside the narrative−they either are or are not a character in the story they tell (1980: 245). The final two categories place the narrator at different narrative levels in relation to the events in the plot: Intradiegetic and extradiegetic narrators are, respectively, either present in the narrative *as it unfolds* or outside this immediate unfolding (1980: 248). Genette's framework, when employed in the evaluation of unreliability, offers another dimension to evaluating the available strategies for the narrator. Although narrator-Irina is, obviously, a character in the novel (homodiegetic), she is also outside the events (extradiegetic). Therefore, even though she is a character in the story, it cannot be expected that whatever unreliability-inducing manipulation the narrator would perform, they would act on it *during* the narrative; all she can do is to manipulate the apprehension of events that unfold beyond her reach.

In sum, then, in the analysis of the first step of Irina's frame-sensitive reasoning process, I take into close consideration the unreliability of the reporter of that process. This includes the narrator's attempt to disguise Irina's motives. At the end of the first chapter, the masking cannot be sustained anymore, and Irina becomes aware of her acceptable and unacceptable sides. The narrator's nature changes after the narrative forks into two paths, changing from unreliable to at times brutally honest. Therefore, other aspects than the narrator's reliability become central in the interpretation of Irina's decision-making process when both the narrative and the process continue.

3.4.3.2   Literary dialects in characterization

The second step of frame-sensitive reasoning, *imaginative simulation*, aims at constructing the competing frames. Irina's imaginative simulations concern the two domestic environments that she shares with one of her lovers in each embedded narrative of the forking paths. These environments distinguish the forking paths in many ways, but a central one is the soundscape of these domestic environments−what the language variant spoken in environment of the home is, how it is spoken, and how these language-related issues characterize the home.

The language variants used by the three main characters describe them on a much deeper level than merely the aural one, and consequently, the domestic

soundscapes and Irina's reflections on them are informative of Irina's dilemma. In this subsection, I explain how I identify the use of different accents and dialects and how I treat them in the analysis. To this end, I provide an overview of techniques to create a *fictive orality* in the characters' speech, and introduce the framework of *literary dialects* as a way to map language variation in the literary work.

Speech is an indirect mode of characterization. This means that it, by default, requires the reader to interpret its function in correspondence to the real world (Rimmon-Kenan 2002: 65). As opposed to direct characterization, such as "Lawrence Trainer was not a pretentious man" (Shriver 2007: 2) or "Ramsey was lousy in casual chitchat" (Shriver 2007: 5), speech needs more context to be understood. For instance, an individual character speaking with a strong dialect does stand out among a group of characters, but the language variant in and of itself does not necessarily say much of the nature of the discrepancy between them without drawing information from the real world. A characterization analysis of *speech* can also focus on aspects such as the tone the character uses, what the content of what they say is, or how they speak to other characters (see e.g., Culpeper 2001, Booth 1961, Genette 1980, Rimmon-Kenan 2002). I pay attention to mood and tenor when relevant, but the analysis will focus primarily on the role of language variation in characterization in three scenes: (5.) Dinner with Irina's Mother, (6.) Pronouncing Snooker, and (7.) Mingling at a Party.

As these scenes will show, in *The Post-Birthday World*, each of the three main characters is equipped with a specific language variant. Language variation is a general term that denotes the existence of different variants of one language, such as dialects, accents, and registers (Määttä 2004: 320). Language variation in literary fiction can have several functions. Representations of non-standard language can assist in creating the story's milieu (Aaltonen 1996: 171), may contribute to the story's polyphonic structure (Määttä 2004: 319), or illustrate elements of the fictive world's ideology as a set of principles by which the world operates (Cadera 2012: 291). In *The Post-Birthday World*, language variation participates in a significant way in creating a juxtaposition between Irina's forking paths.

The specific features of the characters' speech are reported on in detail in the narrative flow. Being a form of fictive orality in the written medium, variation in the character's speech is produced by using textual markers. Such textual markers include, for example, idiomatic expressions typically encountered in spoken rather than written language (Brumme 2012: 269—288) or modifying the written code so that it alludes to or even mimics elements of the phonic code (2012: 146; Määttä 2004: 320; Bowdre 1964: 1; Walpole 1974: 196). Hence, language marked by dialectal features or an accent as a mode of characterization is performed by encoding traits of the real-world language variant into the character's speech. In Michael Gregory's words, written non-standard language is "written to be read as if heard" (1967: 193). The elements of the written code send an "invitation to auditory experience" (Brumme & Espunya 2012: 9) to the

reader, guiding the reading process to hear it differently from the bulk of the text[91].

Now, the bulk of the text does not need to be written in a majority language or a language that is in any other way societally *standard*, but the difference between non-standard and standard language is specific to each book and defined through the relations between the variants represented in the novel. In this view, developed by Simo Määttä, the language of literature is a dialect in itself[92] (2004: 319−339). The language of literature is different from any variant of spoken language and written language; it combines the oral and written characteristics of a language in order to simulate the literary world and the story (Määttä 2004: 320). Therefore, even if connections to real-world languages and language variants are informative, they are insufficient alone, because the world of the literary work manipulates their real-world connotations by suppressing some aspects and highlighting others.

When mapping language variation within the context of a specific literary work, the framework of literary dialects is rather straightforward: The *standard literary dialect* is the variant used by the narrator and the majority of the dialogue, whereas *non-standard literary dialects* appear in the speech of the characters (Määttä 2004: 319−320). One work can feature multiple non-standard literary dialects. Generally, non-standard literary dialects contribute to the polyphonic structure of a novel by adding alternative, contrastive focalizations to the issues portrayed in it (Määttä 2004: 319). For example, in William Faulkner's *The Sound and the Fury* (1984), focalizations through characters who speak non-standard variants add importantly to the polyphonic structure, whereas in Irvine Welsh's *Trainspotting* (1993), the working-class Scottish dialect of Edinburgh is the standard literary dialect (Alsina 2012: 148) and contributes instead to narrowing the work's phonic structure down to the rarefied world with its problems. While the linguistic sound-world of *The Post-Birthday World* is rich, it does not contribute to the polyphonic structure, which would require a shift in focalization (to another speaker). Lawrence, Ramsey, and a number of other characters are often vocal in the text, but they are always present through Irina's focalization, that is, as if heard by Irina.

Aspects of oral code can be shown at two textual locations. The most common way to indicate a character's speech in the text is to place a passage of text in between quotation marks, usually starting on a new line, referred to by Määttä as the *speech act* (Määttä 2004: 320), which must be understood as divorced from the speech act formulated by J. L. Austin (1962) and John Searle (1975); in its current context of standard and non-standard literary dialects, the speech act means, rather prosaically, just the act of speaking amidst the written medium

---

[91] It is of course possible that the bulk of the text is written in a marked language variant, but such books are marginal exceptions whose dramatic effect comes from non-marked language being the standard. This question again is ridden with problematic pre-suppositions that have vast cultural and societal dimensions.

[92] Määttä's framework is to some extent based on previous research and existing frameworks on multilingual texts, especially Meir Sternberg's dichotomy of homogenous and heterogenous texts (1981: 221−239).

where the standard is narration—description—and is not, automatically, subject to the categorizations[93] of its content, but rather subject to its precise oral nature through its phonic code. The second location where the narrative report that gives further information on how the speech act is to be heard by the reader (Määttä 2004: 320) can be placed is right before or after the speech act.

In addition, I incorporate two specific methods of communicating *non-standard* features of the phonic code to the reader into my examination of language variation in the framework of *literary dialects*. These methods are *graphical indicators* and *reporting utterance* (Brumme & Espunya 2012: 9).

Careful descriptions of language—how it sounds and why it sounds like that—are frequent in *The Post-Birthday World*, and are motivated by the protagonist's bilingual background, her university degree in languages, and her general interest in languages. The following excerpt provides an example of the use of different techniques to blend the written and oral code, as well as an example of the importance of language variation for characterization and the diegesis. In the excerpt, Irina and Lawrence are visiting Irina's mother in Bristol Beach, US, and Irina's mother decides to pay attention to variation in Irina's English:

> "You know, longer she stay in UK, Irina change how she talk, *da*? She use expressions I no hear in New York. And even way she say words. Every year, more differences."
> "Yeah, I know," *Lawrence* groaned. "On the plane, she ordered to*mah*to juice." […]
> "When you grow up bilingual," said Irina, "language seems less fixed. Besides, I think British lingo is *a bit of all right*." She managed to deliver the expressions with almost no consonants. (354)

I go through the example first by its techniques and then by its contents. The invitation to an auditive experience when Irina's mother speaks is made through broken grammar: verbs are not conjugated, definite articles are forfeited, Russian interference in is rife in her sentence structures (e.g. "I no hear" [я не слышу; *ya ne slyshu*] instead of the grammatically and pragmatically correct *I don't hear*), the use of Russian lexical items, such as *da*, and grammatically incomplete constructions, such as "Every year, more differences".

In Lawrence's speech act, similar indicators are employed to derogate Irina's manner of ordering juice on the plane. Irina's speech act, lastly, invites the reader to hear the phraseme *a bit of alright* initially as culturally marked, and to repeat it with even more cultural markers provided in the reporting utterance, "with almost no consonants". The excerpt is a representative example of the care with which the speech acts are often described, directly showing how central a role language variation plays in the novel's characterization.

I do not clutter the analysis with extensive use of the technicalities of how the text presents language variation, but it is still important, I think, to understand that the representation of language variation requires a lot of effort

---

[93] Namely J. L. Austin's complex framework of performative utterances (1962) or his three-fold typology of locutionary, illocutionary, and perlocutionary acts, or John Searle's five-fold version where he divides speech acts into representatives, directives, commissives, expressive, and declarations (1975). Obviously, what I designate a speech act above could in another analytic context be analyzed as Austinian and Searlean speech acts.

from the author and thus, it can be inferred, it plays a significant role in the narrative. In this subsection I have explained how I identify and examine language variation as a feature of characterization in *The Post-Birthday World*. In the novel, language variation as a method of characterization through speech assists in characterizing the domestic environments through the character-attributes of the men that Irina shares these homes with. In the analysis, I argue that the way speech works in the characterization of the three main characters is informative of their values and preferences in life in general, and therefore a way to understand the conflict in Irina's decision problem.

3.4.3.3   Fiction within fiction

In *The Post-Birthday World*, Irina works as a children's book illustrator. Later on in the novel, when she has been living in the forking paths for years already, she gets the idea of not only illustrating, as she has done thus far, but also authoring a children's book. These are the fictions that I focus on when constructing the third step of the analysis, where I look at the creation process of each book as versions of one scene that get their names from the children's books created in them: (8.) Picture Books, divided into the versions a. *Frame and Match* and b. *Ivan and the Terribles*. While both these fictions serve the same role of constructing the third step of frame-sensitive reasoning (that of holding the frames in mind simultaneously) as in *Dark Matter*, there are differences in the characteristics of the embedded fiction itself. Fictions within fiction as such can be independent and excluded from the main events of the primary diegesis, in which case they take place as fictions embedded in a framing narrative (see Abbott 2021: 29−33). Yet they do happen within the primary diegesis. Gerard Genette describes these *metanarratives* as follows:

> […] [T]he *metanarrative* is a narrative within the narrative, the metadiegesis is the universe of this second narrative, as the *diegesis* (according to a now widespread usage) designates the universe of the narrative. We must admit, however, that this term functions in a way opposite to that of its model in logic and linguistics: metalanguage is a language in which one speaks of another language, so metanarrative should be the first narrative, within which one would tell a second narrative. (1980: 228, see also Genette 1982)

Genette acknowledges his uncustomary use of the prefix *meta* that, counterintuitively, does not signify a narrative level *beyond* the events that the narrative depicts, but a level *within* it. Metanarratives, for Genette, include, for example, the stories, the minor characters, and other cause-effect patterns that exist within the primary narrative (1980: 229). Yet the confusion lingers only within the technical perspective to the Genettian narrative levels[94] that places metadiegetic events on a level *higher* than the primary diegesis, suggesting that the direction of reference is straightforwardly from the primary to the metadiegetic.

---

[94] The "narrating act" that produces the narrative is the first level, and "any event a narrative recounts is at a diegetic level immediately higher than" the narrative act (Genette 1980: 282).

In practice it does not need to be so, of course. An example of a metanarrative is the novel that Stephen Albert studies in the short story "The Garden of Forking Paths" by Jorge Luis Borges, where "a narrative that follows all the branches of the possible" (Ryan 2006a: 62) signifies the labyrinthine structure of the storyworld so that the novel as embedded in the fiction itself creates the "suggestion that a text, a work of fiction, can be a labyrinth" (Weed 2004: 161, see also Baroni 2007: 247−263). The metadiegetic events and logic of the novel embedded in the short story are paraphrased by the sinologist Albert, who actually, by explaining the logic of the novel, explains the logic of the short story. Therefore, even though the metanarrative of the diegetic novel *The Garden of Forking Paths* is on a higher diegetic level than the primary diegesis of the short story "The Garden of Forking Paths," the metanarrative actually can be used *to speak of* (as in Genette's analogy to metalanguage above) the level below it.

The fictions within fiction of *The Post-Birthday World* function the same way. Irina authors and illustrates two children's books, one within each forking path, and the diegetic events of creating those books, as well as the metadiegeses of those books themselves, signify the decision-making process she is going through on a diegetic level higher than that on which she creates them. In the analysis, I focus on the events that lead to creating these books, the creation-process of these books, the diegeses of the books themselves, and the discussions of the diegeses of the books within the diegetic events that take place after the creation of the books.

3.4.3.4   Metaphor

Reason construction and juxtaposition, finally, collects the results of the previous steps (that is, preferences divided between the frames, the juxtaposition of these preferences when extrapolated, and the connection between the frames) to make sense of "how values and emotions refracted through frames yield reasons" (Bermúdez 2021: 284).

As a literary device, the metaphor is a figurative linguistic item that draws from the reality outside of it. The relationship between reality and figurative expression is one-way; an attribute referred to as *unidirectionality* (see Zohrabi & Layegh 2020: 89), which denotes that the relation of signifying goes from concrete to abstract (Kövecses 2010). Thus, metaphor is often used to make something complex and abstract more understandable by referring to it in terms of something simple and concrete. The literary metaphor's use is, therefore, perhaps surprisingly, rather practical. Indeed, "[m]etaphor is not simply an ornamental aspect of language, but a fundamental scheme by which people conceptualize the world" (Gibbs 2008: 67, see also Gibbs & Cameron 2008). Using a metaphorical characterization of an event "gives rise to a host of meaning correspondences or inferences" (Gibbs 2008: 70), when the aspects of the concrete part of the analogue become applicable to the abstract one.

In *The Post-Birthday World*, I examine the decision-focused role of this literary detail in two scenes: Per reason construction in (9.) Conceptions of Snooker, focusing on the variation in the three main characters' conceptions of

snooker as a metaphor, and per juxtaposition in (10.) Irina at Home, focusing on the metaphorical meaning of different rooms of her homes to different aspects of her relationships.

The game of snooker is central to the events, characterization, and meaning-creation of *The Post-Birthday World.* Like the variation of British and American English in the characters' speech creates a juxtaposition deeper than the audible contrast, snooker assumes a role beyond a sport or a pastime. In the analysis, I aim to show the connection between the three main characters' decision-making strategies in relation to risk through their conception of snooker. Snooker, consequently, becomes a metaphor for seizing the moment, and the conception of how snooker is played becomes analogous to how opportunities that involve risk should be managed in decision-making.

As a work of domestic fiction, the institution of the *home* is central to the story. A home is a private space, and domestic fiction explores the tensions that arise in this space (Jacobson 2010). The tensions in the homes that Irina shares with the men in her lives arise in very different contexts, are dealt with differently, and, of course, lead to different outcomes, which makes the relationships, in many respects, contrastive opposites to one another. Irina's framing effect manifests, among other things, as continuous, almost compulsive criticism of the man she is with not being like the man with whom she is not. I tie this to the claim that a woman's home is a *domestic utopia* (Duras 1992), a version she constructs seemingly for the people with whom she shares a home, but ultimately for herself, and I interpret this in the light of the inconsistent preferences that define Irina's character. I explore these preferences through the different rooms of her homes. Divided into five subscenes, (10.) Irina at Home examines how the concrete structures of a) her home with Ramsey, b) her home with Lawrence, c) the kitchen in Irina's and Ramsey's home, d) the bedroom in Irina's and Lawrence's home, and e) Irina's routines of making coffee make indecision the only possible outcome of her frame-sensitive reasoning process.

3.4.3.5 Ending

The final chapter is a diegetically brief moment, just the end of a discussion Irina and Lawrence have after Ramsey's funeral. Irina mediates on the consequence of the unmade decision she finds herself at: She compares Ramsey and Lawrence as life partners against each other, and she reflects on her perceptions of her values. These reflections reveal Irina's conclusions to the frame-sensitive decision problem. They are projected onto the narrative preceding it in the novel and the previous steps of the analysis to assess the rationality of her conclusion.

However, as the independence of the parallel universes she inhabited remains unbreached, she has made the decision in both ways, and therefore, in neither. At the fifth and final step of the model, I look back to the narrative in the analysis and reflect on her conclusion through what it says, but also how what she says reflects back on the events of the story. After all, the narrative has returned back to the intact world where the brutally honest narrator of the forked worlds might be missing and the unreliable narrator from the beginning is found.

As Irina's framing effect does not resolve, the fifth step focuses on the reasons for why it is so.

The fault can lie in the process, or there might be no fault at all: The framing effect, as Bermúdez dictates, is born when "no single frame-dependent, emotional perspective can be fully adequate to it" (2021: 228), and involves a decision-maker who "can accept both frames and be conflicted, without being inconsistent" (Bermúdez 2021: 229). The adequate perspective, then, should arise as a result of the frame-sensitive reasoning process in which the connections between values, emotions, and frames that create the conflict are observed. At the same time, the conflict might not be resolved despite the adequate process of observing and analyzing the conflict: "The rationality of frame-sensitive reasoning is determined by the process, rather than the result. And so lack of success does not necessarily show lack of rationality". (Bermúdez 2021: 281). Instead, the "frame-sensitive reasoner is rational to the extent that they respect the basic consistency requirements […] and engage in the techniques" of frame-sensitive reasoning (Bermúdez 2021: 281). It follows that the final chapter is analyzed a) as an end to a process and b) as a result of that process, thus analyzed for the rationality of the process itself and the lack of success of its results.

4 DECISION-MAKING PROCESSES OF TWO FORKING PATHS NARRATIVES

> "If only life could be lived simultaneously in parallel spaces and times!"
> The protagonist, Iona Kirkpatrick, of Xiaolu Guo's novel, *I Am China* (2014: 127)

Iona Kirkpatrick throws the above wish into the air, not thinking it might happen, nor does it actually happen in the novel. In contrast, Blake Crouch's *Dark Matter* (2016) and Lionel Shriver's *The Post-Birthday World* (2007) — the novels studied in this chapter — make this into reality. The protagonists of these novels get to live their lives simultaneously in parallel spaces and times, hinging from the reference point of a single choice. The novels follow the forking paths narrative structure that I have outlined in the study (in 3.2): Firstly, the realities are juxtaposed, secondly, the juxtaposition is reflected on by the protagonists, and thirdly, the juxtaposition is resolved, one way or another, by the protagonist.

These traits yield the forking paths narrative its connection to decision-making: The plot adopts the structure of a decision-making process as the events occurring in the narrative are systematically connected to the choice by the protagonist. The methods of analysis reflect this hybrid nature of storytelling. I employ the *frame-sensitive reasoning model* (Bermúdez 2021) to identify the decision-making process from the narrative flow. The analysis is divided into five steps: The four steps of the model and the fifth phase of a solution emerging from them. The model employs a narratological toolbox, and each step focuses on a narratological element (e.g. spatiality, metaphor, literary dialect) that elucidates the narrative constructions of the decision-making process. The aim here is to coordinate the practice of analyzing literature in rational-choice terms in a way that makes it more relevant for the literary studies. Studying the narrative with this interdisciplinary methodology, I answer the first research question: How is the decision-making process constructed in the narrative? I have divided the novels into scenes in such a way that each step and each tool concerns a specific scene or a set of scenes. The cooperation of the model, tools, and scenes is explicated at the beginning of both the analysis of *Dark Matter* (4.1) and *The Post-Birthday World* (4.2) in a summarizing table.

4.1 Dark Matter

In the analysis, Jason is defined as a conflicted decision-maker whose quasi-cyclical preferences keep him in the grips of a framing effect in a situation where the decision has, regardless of his inconsistent preferences about it, been made. He has made a decision against rationality, and as a result of the lack of rational conclusion to his choice, he constantly feels the loss of the competing framing and the competing choice. When he gets a chance to experience that competing choice, he gains clarity and thus also consistency. Ultimately, this grim characterization of inconsistent preferences is studied from the perspective of positive effects of inconsistent preferences, but this aspect lays dormant in this chapter, as it focuses on the description of inconsistent preferences in *Dark Matter* and its protagonist. In this analysis, I perform an adaptive reading of the narrative of *Dark Matter* by producing the decision narrative of *Dark Matter*, which, in turn, is done by adapting it to the frame-sensitive reasoning model.

The analysis is divided into five subsections, according to the steps of the frame-sensitive reasoning model (see 3.3). The next table (4) summarizes the distribution between the scenes in the novel and the steps of the model:

TABLE 4　　Summary of the analysis of *Dark Matter*

Step	Tool	Scene(s)	Result
Step one: Reflexive decentering	Spatial descriptions and the affect	1. Family Night 2. Meeting Ryan 3. Walk in the Autumn Night 4. Dialog with the Abductor	Understanding the chronology of the framing effect and naming the frames
Step two: Imaginative Simulation	Symbolism	5. House/home	Constructing the dichotomy of the frames
Step three: Perspectival Flexibility through fiction within fiction	Fiction within fiction	6. The Maze 7. Discussions with Daniela2	Questioning the dichotomy of the frames
Step four: Reason construction and juxtaposition through affective quantum space	Spatial descriptions and quantum space	8. The Researcher 9. Door to Door: a) Together b) Alone	Understanding the values and emotions that the two frames and their conflict in based on
Step five: Solution	Closure	10. Blank Canvas	Acting on the unconflicted choice

The plot develops along with the steps. In each step, I focus on a scene or a set of scenes that, one way or another, provide the information that the model requests. The model acts as the framework to identify the structure of the decision-making process from the narrative flow.

4.1.1 Reflexive decentering: Frames

In the reflexive decentering step, I draw from the opening chapter of the novel. I focus on three scenes that reveal distinct aspects of Jason's dilemma. As the first step of the frame-sensitive reasoning model, *reflexive decentering* requires the decision-maker to "move beyond the illusion of frame-neutrality" and "[step] outside their own framing of an action or outcome in order to reflect upon the frame itself" (Bermúdez 2021: 251−252). The aim of this step, and therefore this subsection, is to define the competing frames through the scenes that evidence the impossibility of frame-neutrality (see Bermúdez 2021: 98), by taking Jason closer and closer to the conflict that prevents it.

The story opens with the Family Night scene, where the Dessens are enjoying their weekly family night on a regular Thursday. Jason is cooking with his wife, Daniela. Artistic like his mother, their fourteen-year old son Charlie is drawing on his iPad, "a mountain range that looks like something on another planet" (1). Jason reflects on his conception of parenthood:

> It's a strange thing, being the parent of a teenager. One thing to raise a little boy, another entirely when a person on the brink of adulthood looks to you for wisdom. I feel like I have little to give. I know there are fathers who see the world a certain way, with clarity and confidence, who know just what to say to their sons and daughters. But I'm not one of them […] I can't escape the feeling that I'm failing him. Sending him off to the wolves with nothing but the crumbs of *my uncertain perspective* (3−4, my emphasis).

Jason's "uncertain perspective" is named as a flaw, contrasted to the ideal, clear, and confident view of knowing "just what to say". Jason suggests he *can't escape the feeling* that he is failing his son because of the inconsistencies of his paradigm. Expressed through the metonym of providing advice on what kind of choices to make in life, parenthood is established as an arena of conflict for Jason. Jason's perspective is uncertain because something in his decision-making, at least to him, is flawed and therefore unpredictable.

Indeed, Jason and Daniela have drifted into, rather than chosen, their current circumstances. Watching Jason cook, Daniela idly reads a review of a local art exhibition. The exhibition showcases the works by her former friend from college. Daniela describes the review as "basically a love letter" (2) and begins to say: "I always thought…" (2) but does not finish her sentence. Jason knows what she means. Fifteen years ago, her career in visual arts was at a promising start, like Jason's career in quantum physics at the same point. This was before their son was born. Charlie's birth is treated as a water breaker in their lives; an event followed by "[a] bout of crippling postpartum depression" and, in sum, "[d]erailment" (5). Jason consoles his wife with an anecdote: "If it makes you feel any better, Ryan Holder just won the Pavia Prize […] Million dollars.

Accolades. Opens the floodgates to grant money" (5). Ryan Holder is, in turn, Jason's old college friend. Having both shared the painful vignettes into the destinies they both lost the opportunity to fulfill, they open another bottle of wine. Over another glass, they summarize:

> "You could've won that prize," Daniela says.
> "You could've owned this city's art scene."
> "But we did this." She gestures at the high-ceilinged expanse of our brownstone. I bought it pre-Daniela with an inheritance. "And we did that," she says, pointing to Charlie […] "Science is less advanced because you love your family. (3−4)

This scene introduces the mechanism through which the framing effect holds Jason in his grip even after fifteen years. By helplessly admitting the uncertainty of his perspective, the weight of Jason's past creeps into his present. It is not the weight of something that he could confirm went wrong in his past; that would not lead to *uncertainty*, but to regret. If he was sure that he made a mistake, he might have more consistent ways of fixing his mistake than he now has. He does not exactly *know* that he made a mistake, but the version that his life might have become constantly competes with the one he leads as a hauntological presence, the ghost that sometimes invades their happiness.

The choice they both made fifteen years ago between family and career happened when—importantly—the emotional commitment to either was based on imagined possibilities of the future rather than experiences gained in the past. At the start of their careers and only some months into their relationship, they found out that Daniela was pregnant. They had not yet built much in either field of their lives, so the decision was essentially between their potential, and which potential to cultivate. They chose to keep the baby that became Charlie, get married, and become a family. Daniela repeats Jason's reasoning to their son: "He said, 'Daniela, on my deathbed I would rather have memories of you than of a cold, sterile lab'" (4). The gratitude for what they have is enmeshed with the longing for what they both gave up. This choice defines their individual lives and the life they built together.

Based on what is said already so far, the choice can be characterized as a complex decision under risk. Jason knew that prioritizing one would in effect mean giving up on the other, but he had little to no data on what those futures would be like. Jason's dilemma is an example of the classic difficulty to maximize expected value by "obtain[ing] good and avoid[ing] evil" (Arnaud and Nicole 1662: 367) due to the ambiguous alignment and situational referents of the dichotomy. The definition of success would necessarily need to be a gross simplification, to the extent that it might yield no useful results. The question of one's *life*path is too complex. Unless one's moral stances lead to a choice automatically (for instance, being pro-life or pro-choice regarding the existence of their son), the option that would generate the best utility or value for Jason is not clear, because the content of value rejects simple categorization. Instead of a clear system that would guide the decision-making, valuation in the context of this complex decision problem is frame-sensitive.

Jason was required to choose between paths he had barely embarked on, and to extend that choice, and the values he would commit to, to the vastness of his whole life ahead of him. He arrived at a criterion based on the utility of *memories*: Which life (of the two) would create the *right* kind of memories? Unable to make the choice in his present reference point, he imagines being at the end of his life, at a point when all the memories have been created already. That is from where he is able to distinguish between the values and make a choice: He valued family more than career; love more than accomplishments. Yet at the ultimate vantage point of *deathbed*, the perspective is different than the one he currently occupies. At the diegetic present, he lives the day to day life in the consequence of that choice, drifting further away from the reference point by the day, and the lived experience of the days between the original reference point and the deathbed are far removed from the clarity and consistency provided in the simulation of his final perspective at his death.

It is therefore not surprising that the choice remains, so to say, unmade, or at least made badly. As Bermúdez formulates, "not acting is often not an option. But that does necessarily eliminate the quasi-cyclical preferences and consequent conflict" (2021: 281). The brief description of Jason's decision-making process seems adequate; he did not rush into the decision. It seems that he acknowledged the complexity of the decision problem and his framing effect concerning it already fifteen years ago. He did everything *right*, at least insofar as *right* is to follow the four framing techniques of the frame-sensitive reasoning model. He acknowledged the cross-draw of career and family (perspectival flexibility) and imagined his life according to either decision (imaginative simulation). Holding both of the frames in his mind at once (perspectival flexibility), he was able to construct the idea that at the end of these simulations he would have *memories* of them, at least, even if he would not have anything else to remember his choice by (reason construction). Finally, juxtaposing the values implied by *cleanroom* and *Daniela*, he had been able to choose between them, and choose *Daniela*, and consequently his family. Yet he remains conflicted.

Translated into the spatial terminology that inevitably prevails in forking paths narratives and decision-making, Jason's life was *behind* him in the scenario from which vantage point he made his decision. In reality, he is alive and thus his life is *ahead* of him and *around* him, reminding him of its forking paths, unrealized potential, alternative compositions. Jason did "everything that can reasonably be expected" (Bermúdez 2021: 280), but nevertheless the quasi-cyclical pattern remains, because he did not consider the problem from his actual perspective and actual framings in the moment, because doing so was not enough to lead to action. This is the flaw of the decision.

After their talk about the futures that could have been, Daniela urges Jason to go and congratulate Ryan Holder at their local bar, where Holder's post-graduate students are throwing him a party in honor of his nomination to and winning of the prestigious Pavia Prize. Jason agrees grudgingly.

This particular family night is the last he spends with his family in the grips of a framing effect. On this night, he will be forced to re-embark on the process

of frame-sensitive reasoning. As he leaves the house, the narrator foreshadows a shift in the state of things: "And this moment slips past unnoticed. The end of everything I know, everything I love" (5). The mono-diegetic narrator of the work speaks from a perspective beyond the scope of character-Jason's knowledge, but he exercises his power exclusively to foreshadow events in order to create the rising tension necessary for the set-up of the thriller structure. This instance in the beginning is one of a kind and can therefore be seen as a deviation rather than a solid trait of the otherwise intra- and homodiegetic narrator of Jason's character.

Entering the Meeting Ryan scene, Jason finds Ryan looking happy and healthy, surrounded by people who admire him. They sit down with double shots of Macallan Twenty-Five [95] because Ryan insists that they should be "drinking the best tonight" (6). They discuss Ryan's award-winning research on "identifying the prefrontal cortex as a consciousness generator" (7) and catch up on Ryan's happiness as a single man. Suddenly, Ryan changes the topic to Jason's wasted talent. Ryan confesses: "If I'm honest, Jason, and there's no false modesty here, I always thought it would be you publishing the seminal papers […] You're smarten than I am. Everyone knew that" (7—8). Jason does not respond, making Ryan plough on with "a flicker of annoyance, or anger, in his voice":

> "Look, I've taught at MIT, Harvard, Johns Hopkins, the best schools on the planet. I've met the smartest motherfuckers in the room, and Jason, you would've changed the world if you'd decided to go that path. If you'd stuck with it. Instead, you're teaching undergrad physics to future doctors and patent lawyers." (8)

Ryan describes the life that could have been Jason's, contrasting it with the life that actually is. This is the essential contents of the scene: Ryan's simulation of Jason's life as it could have been. From Ryan's perspective, Jason has chosen to fail, decided to *not change the world* when he could have done so if he would have just *stuck with it*. It is implied that Ryan might be right; back in the day, Jason saved Ryan multiple times from "flunking differential equations" (7), but now Ryan, from this much humbler starting point, has reached up to a level unimaginable to Jason. Seeing how upset Jason becomes, Ryan tries to alleviate his accusation, but it is too late. Jason congratulates Ryan briefly and leaves the bar. Walking furiously ahead, he becomes increasingly aware of an unrationalized anger inside him: "The more distance I put between myself and Ryan, the angrier I become. And I'm not even sure at whom" (8). His anger can perhaps be interpreted as a manifestation of what he has suppressed during the fifteen years, but that is now brought to the surface by Ryan, his success, and his words.

Ryan put him face to face with his framing effect. Bermúdez maintains that quasi-cyclical preferences can manifest as "regret, indecision, and backsliding" (2021: 281). What he is feeling is not necessarily regret, for the same reasons as in the Family Night scene Jason and Daniela do not see their sacrifice as a mistake. Regret would entail that he would be ready to forsake his family; to regret choosing them over his career. This he does not express. It is not indecision, either,

---

[95] Scotch single malt whisky whose price surpasses two thousand euros per bottle.

as he has no options anymore. Neither is it backsliding, as he has no opportunities for that; it would require going back in time (or laterally across time, as will happen in the novel, but this is not available for the protagonist-Jason in this scene). What he feels seems to be more distant and abstract. This feeling is connected to a fear of not living the life or being the man he *should* be, according to some principle that he, at least partly or subconsciously, lives by but cannot pinpoint or name. The next scene sheds light on the composition of this elusive sensation that defies emotional labeling.

Entering the Walk in the Autumn Night scene, he is making his way through Chicago and identifies a counter-correlation between the way he feels and the space he is surrounded by. The scene describes a felt space, a spatial affect (3.4.1.1). This expressionist device constructs Jason's framing effect in the novel throughout the story. In the logic of this device, Jason's environment is either in alignment or in conflict with Jason's mood. The following excerpt shows that Jason's longing is directed to the reference point of fifteen years ago for its potential, and how that potential is interchangeable — understandably, for it never came to fruition — with the ghost of his success:

> There's an energy to these autumn nights that touches something primal inside of me. Something from long ago. From my childhood in western Iowa. I think of high school football games and the stadium lights blazing down on the players. I smell ripening apples, and the sour reek of beer from keg parties in the cornfields. I feel the wind in my face as I ride in the bed of an old pickup truck down a country road at night, dust swirling red in the taillights and the entire span of my life yawning out ahead of me. It's the beautiful thing about youth. There's a weightlessness that permeates everything because no damning choices have been made, no paths committed to, and the road forking out ahead is pure, unlimited potential. I love my life, but I haven't felt that lightness of being in ages. Autumn nights like this are as close as I get. (10)

The passage describes Jason's interactive experience with his space. Employing the tools for addressing spatiality in the literary narrative (Zoran 1984), this passage becomes a *scenic description* from the *spatial reference point* of Jason's character (Zoran 1984: 312, 326). The description reveals a juxtaposition of the abstract and the concrete, the past and the present. At the front of the description are *these autumn nights*. The temporal condensation[96] suggests that the ongoing night is part of the continuum of other such nights already in the diegetic past, and as an experience hence familiar and known. The experience is anchored into the physical aspects (such as *smell* and *weather*) of his past that repeat in the present. These stimuli evoke a sensation that he describes as a *lack of weightlessness* in his present. The weightlessness present in his past is described through embedded vignettes of a *football game*, *keg parties in the cornfields*, a young man riding on an *old pickup truck*; experiences of a stereotypical American youth. Moving in the middle of this space is the young Jason, proceeding across a vast, open landscape, free and weightless at the back of the pickup, heading to no specific direction because he is not forced to. The feeling of *unlimited potential* —

---

[96] Marked by *these*. About temporal distortion through order, temporality, or frequency of events, see Genette 1980: 157.

possible, by definition, only when *no paths are committed to* — is the object of his longing, and therefore of the loss he feels.

He does not express it through the lexicon of *loss*, but the sense of loss permeates the spatial description regardless. *Loss* is not strictly an emotion, or a rationalized label Jason would equip with the way he regards the imagery evoked by the walk through the autumn night. It is an affect; raw and code-like bodily data in need of deciphering (Reddy 2001: 110; Ottum 2019: 239). In the beginning of the novel, Jason is unwilling to decipher these sensations, but it is clear that what he goes through in the autumn night is *loss* of "lightness of being." The abstract quality of weightlessness enfolds the scenic description not only because it takes place in his youth, but because it is in stark contrast to the angry man striding along the roads of Chicago from the path he could have chosen (Ryan's party) to the life he did (his family), moving at this designated axis between the two equally committed directions of his life.

The experience, though familiar, is unbearable for Jason. As a result, he soon falls back to what can be called his habitual coping mechanisms. He calms down by producing a blissful vignette of being back home. He imagines sitting "by the hearth with Daniela and Charlie and a glass of wine" (10), numbing the disturbing thoughts and emotions. He does not attempt to solve or rationalize the origin or existence of the storm inside him. Instead, he continues his walk home, ready to be soothed by the presence of his family; the gains of his framing that numb the losses.

While it might be that the fifteen years have involved a number of similar nights, when the conflict within him has been stirred up by something or someone until he manages to suppress it, this night is different. In fact, the train of his thought is interrupted by a sudden, physical attack. "The first thing I see is a face. Ghost white. High, arching eyebrows that look drawn. Red, pursed lips — too thin, too perfect. The second thing I see is the barrel of a gun" (11). The geisha-masked attacker orders Jason to turn around, saying: "I'm not here for your money. Start walking." (11) The man ushers Jason into a car, and Jason starts driving according to the instructions of the navigator installed in the car. During the drive, Jason attempts to flee but fails, accepting that he is at the mercy of his abductor.

The abductor acts curiously. The masked figure wants to know intimate snippets of his life, such as whether he calls his wife Dani or Daniela, what he plans to do the next day, and whether he is close with the man he just had drinks with at the bar. To the last question, Jason starts responding by explaining who Ryan is, but the abductor brushes him off by ending Jason's sentence in "[y]our old roommate" (17), without explaining how he knows that Ryan and Jason used to share a room in college. The abductor guesses Jason's passcode to his phone without explaining how he ended up with "[m]onth and year of [Jason's] birthday backwards" (16). When Jason asks how he knows all these things, the abductor remains smugly enigmatic: "I know almost everything about you, Jason. You could say I've made your life my specialty" (18). The abductor's voice is familiar, and Jason is sure that they have met, even though he cannot pinpoint

the voice to a time and place. Before he can think any more of this, the navigator declares that they have arrived at their destination. Jason finds himself at an abandoned power-plant.

There, the man puts his plan into action. Jason tries to attack him, but the man injects Jason with something that calms him down. Then, he makes Jason take off all his clothes, but gives him new ones to wear. The new clothes are luxurious and fit perfectly. Jason asks: "Did you bring me here to kill me?" (27) to which the man answers that he did not, but that there was no other way to get Jason there. Whatever the abductor injected into Jason's system is starting to take effect. He feels "intensely serene and deep and distant" (28), despite fighting it. Noticing Jason's resistance slackening, the abductor's tenor changes.

He says in the manner of a "confession" that "[i]t's been a long road […] I know you don't understand, but there's so much I want to ask", especially "[w]hat it's like to be you" (28). Jason does not understand. The sense of haste is still present. They are waiting for something, and he does not know what. In this moment, defeated and sedated, the abductor speaks the question the suppression of which underlies Jason's whole existence. He asks: "How do you feel about your place in the world, Jason? […] Are you happy in your life?" (28) Perhaps in response to his confession earlier, he is now waiting to hear Jason's.

This question starts the Dialog with the Abductor scene. I signpost this moment as one where Jason is forced out of his suppressive routine of considering this question; the coping mechanism of attaching to the idea of settling at the fireplace with his family, right before the attack. Now, in this peculiar, extremely different setting, he is able to step out of his current framing and the attitude of avoidance with which he regards his framing effect:

> "I have an amazing family. A fulfilling job. We're comfortable. Nobody's sick." (…)
> "But?"
> I say, "My life is *great*. It's just not *exceptional*. And there was a time when it could have been." (28, my emphases)

This description of his framing rationally acknowledges the circulatory nature of his frames concerning the dominant, life-changing decision problem from fifteen years ago. His response emphasizes the collective, positive aspects of his life: Family, *their* comfort, *their* health. This is what he knows, and it's *great*. In contrast, what would constitute the *exceptional* is individual, *his*. The abductor understands the distinction:

> "You killed your ambition, didn't you?"
> "It died of natural causes. Of neglect. (29)

The potential for *exceptionality* died out of neglect rather than abandonment. By this phrasing Jason captures how the choice was, as Bermúdez describes, acted on without resolving the conflict (2021: 281). The option just faded away. Jason explains what he chose at the expense of his ambition:

> "And do you know exactly how that happened? Was there a moment when—?"
> "My son. I was twenty-seven years old, and Daniela and I had been together a few months. She told me she was pregnant. […] I was trying to create the quantum superposition of an object that was visible to the human eye […] I needed a thousand

hours in a cleanroom, but [...] Daniela needed me. My son needed me. I *lost* my funding. *Lost* my momentum." (29, my emphases)

This excerpt defines the dichotomy of the forking paths as two distinct spaces. In Zoran's (1984) terminology, the field of vision is divided in two. On the one side, there is the superposed macro object and the thousand hours in the cleanroom, and on the other side, there is Daniela and his son—all of whom need him. He never made a conscious choice to inhabit only one frame and move permanently out of the other, but somehow, one has slipped away.

This succinct, embedded narrative that Jason shares about roughly the first year of Charlie's life describes the slowly growing distance from the individual, exceptional life, which he links into his life with the passive verb of to lose; "lost my momentum". Even when conjugated with the first person singular, it is something that happens *to* the subject rather than is made to happen *by* the subject. The pain of that loss is almost tangible to Jason, and fully comprehensible even here, with the barrel of a gun staring at his face. But it has been established that Jason does not feel anything as simple as regret. His place in life is not just pain; the pain of loss is matched by the bliss of what he has:

> "Do you regret your decision to stay with Daniela and make a life with her?"
> "No."
> "Never?"
> I think of Daniela, and the emotion breaks back through, accompanied by the actual horror of the moment. Fear returns, and with it a homesickness that cuts to the bone. I need her in this moment more than I've ever needed anything in my life.
> "Never." (29)

It might seem curious that he simultaneously describes the life he lost as *exceptional* and the one he has as underwhelmingly as *great*, and still he is convincing when he says that he never regretted choosing the great over the exceptional. To an extent, the narrative explained this already earlier by showing the logic of Jason's framing effect. When he left the bar and felt the abject anger rising within him, his first instinct was to calm himself down to the idea of his family: "It will be good to be home again" (10). He does not feel *regret* for what he gained; he feels regret for what he lost. This is at the core of the complexity of his decision problem. He does not feel exclusively grateful or exclusively regretful for either life within his grasp, but the conflict in and of itself is gnawing and confuses what he feels. Both these frames—perspectives, opinions, statements—are true and committed even if they are not consistent but conflicting.

After uttering "never," the drug starts to take him under. Whatever they had been waiting for is now over, and the abductor moves on with his plan. The abductor's words are gentle when he explains:

> Listen to me. You're going to be scared, but you can make it yours. You can have everything you never had. I'm sorry I had to scare you earlier, but I had to get you here. I'm so sorry, Jason. I'm doing this for both of us." (29)

These words uttered at the closing of the first chapter reveal to the reader—not to Jason—the abductor's identity. His promise of giving Jason "everything he

never had" (29), and "doing this for both of us" (29) reveal that he has knowledge of the former and a personal need for something that Jason has, as expressed by the latter. The abductor is Jason, *another* Jason, and what is more, a version of him who went through the same conflict but who had more means at his disposal to resolve the framing effect. Without Jason knowing it, the man behind the geisha mask is the man he could have been, the man who chose career over love and himself over his family. In effect, the evoked, if not felt, weightlessness of the October night was explicitly contrasted with the life he chose (the vignette of being back home) and by the life he could have chosen (the geisha-masked abductor).

I argue that the appearance of the abductor makes the competing framing concrete through the metaphor expressed by the abductor's mask. This is true regardless of the facts that Jason's character does not know the identity of his kidnapper or that the narration does not explain his identity yet. The mask of a *geisha*, specifically, incorporates what the life he did not choose represents to Jason: A flawless performance, meeting of expectations, unreachable illusion of perfection. If the abductor would wear the mask of, say, a clown or a gorilla, the sense would be lost and no hints at the identity given. By representing the abductor as a figure hiding behind the mask of flawless perfection, the narrative metaphorically announces the identity of the abductor and, in effect, the diegetic superposition of the competing worlds.

Jason's quasi-cyclical pattern has remained for fifteen years, but it is the appearance of his doppelgänger that starts the final round of frame-sensitive reasoning; the one that this narrative is a story of and that is adaptively interpreted into the frame-sensitive reasoning model in the analysis. As the above characterization of the masked figure suggests, I violate the informative communication pattern of the thriller by using insights that the diegesis has not yet *verified* (albeit substantially hinted at in the dialog between the Jasons). This is necessary for the analytic focus. It is important to understand the contrasts that arise between these two Jasons along the story, multiple times before the abductor's identity is revealed to Jason (in fact, all the way until page 141 of the novel). As said, when Jason comes into contact with the abductor, the forking paths are in diegetic superposition for the first time. What physically becomes the world of the abductor-Jason is the competing forking path and has had a presence in the novel prior to this moment, but it existed within Jason's character and within this world as its hauntological modification. The abductor-Jason's appearance means that the abstract is made concrete when Jason's ghost-life physically intervenes in his world, his lifeline.

The analysis has now introduced the diegesis of constructing Jason's conflict and moving "beyond the illusion of frame-neutrality" (Bermúdez 2021: 251). The conflict manifests as a sporadic placement of his perspective, and as a consequence, his identity. His *uncertain perspective* bleeds into the anger that arises within him when this uncertainty is addressed. The *loss* of what is chronologically behind him bleeds into the present through all the events and instances that make him reframe the choice he made fifteen years ago. The

perspective he assumed in making the decision back then was the ultimate reference point of his deathbed, which is in contrast to the perspective he actually inhabits. The dialog with the abductor forces him to address the feeling of being out of alignment. It is now possible to compose a cohesive description of the frames. To begin with, the frames are the same as they were fifteen years ago, because the dilemma that plagues Jason's existence remains the same in essence, only the perspective is different. As his frame-sensitive reasoning process proceeds, the frames become enmeshed with his current situation and current preferences. To conclude the analysis of the reflexive decentering step, I arrive at a formulation of Jason's competing preferences in the decision-making situation where the unexpected *pregnancy* is framed in two ways. These compositions display the dichotomy that ensures that his framing effect is still affecting his life and identity.

Fifteen years ago, Jason framed Daniela's news of their pregnancy in two ways. From the point of view of his ambition and dedication to his research, raising a child would be a threat, and from the point of view of the affection he felt for Daniela, the pregnancy was a gateway to a memorable life together. If he acted on his ambition, he would prioritize his career, and if he would act on his affection, he would prioritize his family. But the problem was that ambition and affection were equally strong bases for the action he should take. Therefore, he chose against rationality (Bermúdez 2021: 226), acting, at least partly, in a way that he knew did not fully align with his preferences. He made a choice from a temporally manipulated perspective he obviously did not actually occupy, and as a result, this did not resolve his quasi-cyclical preference pattern. The preferences he still entertains from the frame he rejected keep haunting him when stirred by external conditions. This is why, after fifteen years, his life is simultaneously a triumph and a failure, depending on how the story of the last fifteen years is framed.

The first step of frame-sensitive reasoning, *reflexive decentering*, leaves Jason in a state where he has acknowledged both the existence of his framing effect and acknowledged its effect on his happiness. The transfer to the second step makes him evaluate the contents of both frames with more insight than he has previously had access to.

4.1.2   Imaginative simulation: Dichotomy

As the second step of the frame-sensitive reasoning model, *imaginative simulation* deepens the understanding of the frames by inviting to simulate them in as much detail as possible. At this point of the decision-making process, the options therefore become juxtaposed, dichotomized, but Jason does not need to make comparisons between the contents of the frames yet. This happens later, at the fourth step. During the present step, he simply "needs to be able to think [his] way into the other […] frame" (Bermúdez 2021: 252). This is what the novel gives Jason a chance to do; it takes him concretely and intimately into the competing frame of career and shows him the consequence of the choice he made differently.

Jason's choice is not strategic in a traditional way; it does not need to be coordinated with the preferences of another agent. Yet the duality of his character complicates his agency. The narrative has now presented two Jasons, who made a different choice fifteen years ago, and whose paths now cross. This results in a situation where both Jasons provide knowledge of each other's preferences in a complex way that blurs the lines between them. Clarifying the differences between the Jasons and the worlds they built is a central part of understanding the imaginative simulations of Jason's competing framings.

At its core, frame-sensitive reasoning is a framework for solving interpersonal discursive deadlocks. Bermúdez acknowledges that in the case of *intra*personal discursive deadlocks "the effort is more difficult, because in them decision-makers might need to construct the alternative framing(s) themselves" (2021: 253). Yet the practice is, by and large, the same:

> In any event, this second aspect of frame-sensitive reasoning can be seen as an exercise in simulation. Frame-sensitive reasoners need to imagine what it would be like to frame things completely differently, and then to simulate actually being in that frame. (Bermúdez 2021: 253)

The frame-sensitive reasoner needs to imagine a world and then imagine inhabiting that world. This framing technique should reveal two things: The composition of the alternative frame as a changed state of things compared to the native frame (which for Jason is the life with his family), and the emotional response to these changes through the simulated experience of occupying such state.

When adapted to the literary narrative, this technique must be understood differently than it would be in its original context. Adapted into the literary narrative, the task is not to *produce* scenarios that would take the decision-maker closer to understanding the crucial aspects of their preferences. Instead, the task is to *interpret* the existing literary narrative, and the narrative's way(s) of constructing the conflict in the protagonist's preferences (needs, wants, likings) and the resulting clashing frames (realizations of these needs, wants, and likings). Therefore, the focus is on the character in their environment, which presents the agent and outcome of the decision, and the character/agent's response to his environment/outcome that is, at all times, at the heart of the analysis.

I set to examine the process of imaginative simulation as a step in Jason's decision-making process woven into the plot that makes the simulation concrete. Diegetically, the frames of Family and Career come to life as two different worlds. The frame of Family is Jason's native world, which the abductor removed him from, relocating Jason to another world. In this world, the abductor, another version of Jason (henceforth Jason2[97]) has lived fifteen years in the consequence of prioritizing ambition and career over affection and family (until coming up with the plan that he has now put into fruition, but that will be explained in more detail in 5.2.4). Here, I draw from the novel's chapters two, three, and five, due to their connected locale; these are the chapters that in the novel are spent in the

---

[97] This is also the novel's way of distinguishing between the protagonist-Jason (Jason) and antagonist-Jason (Jason2).

frame of Career and thus in the world of Jason2. For the bulk of the duration of the diegetic week these three chapters last, Jason is disoriented and unaware of where he is and why he is there. This disorientation does not contribute to his inconsistency in any meaningful way—it does not make him more or less consistent concerning his framing effect—but serves the plot, which at this point develops toward confirming the abductor's identity and thus letting Jason fully realize what happened to him. While it is crucial for my decision-focused perspective to be aware of and take into consideration the knowledge of the abductor's identity, and therefore to fully understand why the world Jason encounters in this alternative reality is what it is, it is also crucial for Jason to not yet understand why his world does not make sense to him.

This is especially central for the scene I focus on in this step. The House/Home scene shows Jason visiting the house that in his world is his home, and which in this one is not. The scene is a simulation of switching the frame into a completely different one and experiencing the losses and gains this entails. The House/Home scene displays a summary of the fifteen years that the two Jasons spent on competing trajectories. Therefore, interpreting the scene makes it possible to construct the competing frame that has only been hinted at so far. Before turning to this scene, I first travel along the synopsis up to Jason's arrival at the house.

At the beginning of chapter two, Jason wakes up to being lifted onto a gurney. He is surrounded by people in hazmat suits. These people are excited and amazed that Jason is there. A smiling man, whom Jason does not recognize, says: "Welcome back, Jason. Congratulations. You did it" (32). The man cuts Jason's clothes off of him and pushes him into a decontamination chamber. The chamber fills with gasses and liquids, creating "a sizzling foam that burns like an acid bath" (36). He reasons that he must be dreaming. Jason is still suffering from the downfall of the injections Jason2 jabbed into his system. Those injection still make him disoriented, and he does not remember the events of the last nychthemeron.

Gradually, the experience starts to feel too real and the sensations too concrete to be just a dream. He learns that he is at the headquarters of Velocity Laboratories, in a huge construction partly underground. The excitement on the people's faces grows and spreads to the everyone he meets, accompanied by the warm familiarity from the smiling man who seems to be in a commanding position amongst the laboratory personnel. This man introduces himself as Leighton Vance. Leighton looks to Jason with affection, sayings: "It's really good to see you again, brother. Feels like Mission Control when *Apollo Thirteen* returned. We're all real proud of you" (35). Leighton is not troubled by Jason's disorientation, assuring him that it will surely pass soon.

Events around him unravel faster than his memories about how he got there. First, he remembers glimpses of the family night. He remembers Daniela and Charlie and remembers having left home for some reason. But these memories do not add up to his current circumstances. Within the first hour, he is through the quarantine and taken down to a lower floor for what they say is "debriefing"

(37). In the dimly lit briefing room, a small auditorium filled with tens of faces is intensely waiting for him to explain what he has seen and where he has been. An interviewer who introduces herself as Amanda welcomes him to the debriefing. She, like the people in the audience, is jittery: "Pardon our enthusiasm, but so far, you're the only one to return" (39). Amanda explains that Jason has been gone for fourteen months.

Jason remains silent; he does not understand what is happening. He reflects that "[p]art of me wants to say just that, but part of me suspects that maybe I shouldn't" (39). Jason's disorientation starts to dissolve as he gets flashbacks of the family night, the abduction, and the talk between the abductor and him. He feels misplaced, but now concretely (as opposed to the way he felt in the Walk in the Autumn Night scene): "It's not that this place doesn't feel real. I just shouldn't be here. It's somehow my presence that's the lie. I'm not even exactly sure what that means, only that I feel it in my core" (42). He senses a danger; the people around him are welcoming, but at the same time, there are armed guards at the doors, and everything seems to be guided by strict protocols. He reasons that in order to find out what has happened to him, he needs to get back to Logan Square, to his home and to his family. Instead of confessing his doubts about being the man the people around him seem to think he is, he flees the laboratory by locking himself in the bathroom and climbing out the window. The people notice his escape and chase him, but he shakes them.

Jason rides a taxi to his home address. He pays the taxi with the money he finds in a zip-bag of personal items he was handed at the laboratory. From the same bag, he pulls out keys "that aren't my keys" to open the front door that is "too elegant" (51) to be his. For the next diegetic half hour and narrative duration of four pages (51—55), he walks through the house, room by room, reflecting on the aspects that make and do not make it his home.

As argued above, this is an important scene for its display of Jason's reactions to this house as a representation of the path not taken; the life that could have been his. The narrative's affect of loss that is intertwined with Jason's framing effect appears throughout the narrative as experiences of being misplaced or out of alignment with the space that surrounds him (exemplified so far in the Walk in the Autumn Night scene). Walking through the house, his gaze locks onto the items that make, or would make, the house a home, and he finds himself and the house out of alignment. This experience or sensation is principally mediated through an array of seven items. I interpret these objects individually for the relevance they bear to Jason's framing effect.

Each item complements one or both of the frames, as the objects yield a selection of succinct embedded narratives, vignettes into Jason's past and contrasting vignettes to Jason2's past. Collectively, these vignettes form an affect-evoking descriptions of the house or home as a summary of Jason's past fifteen years—the duration of his framing effect and therefore informative of his framing effect as such. Each object represents both outcomes of Jason's decision, and simulates both frames. The items and elements that Jason pays attention to are numbered 1—7. I differentiate between the aspects that describe his home with

the letter a, and the aspects that describe this house with the letter b. I examine each aspect separately after providing the entire description to allow the reader to understand how brief but dense in meaning the description is:

- **(1b)** A chandelier made of antlers warms the room above a minimalist glass table that isn't mine and chairs that aren't mine [...]

- **(2a)** In my home on the mantel behind the dining-room table there's a large, candid photograph of Daniela, Charlie, and me standing at Inspiration Point in Yellowstone National Park. **(2b)** In this house, there's a deep-contrast black-and-white photograph of the same canyon. More artfully done, but with no one in it. I move on to the kitchen, and at my entrance, a sensor triggers the recessed lighting. It's gorgeous. Expensive. And lifeless.

- **(3a)** In my house, there's a Charlie first-grade creation (macaroni art) held by magnets to our white refrigerator. It makes me smile every time I see it. **(3b)** In this kitchen, there's not even a blemish on the steel façade of the Gaggenau refrigerator. [...]

- **(4b)** I spot my old turntable sitting next to a state-of-the-art sound system, my library of jazz vinyl lovingly stowed and alphabetized on custom, built-in shelves. [...]

- **(5a)** Between the hall bath and the guest room, the triptych of my family at the Wisconsin Dells **(5b)** has been replaced with a sketch of Navy Pier. Charcoal on butcher paper. The artist's signature in the bottom right-hand corner catches my eye—Daniela Vargas. I step into the next room on the left.

- **(6a)** My son's room. Except it's not. There's none of his surrealist artwork. No bed, no manga posters, no desk with homework strewn across it, no lava lamps, no backpack, no clothes scattered all over the floor. Instead, **(6b)** just a monitor sitting on an expansive desk that's covered in books and loose paper. I walk in shock to the end of the hallway. Sliding a frosted pocket door into the wall

- **(7a)** I enter a master bedroom that is luxurious, cold, and, like everything else in this brownstone, not mine. **(7b)** The walls are adorned with more charcoal/butcher paper sketches in the style of the one in the hall, but the centerpiece of the room is a glass display case built into an acacia wood stand. Light from the base shines up dramatically to illuminate a certificate in a padded leather folder that leans against a plush velvet pillar. Hanging from a thin chain on the pillar is a gold coin with Julian Pavia's likeness imprinted in the metal. The certificate reads: The Pavia Prize is awarded to JASON ASHLEY DESSEN for outstanding achievement in advancing our knowledge and understanding of the origin, evolution and properties of the universe by placing a macroscopic object into a state of quantum superposition. (51—54)

A key feature connecting all of these examples that I have collectively named *an affect-evoking description* is that there is actually little affect-evoking description apart from the description of *in shock* after example 6b. Besides this one incident, Jason does not name his emotions at any point during his visit to this house. However, after walking through the room and making the observations he does, his "stomach lurches" (53) and he "empt[ies] [his] guts into the pristine bowl" (54). His reaction to this description is violently physical, indicating the strength of the emotional distress it caused.

The description, therefore, is not just a description. What he describes is not just the dislocation of his possessions but elements of the house that would

anchor him into his life with his family. By pronouncing the absence of these elements, he fails to anchor himself to this space as being his life and his world. Hence, he realizes an aspect of the competing frame that he has not been shown to be aware of; having chosen differently would not have meant only gaining ambitious fulfillment in his career but also losing his family.

Jason obviously does not yet understand that he has moved laterally into another, parallel, reality but interprets the space from a linear standpoint. Consequently, in his logic, items "ha[ve] been replaced" (53) with other items. Each of the seven items and places he pays attention to is a window into an element of his life that has been altered. Like the bears returning from their walk in the fairy tale about Goldilocks and the three bears, Jason walks around his home, realizing "in shock" how someone has touched his chandelier, his fridge-door, his rare vinyls, his photographs, and his son's room. Analogously to the youngest bear, also Jason realizes that someone is (metaphorically) sleeping in his bed: Instead of his wife, he finds the Pavia prize. Hence, each numbered aspect of the above excerpt opens up to a pair of embedded narratives, one complementing each frame. His home is essentially the outcome, the consequence of his choice fifteen years ago, as was established in Jason's and Daniela's talk in the beginning of the novel: "You could have won that prize […] [b]ut instead we did this" (3), "this" referring to the brownstone where they spend the night as a family. The house he steps into now is a negation of what they did; in this house, he did win that prize instead of having a son and a family.

I proceed to treat each of the seven items in individual segments. I address each aspect separately to see how they complement the existing understanding of the frames. Some elements are intelligible only through something that the narrative has stated earlier in the work. When this is the case, I have also provided the excerpt from a preceding chapter, marking it with either **a** or **b** according to which framing of the house it refers to.

1. Entering the house, the first item he pays attention to is the chandelier. The chandelier was also what he glanced at as the last thing when he left his house on the family night:

> (1a) I grab my keys and wallet from the ceramic dish beside the microwave and move into the dining room, my gaze alighting on the tesseract chandelier above the dinner table. Daniela gave it to me for our tenth wedding anniversary. Best gift ever. (5)

> (1b) A chandelier made of antlers warms the room […] (52)

Jason describes the chandelier as the "[b]est gift ever" (5). This might be a surprising thing to say about a chandelier—it is in no way established in Jason's character that he would be infatuated by home decoration items in specific. Therefore, the merit must be in the item's quality of being a thoughtful gift, a label which the function of the item as such does not merit. Mirroring the chandelier into the decade they have spent married at the moment the item

entered their home, it becomes clear that the tesseract chandelier is a thoughtful gift because of its shape (Figure 3[98]):
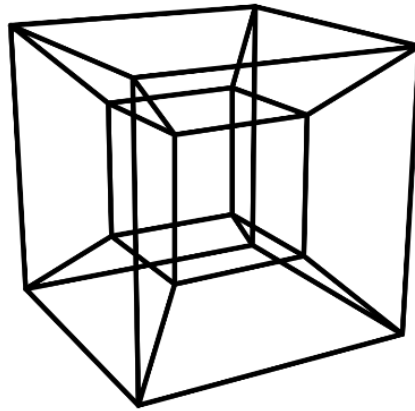
FIGURE 3   The shape of a tesseract.

The shape of a tesseract (also called *hypercube*) is a cube inside a cube, an expansion from three dimensions to four dimensions. (To be viewed accurately, the small cube should move around its axis, swinging to any direction along the track guided by the lines that tie it to the bigger cube.) The shape is emblematic of the research project Jason was working on at the beginning of his career: "[T]he quantum superposition of [a cube] that was visible to the human eye" (29), or in other words, a cube that was not tied to the 3D space even though it was observable in that space. This pursuit coincided with the beginning of Jason's and Daniela's relationship, but when Jason chose to prioritize his family over his career, this ambition slowly gave way to his new life with Daniela and Charlie. Therefore, by choosing the tesseract shape, Daniela acknowledges Jason's ambition as a part of Jason's identity. The gesture acknowledges what Jason gave up in order to be in the marriage and honors that sacrifice. Therefore, Jason's chandelier represents companionship.

In contrast, the replacement of the chandelier represents loss of that companionship. Such sacrifice, and the consequential companionship, are foreign to the Jason who lives in this house. Indeed, the antlers of an unspecified cervine animal—in addition to being stereotypically luxurious—speak of the hunt and conquering the animal, being the object rather than the subject of sacrifice. By holding onto his ambition, Jason2 chose to stay on the path he was on, focused on his goal and accepting no compromises. He slayed the beast, if you will; he found a way to bring an object visible to human eye into a quantum state, won the Pavia Prize, and gained a significant raise in economic status that is now visible in the interior of his house.

2. Still in the dining room, Jason directs his gaze to the fireplace. This is the place where Jason longed to get to right before he was abducted, the point in his house through which he anchors his preferences to the frame of family after the pang of loss he feels in the Walk in the Autumn Night scene: "It will be good to

---

be home again. I am thinking of starting up the gas logs […] all I want is to sit by the hearth with Daniela and Charlie and a glass of wine" (10). Yet, this fireplace cannot be the scene for such an event because something is different:

> (2a) In my home on the mantel behind the dining-room table there's a large, candid photograph of Daniela, Charlie, and me standing at Inspiration Point in Yellowstone National Park. (52)

> (2b) In this house, there's a deep-contrast black-and-white photograph of the same canyon. (52)

In the space of the house/home, the picture is placed over the hearth. Hence, the picture of Inspiration Point can be read as something that warms the body; representative of something essential to stay alive. For visual reference, the mantelpiece showing the canyon from Inspiration Point in Yellowstone Natural Park can be expected to be taken at the metal viewing platform that opens to the iconic view to the canyon, whereas the deep-contrasted, artistic photograph would likely look past the railing into the canyon itself as represented in the following picture below. With or without the viewing platform with a family on it, the mantelpiece picture is likely to be the following, perhaps the most iconic view from the Inspiration point (Figure 4[99]):

FIGURE 4   A view from Inspiration Point

The view is essentially a framed framing, a framed moment that characterizes the path that frame entailed. One of the scenic photographs is in color, the other in black and white. One is a candid photo, whereas the other is manipulated by the artist. One has people in it, the other does not. The colored, candid, crowded photo is far less *controlled* than the black-and-white, manipulated, uncrowded photograph of the canyon.

---

[99] "Views of the Grand Canyon of the Yellowstone from Inspiration Point" by Yellowstone NPS is marked with CC PDM 1.0

In effect, the mantelpiece communicates a contrast between acceptance of lack of control and insistence on remaining in control that contrasts these frames. Acceptance is an interwoven aspect of the frame of family. Choosing family, Jason was forced to accept his lack of control of his circumstances when his son was born. He made compromises and adjusted to the circumstances. In contrast, control is non-negotiable in the frame of career. Choosing his career, Jason2 took control of his circumstances by refusing to adapt to the change they introduced. This is expressed in the comparison of the manipulated picture to the candid one; the black-and-white photo is "[m]ore artfully done, but with no one in it" (52). Both are destinations, but different kinds. The candid picture is a framed moment, something to look *back to*, while the deep-contrast photograph is a framed vision of a geographical location, something to look *at*.

Furthermore, Inspiration Point is physically an end of a hiking trail; a ledge at the end of a long flight of stairs (Figure 5[100]), therefore also physically a destination; an end of a journey:

FIGURE 5   Steps to viewing platform at Inspiration Point

As a symbol for the process of building a life founded on the values of career or family, this *journey* is strongly connected to control in the web of meanings in *Dark Matter* especially through the cultural history of Inspiration Point. Some

---

[100] "Steps to viewing platform at Inspiration Point" by YellowstoneNPS is marked with CC PDM 1.0

years before the national park was established, it was explored by an expedition crew featuring the famous American explorer Nathanial Langford[101]. After visiting for the first time the location that would in the future be called Inspiration Point, Langford wrote in his diary the following (Langford 2009: 27):

> The place where I obtained the best and most terrible view of the canyon was a narrow projecting point situated two to three miles below the lower fall. Standing there or rather lying there for greater safety, I thought how utterly impossible it would be to describe to another the sensations inspired by such a presence. As I took in the scene, I realized my own littleness, my helplessness, my dread exposure to destruction, my inability to cope with or even comprehend the mighty architecture of nature.

Drawing from Langford's account of his experience on the ledge, Inspiration Point made him experience a state in which his feeling or emotion is impossible to describe to another for its magnificence, and in which he, simultaneously, is destructible, little, and helpless. Langford's interaction with the space of Inspiration Point fills him with something that is too extensive to fit into his frames, making him feel small in comparison. This resonates with the journeys that the different Jasons undertook.

In *Dark Matter*, both Jasons lead lives that make them realize their littleness and helplessness, the inability cope with or comprehend the world and their relation to it—for Jason this experience is his son, for Jason2 it is the scientific breakthrough he succeeds in. Therefore, the long walk to Inspiration Point is a journey walked in two ways. Jason walked it with his family, without much control to what the end result was (candid photo). In contrast, Jason2's end is artsy, professional, and fully controlled (manipulated picture). Jason's end is a result of letting go of control and finding companionship, whereas Jason2's end is a result of holding onto the control of the luxurious, exceptional end, but alone. The picture Jason sees here is like the rest of the house so far; "more artful, but with no one in it" (52).

3. Jason moves on to the kitchen. Here, in the heart of the home, the mediocrity of his home is replaced with exceptionally luxurious decoration:

> (3a) In my house, there's a Charlie first-grade creation (macaroni art) held by magnets to our white refrigerator. It makes me smile every time I see it. (52)

> (3b) In this kitchen, there's not even a blemish on the steel façade of the Gaggenau refrigerator. (52)

Expecting to see a white, mundane refrigerator, he sees a luxurious steel façade. The first one is endearing, and the latter is stunning; the smile is overwritten with the awe of galore. The fridge doors provoke two competing narratives for what nourishes the person living in that house/home. The kitchen with the macaroni art contrasted with luxurious housewares makes *nourishment* both a matter of the mouth, with its ability to express emotion, but also a matter of taste; the macaroni

---

[101] 1832—1911. N. P. Langford was part of the expedition crew who in 1870 explored the then unknown area of Yellowstone natural park. The quote is an entry from his logbook on 31 August, recorded in *Adventures in Yellowstone: Early Travelers Tell Their Tales* (2009).

art is sentimental rather than beautiful. Despite the lack of taste, it is there because it nourishes the mind, expressed by the smile it brings to Jason's face. Similarly, the refrigerator in this house is exquisite, stylish, and beautiful. It represents a different aesthetics, an aesthetics that nourishes the mind by reminding Jason2 of the accomplishment that led to this lifestyle. The vignette of the fridge door is the mundane act of opening it to get something to eat. When repeating this mundane action, Jason is reminded of and elated by the existence and development of his son, whereas Jason2 is reminded of committing to his ambition and elated by his success in it.

4. Jason glances at the living room corner, where his jazz records are. Instead of the unorganized work-in-progress he is accustomed to meeting there, he finds his procrastinated intentions executed to completion:

> (4a) The den is filled with stacks and stacks of rare vinyl that I keep telling myself I'll get around to organizing one of these days" (1−2).

> (4b) I spot my old turntable sitting next to a state-of-the-art sound system, my library of jazz vinyl lovingly stowed and alphabetized on custom, built-in shelves. (52)

This juxtaposition, as a first, highlights a lack in Jason's native world. Music is important to Jason, and in both worlds, he loves jazz (especially Thelonious Monk). Yet the music itself is never explicated in great detail. Therefore, central in this dichotomy is not the jazz and the records, but the intention to organize them. From this perspective, the intention is important as a reframing of the decision fifteen years ago. When thinking about organizing the records, Jason has an *intention* concerning something he holds important, something he wants done, but he does not commit to it. On the family night with which the novel opens, he visits the corner to change a record, giving a brief thought to "organizing [them] one of these days" (2) but then gets back to cooking and talking with his wife. Organizing the records is, after all, not that important to him, not more important than spending time with his family on a family night. His preference of family over career is analogous to his preference of affection over ambition. Conversely, Jason2 acted on the intention because it was important to him; he finished his plan instead of finding, or, for that matter, having, reasons to procrastinate.

5. Moving on to the hallway that leads to the bedrooms, he observes the walls. Expecting to find more pictures of his family's vacation, he finds only a sketch made by his wife (still in her maiden name):

> (5a) triptych of my family at the Wisconsin Dells has been replaced with […] (52)

> (5b) […] a sketch of Navy Pier. Charcoal on butcher paper. The artist's signature […] catches my eye—Daniela Vargas. (53)

It is suggested that Navy Pier holds special nostalgic status for Daniela and Jason. This is suggested by the sketch already, but also by a later scene when Jason2 has taken Jason's place as Daniela's husband, and the longing that Jason2 has felt for years brings their marriage into another renaissance. On a Saturday evening by

just the two of them, they are in the mood to celebrate their relationship. Daniela asserts playfully: "I think I know what I want to do first" (111). Then, "[t]hirty minutes later, they're in a gondola car on a Ferris wheel strung with lights. Rising slowly above the spectacle of Navy Pier, Daniela watches the elegant skyline of their city as Jason holds her tight." (111) The diegetic history of their connection to the location cannot be confirmed, but the connection to the scene of Jason2 and Daniela in the Ferris wheel is enough to add importance to this sketch. By going to Navy Pier in the new beginning of their relationship, they return to the moment when their relationship was nothing but a sketch. This way, Jason2 finds his continuum from the sketch he had kept for fifteen years into the frames of the triptych. The pictures also contrasted in time: The sketch in Jason2's house, made by Daniela, is representative of the status of their relationship in Jason2's world. There the relationship was finished early, and therefore not finished at all if compared to Jason's world, in which they got married and had Charlie.

Like location played a role in the meaning and interpretation of the mantelpiece picture, so does it in this case. The differences in the topology of "The Waterpark Capital of the World!®" (Wisconsin Dells Visitor & Convention Bureau 2020) and "Chicago's Waterfront Destination" (navypier.org 2021) are interesting. I assign no authorial intention to the shape of their borders (nor do I resign it), but the way their topological borders contrast correlates with the contrast of the lives the two Jasons have chosen so far. Therefore, they are worth examining for their potential to complement the frames. On the map, Wisconsin Dells expands to multiple directions with wild, irregular edges accompanying sharp angles (Figure 6):
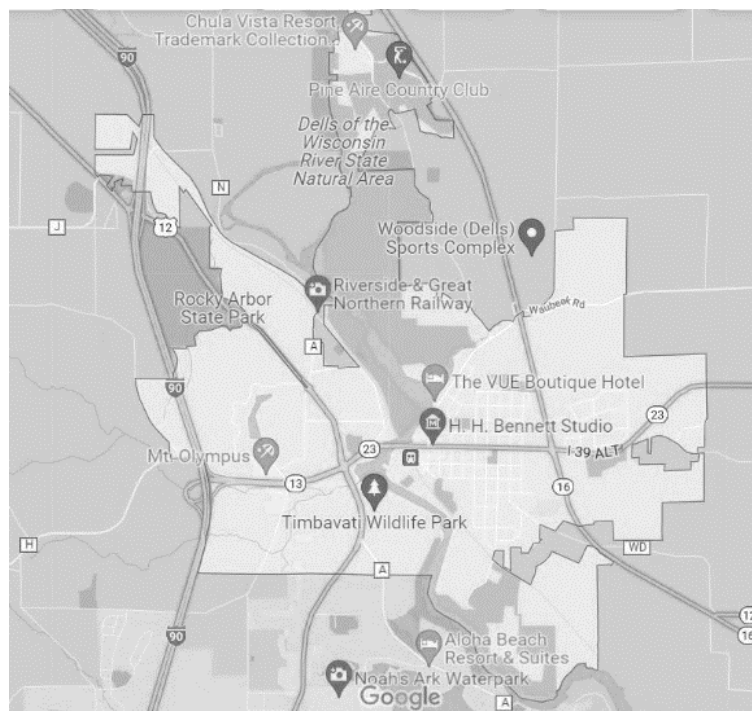
FIGURE 6   Wisconsin Dells on a map

The shape is emblematic of their marriage. They have been through surprise pregnancy, depression, loss of careers, and seeing their peers achieve their dreams and goals instead; "[t]here have been rough patches, like with any marriage" (99), Jason explains. Still, there are days when they "just feel like drinking wine and cooking together all day" (101) and Jason considers Daniela "[his] best friend" (99). If the borders of these locations are the symbolic lines Jason painted in the outcome of his choice, their journey together has required constant redirecting of needs and wants in the changes brought to their lives by the need to accommodate each other's needs and wants.

Navy Pier, by contrast, is a straight, narrow block extending into Lake Michigan. The land it is built on was added artificially, resulting into an impressively straightforward and consistent form (Figure 7):
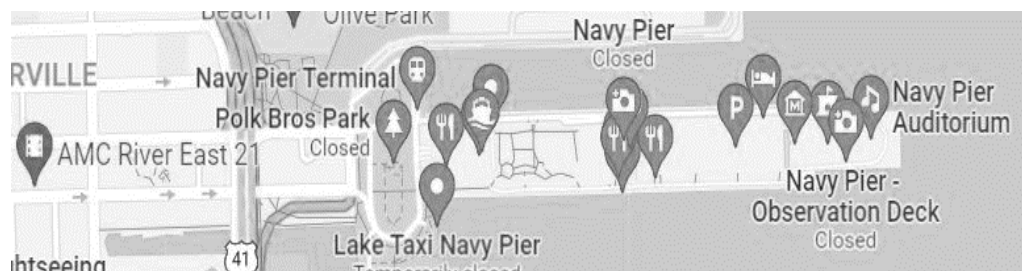
FIGURE 7   Navy Pier on a map

The shape is emblematic of Jason2's career. Making an award-winning breakthrough in science has required endless determination, closing his mind off of distractions and focusing on making the project float; build ground where there was nothing before. Indeed, for the Jason predating the decision fifteen years ago, "pure research [was] life-consuming" (3), and it is later confirmed that Jason2 led an "ultimately one-dimensional life" (179). The lines Jason2's decision painted are direct, angular, and its opposite borders correspond to one another. It is an exceptionally straight road, and the paths of the Jasons stand in stark contrast to one another.

6. From the hall, Jason moves to the room he knows as his son's room. The already expected dichotomy between organized and unorganized repeats here through cluttered and minimalist decoration:

> (6a) My son's room. […] his surrealist artwork. […] bed […] manga posters, […] desk with homework strewn across it, […] lava lamps, […] backpack, […] clothes scattered all over the floor. (53)

> (6b) […] just a monitor sitting on an expensive desk that's covered in books and loose paper. (53)

As Charlie's room, the space is, again, an extension. Bringing his own interests into the home and the family, Charlie adds variation into the life led in the house. Living alone, Jason's house reflects his interests alone. What is more, as his home office, the home office shrinks the versatility in his life. When Jason comes home

from work, he has another role to fill; that of a father. Jason2's absolute focus dictates that wherever he is, at home or at work, he is always a researcher.

7. The thematic transfer between narrow and extensive and simultaneously consistent and inconsistent culminate in the bedroom. The bedroom of which Jason opens the door is not a recharging place for a married couple. While still a bedroom, it resembles more a luxurious trophy room. What is curious is that Jason2's bedroom is described in detail while there is no information of Jason's bedroom either here or elsewhere in the novel. Therefore, what actually seems to be juxtaposed is expressed through the genitive:

> (7a) Sliding a frosted pocket door into the wall, I enter a master bedroom that is luxurious, cold, and, like everything else in this brownstone, *not mine*. (53, my emphasis)

> (7b) The walls are adorned with more charcoal/butcher paper sketches in the style of the one in the hall but the centerpiece of the [bed]room is a glass display case […] Hanging from a thin chain on the pillar is a gold coin with Julian Pavia's likeness imprinted in the metal. The certificate reads: The Pavia Prize is awarded to JASON ASHLEY DESSEN for outstanding achievement in advancing our knowledge and understanding of the origin, evolution and properties of the universe by placing a macroscopic object into a state of quantum superposition (53, emphasis removed).

In the bedroom, the most important description is *not mine*. The bedroom is *not his* for it is luxurious and cold, implicitly unlike the bedroom in his home. The bedroom is the final stop of Jason's walk through the house, and it is the explaining particle for why the rest of the house is as it is. Jason2's chandelier that speaks of conquering; his black-and-white mantelpiece that accents his determination; the fridge-door that speaks of spotless focus; the organized vinyls that evidence his ability to execute; the sketch that itemizes what he left behind to preserve his narrow focus and the straightforward borders of his life; the home office that denies balance in the name of ambition all culminate in the "glass display case" showcasing "a gold coin" as an extremely strong sign of recognition of his "outstanding achievement." The relationship with the medal is straightforward and unidirectional; it is to be observed and admired like most other items in his house. It is his, but in a glass case, untouchable and lifeless like his house.

The following table summarizes the seven aspects of the frames raised by Jason's description, characterizing the vignette that the items bring into light, and the juxtaposition that is revealed by the variation within it. Through this summary, I discuss how the House/Home scene contributes to characterizing Jason's framing effect and summarize what the frames look like after the additions made in the House/Home scene (Table 5):

TABLE 5   Summary of the aspects in the House/Home scene

Diegetic manifestation	Vignette	Variation
Chandelier in the dining room a) tesseract b) antler	Being recognized and validated	a. for sacrifice b. for achievement
Photo on the mantel a) candid b) deep-contrast	When something unexpected happens	a. accept the lack of control b. assume control
Fridge door in the kitchen a) macaroni art b) Gaggenau	Looking for something to eat, and feeling	a. elated by his son b. proud of himself
Jazz den in the living room a) unorganized b) organized	Something needs to be done	a. procrastinate it b. complete it
Wall art in the hallway a) triptych b) sketch	Something requires flexibility	a. adjust the boundaries b. insist on existing boundaries
Study a) Charlie's room b) home office	Coming home from work	a. switching to another role, that of a father b. staying in the role of a researcher to work more
Bedroom a) Daniela b) Pavia prize	Going to bed and sleeping, feeling…	a. companionship b. accomplishment

What I have named a *vignette* could also be seen as a temporal condensation of a recurring event, and at that, a habitual event that characterizes the relevant Jason. While I do not focus on the stylistics of characterization—as a narratorial controlling practice, as an inter-relationship with actual people, or even as a dramatic role with a start and an end (Culpeper & Fernandez-Quintanilla 2017: 93—128)—an important part of resolving Jason's framing effect is the closely related process of resolving the "uncertain perspective" (2) that Jason's identity starts out as. After all, the uncertain perspective is a direct consequence of the framing effect. In this context, the contribution of the House/Home scene to Jason's uncertain perspective is to lock it into a dichotomy of the themes it reveals.

   Despite Jason's abject reaction to the house, his framing effect is not solved. That he vomits after the simulated experience of losing his family does not mean that he would have also excreted his longing for fulfilling his ambition. Instead, the walk through the house showed the crucially important piece of the competing frames at the core of the conflict: That choosing one is losing another. At present (of the plot and of the analysis), the frames have been described in five

scenes, out of which the House/Home scene is of utmost importance, for it explicitly contrasts aspects that were implied in the others. The next table (6) summarizes the scenes and their informational and felt content:

TABLE 6   Scenes that describe the contents of the frames

Family Night scene Native frame of Family	Meeting Ryan scene Competing frame of Career
Walking in the Autumn Night scene Feeling the conflict of frames	**Discussion with the Abductor scene** Rationalizing the conflict of frames
= Composition of the framing effect	
House/Home scene Exploring the experience of both frames	

I bring up the previous scenes again because the House/Home scene completes them in many respects. Jason's framing effect is constructed on the complex emotional value connected to the losses and gains at play in his dilemma concerning the birth of Charlie. The juxtaposition between the seven items in the House/Home scene is built on the interplay between the losses and the gains. The complexity of that interplay is built on Jason's dichotomous identity as a father and as a researcher. For this reason, he is perfectly happy and content during the family night, when he is, for the moment, aligned with the space surrounding him. He is at home with his family *as a father*. Yet when he leaves the house to visit Ryan, he also encounters Ryan's expectations of him *as a researcher*. Those expectations have not been met, and Ryan cannot help seeing Jason as a failure. The life Ryan Holder was leading was earmarked as Jason's "if [he]'d decided to go that path" (8). In an insult masked as a question—"[j]ust a question, but do you see yourself more as a research scientist or a teacher these days?" (8)—Ryan defines Jason's role as a teacher as derogatory and humiliating. The anger that arises within Jason after this meeting does not find a source (he is "angry […] and […] not even sure at whom" [9]). He is out of alignment with his space, and the research scientist in him is sick to his core with the loss. The anger is, perhaps, unexplainable also because the feeling of loss is not based on Jason's identity in its entirety. Ryan, as a researcher, addresses Jason as one. Unreachable to Ryan's senses, Jason's identity is not defined by or through his career, but his family. He is not *a teacher*, as Ryan puts it, but a father. That Jason does not realize this is a concrete manifestation of his uncertain perspective and his framing effect. Likewise, when noticing the absence of all the signs of his fatherhood in the house of Jason2, the father in him gets sick because he is sick to his core with the loss.

The conflict seems irreconcilable. Jason's framing effect leverages on his field of vision of himself as a space of potential. His potential is not only a matter of his preferences—what he needs, wants, or hopes—but a normative aspect of how he should enhance his potential and how he should be the best version of himself. It is this very conception of identity as *filling one's potential* that keeps him stuck in between the two frames. I raise two points about what the

dichotomic structure of the framing effect, and consequently, the two Jasons, means for the analysis.

Firstly, it is important to keep in mind that up until fifteen years ago, these two men were the same person. They shared the same childhood memories, growing up, starting their career, all the experiences that formulate their preferences. It was only by forcing themselves to choose one frame, against rationality, in their defining dilemma, that they ended up leading juxtaposed lives. The framing effect wreaked havoc inside both of them for fifteen years, leading Jason2—the one who had the means to do it—to swap their places. Jason2 shares the same framing effect, but inverted, because he inhabits the opposite frame. Jason2's native frame is the one of Career, and to him, the family nights with Daniela and Charlie are the path not taken. Jason does not recognize this in the house, but the signs of longing back to the time when "the entire span of my life yawning out ahead" and "no paths committed to" (10) are littered around the house in the form of Daniela's sketches. Despite his determination, Jason2 is also conflicted, and the manifestation of his framing effect can reasonably be expected to shed light on the framing effect of his doppelgänger, as it now has in the analysis of the House/Home scene.

Secondly, the dichotomy that the analysis has now arrived at must not be seen as fixed and permanent. It is a construction of two stationary states in a phenomenon that is inherently dynamic: "To be in the grip of a framing effect is to value some thing or outcome differently depending upon how it is understood or described" (90). The decision problem that originally set the framing effect in motion has the pregnant Daniela and the prospect of the family on the one side, and the thousand hours needed in the cleanroom to work on the research project on the other. Neither of the Jasons was able to make a choice between the two, and they were both living out of alignment with their space. The goal in the next steps, now, is to see how the frames interact with each other. This is what I turn to in the following subsection.

4.1.3 Perspectival flexibility: Observing

To bridge the events, I first transport the plot to where the third step begins. Jason's wanderings through the house are interrupted by Leighton Vance and his men as they enter his house in search of him. Jason has no time to summarize his scattered observations and fleeting comparisons of the two layouts of the house/home. However, interpreting this house in terms of his home saves him. This comes, namely, in the form of a memory from Charlie's childhood:

> One rainy Sunday when Charlie was nine or ten, we spent an afternoon pretending we were spelunkers. I would lower him down the laundry chute again and again, as if it were the entrance to a cave. He even wore a little backpack and a makeshift headlamp—a flashlight tied to the top of his head (53—54).

He escapes through the chute into the night and checks into a hospital. He cannot find any other explanation to this discrepancy between what is real and what he feels should be real than that he has a brain tumor. They admit him to the hospital

and promise to scan his head. He reflects on his situation in the hospital bed: "Beyond the physical discomfort, I register a crushing sense of emptiness, like it's raining directly on my soul. Like I've been hollowed out" (70). The home that was robbed of its meaning takes a bodily form; it is *hollow* of the experiences that made it meaningful and tied its physical aspects to a story and to his emotions, and in that state, it does not provide the shelter he sought in it when fleeing the laboratory.

He does not have a brain tumor. The doctor sees it best to have him admitted to a psychiatric ward, but Jason sees the indentation on his ring finger and decides to believe that his marriage was not a lie, and that he is not losing his mind. Jason tries to reason with the staff but to no avail; he must escape again. His next move is to find Daniela.

Jason finally finds Daniela Vargas (her maiden name), in an art exhibition showcasing her own art at Oomph, an upscale art gallery. The main piece of her art show is a Plexiglas maze which the guests can walk through. The maze represents many aspects that are at the forefront of Jason's mind, and experiencing the maze is a powerful experience for him. I refer to this experience as the Maze scene (83—85). The Maze scene and its surrounding events are the focus of this subsection, in which I examine Jason's attempts to reason across the two frames that were constructed during the previous step. To this effect, I adapt this scene, and the two days Jason and Daniela spend together in this world (81—108), into the third step of the frame-sensitive reasoning model, *perspectival flexibility*.

The third framing technique of the model is based on the ability to hold multiple frames in mind simultaneously. The key is to "work uncritically" across two or more frames (Bermúdez 2021: 266). According to Bermúdez, this skill is found with any decision-maker who experiences a framing effect, "because a rational preference must be held for a reason and different frames bring different reasons into play" (253). His argument thus is that by virtue of having a quasi-cyclical preference pattern—likings that are spread across the frames—one must be able to reason across the frames. This framing technique, then, increases the possibilities to resolve the conflict between the frames.

Examining the Maze scene through this framing technique, I focus on Jason's reasoning concerning the contents of the frames of Family and Career, and also his thoughts about occupying any one frame to begin with. Jason does not yet reflect, nor does the model expect him to reflect, on the appeal of the reasons yielded across the frames. He does not make statements of choosing between them. Instead, perspectival flexibility requires observing the interaction between the frames from an onlooker's point of view as in the previous two steps. My objective is to show that his "takeaway from Daniela's installation" (85) reveals his understanding of the interaction between the frames of Career and Family. The maze is a very restricted space, and meanings in it are condensed. It is an artwork, a fiction within fiction (see 3.4.3), which I interpret accordingly in order to shed light on its intentional meanings as an artwork made by Daniela Vargas within the novel. The novel provides an account of the artist's—

Daniela's—intention concerning the maze, and Daniela's intention behind the constructed experience of the artwork is dialogical with Jason's dilemma (as is clarified in the Discussions with Daniela2 scene that follows the Maze scene). The maze is therefore a tangle of meanings. What Jason experiences through the maze—in the space of the maze and the felt responses it evokes in him—takes him closer to resolving his dilemma, making the maze the third affective space of the novel (the imagined space in the Walking in the Autumn Night scene and the house in House/Home scene preceding it). His reactions to the house on Logan Square in the previous chapter were undeniably preliminary and provisional, just raw sensory code (Reddy 2001), much because the diegesis gave no time to process or even acknowledge the sensory data. Jason brings this set of "thought material" (Reddy 2001: 110) into the art installation. Therefore, the aesthetic experience of Daniela2's art installation is an important part of this translation process, of which the improved understanding of the dichotomous frames is a direct outcome.

The art installation is described in detail. It takes no more than minutes in diegetic time, but three pages in narrative time (83—85). The scene starts when Jason enters the gallery.

He is overwhelmed by the grandeur of the show when he steps into the gallery's cramped anteroom. He does not have time to linger on these feelings, however, because the show starts right away. A bearded man collect the guests' mobile phones and repeats the artist's wishes for the guests:

> A word about the next ten minutes of your life. The artist asks that you set aside your intellectual processing and make an effort to experience her installation emotionally. Welcome to 'Entanglement.' (83)

I pause for a moment at the show's name. Given the quantum physics background of the novel, the phenomenon of entanglement can be expected to shed some light on the show's intradiegetic artistic intentions (that is, Daniela's intentions), even though they, in this respect, are not opened up in the story itself. According to Carlo Rovelli, entanglement is "[t]he most enchanted and dreamy of the quantum phenomena" (2021: 89). Quantum entanglement is relevant in two ways. First, in entanglement, particles with no apparent or detectable connection between them still cause a change in one another (Rovelli 2021: 90). Second, this change is relevant to the observer who intervenes in the process of entanglement by just looking, and thus the nature of the connection between the two particles (what changes and how) is dependent on its witness (Rovelli 2021: 94—95). Hence, all these three elements—the two particles and their observer—are connected in a (so far) mysterious way. The name of the installation, therefore, leads one to expect connections between unexpected elements, as well as an argument for the relational nature of reality.

The group of people walk through a door, and Jason is the last one through of his group. At first, the "confined space […] turns pitch-black as the echo of the slammed door reveals a vast, warehouse-like room" (83). Within this space, so difficult to grasp, Jason's "attention is drawn skyward as points of light fade in above [the guests]. Stars. They look startlingly real, each containing a smoldering

quality" (83). This is how the installation starts; in pitch-darkness, in a space difficult to define until he slowly starts seeing light. The transfer from the anteroom to the labyrinth resembles the event of creation.

Jason turns his head down from the stars and looks on to what lies ahead: "It's a labyrinth built of Plexiglas, which by some visual effect appears to stretch on infinitely under the universe of stars" (83). This is life, and its spatial arrangement, "stretch[ing] on infinitely" under the stars in this space echoes back to the Walking in the Autumn Night scene. The affect of loss that overcame him on that night re-emerges, reframed in the experience of the art installation. Looking at the Plexiglas labyrinth that stretches on without an end, his life is, as it was to him during his younger years, yawning out before him, without any choices having been made yet. He has not stepped into the labyrinth. He watches other people "drift ahead on their separate paths" (83) before entering. It is not specified whether this already makes him commit to a certain path or whether he is going to meet a crossroads, but regardless, this sets him on *a* trajectory.

At first, the labyrinth is blank, perhaps alluding to *tabula rasa*, a blank canvas, at the beginning of life. Then, "some of the panels begin to show looped imagery" (84). Jason spends the first half of the description narrating the looping images unfolding on the Plexiglas screens. This looped imagery changes in pace and contents as he walks along the maze. I quote the sequence of looped imagery in full on the left, divided in groups by the curly brackets, and give an interpretation of its core statements on the right:

Birth – child screaming, mother weeping with joy. A condemned man kicking and twisting at the end of a noose.	The life starts reluctantly, because someone else decides so, and it might end reluctantly, because someone else decides so.
A snowstorm. The ocean. A desert landscape scrolling past.	You cannot choose what kind of environment you are born into.
I continue along my path. Into dead ends. Around blind curves. The imagery appearing with greater frequency, on faster loops.	You move on failing taking risks and with experience it gets repetitious.
The crumpled remains of a car crash. A couple in the throes of passionate sex. The point of view of a patient rolling down a hospital corridor on a gurney with nurses and doctors looking down.	It can end in an instant, yet it can be condensed in one moment. In times of emergency you might not be able to control it but need to rely on other people.
The cross. The Buddha. The pentagram. The peace sign.	It can be assigned with a variety of meanings that resolve in this life or the next.
A nuclear detonation. The lights go out. The stars return.	But it will end. And when it is over for one, it all starts again for another.

The looped imagery is a collection of perspectives that create or have the potential to create meanings into the events that life consists of. It features milestone events that define and re-define the purpose of everything that takes place after it, such as the birth of a child or a nuclear explosion. It features constant elements of the world that have an impact on everyone's lives, such as the weather conditions, and the fleeting elements that have meaning for just one person, such as the passionate couple. All these events, blinks, and elements can be interpreted in the frameworks exemplified by the religions toward the end, being labeled good or bad. The maze plays with the heavy meanings by making them fleeting and weightless, flashing on the transparent screens easily and with increasing speed.

After the images stop looping, Jason is at the end of the path he walked in the maze. At the end, he sees the resolve his path had. It is not explained if the end is the same for all or if this is the end specifically at the end of this particular path through the maze. What is important is that it is Jason's, and that it—we know—foreshadows the ending he gets in the novel:

> I can see through the Plexiglas again, only now there's some kind of digital filter overlaid on the transparency—static and swarming insects and falling snow. It makes the others in the labyrinth look like silhouettes moving through a vast wasteland […][102] At the labyrinth's exit, there's one last loop—a man and a woman each hold the tiny hand of their child as they run together up a grassy hill under a clear, blue sky— (84—85)

At the end of the metaphorical life led through the maze, the screen presents the thesis of the installation "with the following words slowly materializing on the panel" (85):

> Nothing exists. All is a dream. God—man—the world—the sun, the moon, the wilderness of stars—a dream, all a dream; they have no existence. Nothing exists save empty space—and you… And you are not you—you have no body, no blood, no bones, you are but a thought.
> MARK TWAIN[103] (85, emphasis removed)

The installation goes through a full circle. It starts with the mother, whose baby has just been born and, according to her wish, her "thought" turned into a living being with "body", "blood", and "bones". The event of birth is of utmost importance to the mother, it even gives her the name, but at the end this importance is negated by questioning the nature of existence. The looping images that each signify existence in their restricted scope are marked by the sense of urgency (passionate sex, patient on a gurney) and commitment (the cross, the Buddha). The installation questions both the importance of the things held important, and the control held in these contexts that hold intuitively different levels of control—religion, relationship and crime are choices while accidents and illness are not. The birth of a child is a prime example of an event that, ideally,

---

[102] The omission contains Jason's interim reflections, which I get to after the description.
[103] "Mark Twain" is a part of the text that appears on the Plexiglas. The quote itself is from a dialog between two head characters, Satan and Theodor, in *The Mysterious Stranger* (1916[2017]), Mark Twain's posthumously published novel, of which he wrote several versions. The novel is generally not considered a great success for its inconsistency.

is both a choice and, despite that choice, uncontrolled. Through this, the installation discusses choices, and to what extent our choices define us when the level of control we have over them is not fixed.

It is not surprising that Jason cannot help be moved. He has just been to the house/home, where all the core choices he thinks he made had been negated: "[D]espite the confusion and fear of the last twenty-four hours, or perhaps *because* of all I've experienced, what I'm witnessing in this moment breaks through and hits me hard" (84—85). That the installation resonates with him *because* of his recent experiences means that it resonates with his ongoing process of frame-sensitive reasoning. This is further suggested by his bodily response: "I'm struck for a fleeting moment by the overwhelming sense of loss" (85). I have described Jason's affect of loss earlier in the analysis as an absurd sense of misplacement and explained it through his framing effect. He remains unconfirmed in his choice, ipso facto, he often feels out of alignment with its consequences. This is the first time he gives the sensation a name. He elaborates on the referent of that name: "Not grief nor pain, but something more primal. A realization and the terror that follows it—terror of the limitless indifference surrounding us" (85). Jason's sense of loss "produces an 'appraisal' of reality" (Ottum 2019: 239), that he cannot put into words yet, a set of "coded messages" that require "translat[ing]" (Reddy 2001: 110). He has felt this way before—a sense of loss as in being misplaced—but never before has the environment of this feeling, the space it was felt in, provoked him to go beyond it. Here, in the diegetic now, the space around him resonates with the sense of displacement, the affect of loss, provoking it into more profound form, more deeply acknowledged than in the scenes before. For this reason, I argue that his aesthetic experience of the maze is not defined through the meanings given by his framing effect, but by experiencing the framing effect through the aesthetic experience of the maze, he begins to question the structures on which the framing effect is based. By re-arranging the knowledge (Swirski 2007: 161), the fiction of the maze allows Jason to generate new knowledge. As a result, the framing effect, for a moment, loses potency:

> We're all just wandering through the tundra of our existence, assigning value to worthlessness, when all that we love and hate, all we believe in and fight for and kill for and die for is as meaningless as images projected onto Plexiglas (85).

What he articulates is that objects to which "we"—he—has assigned value are meaningless despite the strength of the emotions they evoke. This thought is in stark contrast with his thoughts in the Dialog with the Abductor scene, where his breakthrough was to assign the labels of "great" and "exceptional" to the life he had and the life he thought he could have had. In the maze, not only are the labels "meaningless," but the very act of speculation is, by extension, "worthless". Jason observes both frames of his framing effect from afar, realizing the arbitrariness of their juxtaposition. He cannot, and does not, rationalize this thought or return to this thought before the final stretch of the novel, when he juxtaposes the reasons he constructs (see 4.2.4). The Maze scene closes with Jason's summary: "I

don't know if that's the intended takeaway from Daniela's installation, but it's certainly mine" (85), as he steps into another anteroom.

There, he meets another Daniela (hereon Daniela2[104]) who expects him to be Jason2. Daniela2 is surprised and excited to see Jason. She knows that he has been gone for fourteen months, because that is exactly when Jason2, to her surprise, came to see her after many years without contact. The show is Daniela2's interpretation of the discussion they had on that day:

> "Didn't you see the dedication?"[…] "At the entrance to the labyrinth. It's for you. I dedicated it to you, and I've been trying to reach you. I wanted you to be my special guest for tonight, but no one could find you." She smiles. "You're here now. That's all that matters." (86)

The discussion a year and a half ago is diegetically important because it explains Jason2's motives for abducting Jason and replacing him in his own world. Among other themes, *Dark Matter* plays with the existential meaning of choices, the determinism of life, and the impossible-to-fulfill need to predict outcomes and to choose right. In this discussion, it is important to keep in mind that Jason and Jason2 (and all their less important variations later in the book) are essentially one character. They are all aspects of the protagonist-Jason. The aspects that define these other Jasons are distant to protagonist-Jason only because for him they were not realized. For the analysis of Jason's inconsistent preferences, Jason2's motives are important because they are, in the novel's composition, often directly opposite to Jason's and invariably relational to them. Therefore, they shed light on Jason's preferences in the process of breaking their quasi-cyclical pattern that keeps him happy with his family but wondering if he made the right choice.

In the scene that the analysis has now entered, Discussions with Daniela2, Jason learns the rationale for Jason2's decision to prioritize the frame of Career 15 years ago. (It must be emphasized again that the diegesis has not confirmed that Jason is aware of having swapped places between his doppelgänger by being abducted, drugged, and transported through the multiverse. This is, in my interpretation, mainly because Jason is not aware of the existence of the multiverse—he is, however, aware of something being "replaced" between his world and this world, as was seen in the House/Home scene.) Jason2 left his world because he regretted his choice to prioritize the frame of Career over the frame of Family.

Coming to see Daniela2 fourteen months ago, Jason2 had thus broken his quasi-cyclical pattern by placing his competing frames (the same as Jason's) in a hierarchical order. He had swapped his frame from Career to Family. This is never the goal in frame-sensitive reasoning, but "that may happen on occasion, of course", although it might show a lack of skill in reasoning across frames (Bermúdez 2021: 266). This was naturally a conclusion that confirmed that he had

---

[104] The novel refers to all versions of Daniela as, simply, 'Daniela'. In the analysis it is still important to retain the distance Jason has with Daniela2 but not with Daniela, and for me, the simplest way to do that is to assign her the number that also distinguishes Jason2 from Jason.

chosen wrong. At first, Daniela2 explains, Jason2's words had seemed like attempts at seduction, but soon Daniela2 had realized that Jason2 "hadn't stopped by to catch up. [He] had come to say goodbye" (92). Saying goodbye, Jason2 had shared his rationale for leaving somewhere (Daniela2 did not know where to). His explanation had been highbrow and theoretical, explaining how "our existence was all about choices and that [Jason2] had blown some of them, but none so badly as with [Daniela2]" (93). This exchange touched Daniela2 deeply and inspired her to create the maze of choices.

At this point, the reader knows to suspect that Jason2 had left to kidnap Jason and trade places with him. He had built the box—the refined version of the research Jason dropped—and used it to find a world, an alternative reality, in which he had not made the mistake he regrets. Like Jason, Jason2 had been in the grip of a framing effect for fifteen years, but it had been within his means to employ this conflict to his research and find, concretely, a way out of it. Jason is confused, because Daniela2 does not know who Charlie is and is definitely not Jason's wife, either. To dissolve some of the confusion, Daniela2 explains in the manner of refreshing Jason's memory, how their paths parted already fifteen years ago:

> "[W]e broke up fifteen years ago. Well, to be specific, you ended it with me […] I had told you the day before that I was pregnant. You needed time to think about it. You came to my loft and said it was the hardest decision you'd ever made, but you were busy with your research, the research that would ultimately win that big award. You said the next year of your life would be in a cleanroom and that I deserved better. That our child deserved better." (98)

Jason's and Jason2's situations where absolutely identical apart from the way their forced action within the framing effect worked. It is not that Jason2 would have compared the importance of the Career and Family frames as such, but that he, ultimately, did not question the role of research in his life because of its dominant importance in his life at the moment. His perspective, and by extension his reasoning, did not take into account the development of his perspective and the resulting shifts in his preferences. Jason, as explained in the Family Night scene, imagined himself at the end of his life, thinking about the long-term consequences, *the big picture*, and he imagined giving up on both paths, making both paths appear as *gains.* Jason2, then again, took another perspective, a faster one and that of the *now*, where he assessed the frame of Family embedded in the frame of Career, which consequently revealed the *losses* side of the frames—when he should try to do both, he would be unable to do either in full. As explained by Prospect Theory (see Kahneman & Tversky 1979, Tversky & Kahneman 1981) and Bermúdez (2021), decision-makers tend to be risk-averse when the situation is framed as a loss, and risk-prone when it is framed as a gain. Jason chose what he could not live without, whereas Jason2 chose what he did not want to endanger. At the end of this conversation, Jason is left reeling:

> This is possibly the most surreal moment I've experienced since coming to consciousness in that lab—sitting in bed in the guest room of the apartment of the woman who is my wife but isn't, talking about the son we apparently never had, about the life that wasn't ours. (99—100)

This small bout of monologue shows Jason acknowledging both frames (the two lives he now knows that he and some other Jason have led), simulating their existence (having and not having a family), and, even though on a very preliminary level, reasoning across them (questioning the singularity of his choices through the surreal form they have now obtained). This process of trying on experiences between the two worlds sets the theme for the two days Jason and Daniela2 spend together.

Jason stays over because he breaks into a fever, and Daniela insists on him staying. Once the fever has subsided, Jason sits on the guest-bed, looking out the window of Daniela2's apartment. The view reflects his mood:

> Whatever storm system brought the rain last night has blown out, and in its wake, the sky is clear and trees have turned and there's a stunning quality to the light as it moves toward evening—polarized and golden—that I can only describe as *loss*. (100, my emphasis)

Whenever things are restricted into a frame—the field, the photographs, the Plexiglas—Jason feels "loss". Such a reaction to restricted space echoes Jason's claustrophobic relationship to spaces that communicate being locked into one vision, one direction, one choice. The initial *loss* of the novel appeared in connection to a loss of opportunity, freedom, and future. Looking out the window of opportunity, he sees the light "polarized and golden" that beautifully describes the interim state where the reality of his frames is shifting: Memories of what was and what might have been no longer stand polarized like before, and he is slowly starting to let it turn "golden"; to accept the reality where such naive opposition is impossible. The gnawing sensation of loss here, and throughout the novel, emerges when he is still and open to the world, accepting his being out-of-alignment with it [105]. This is the contribution of Jason's perspectival flexibility; the doubt placed on the validity of the dichotomy he entertains between the path he took and the path he could have taken. He has now separated the frames into their parts and is ready to reason across them in reference to his current preferences. Before proceeding to that in the next subsection, I summarize the final hours that Jason and Daniela2 spend together.

When they stay at Daniela2's place, Jason reflects on the differences that make him *him* and make Daniela *Daniela*. I see this search as a continuation to his subtle shifts of mindset from choosing between the frames (his strategy fifteen years ago) to choosing across the frames. In the art installation, he experienced the subtle crumbling of the framing effect's core paradigm of dichotomy. Momentarily, nothing felt important. But that cannot last if life is to go on. Watching Daniela with new old eyes, he is taken back to the time when they had not shared a life together and compares that to his current life. He finds Daniela2 "still so utterly Daniela except - Her hair is shorter. She's in better shape. She's wearing make-up, and her clothes—jeans and a form-fitting T—age her down considerably from thirty-nine years" (101). She is "electric, so sparkling with life" (88). Seeing her the first time in this world, he reflected:

---

[105] Elsewhere, I interpret the vulnerability that associates with the motif of loss as a sign for weakened sheltering strategies and the existential void creeping in. (Lehtimäki *forthcoming*)

> This is Daniela with an energy like the first time we met fifteen years ago, before years of life—the normalcy, the elation, the depression, the compromise—transformed her into the woman who now shares my bed: amazing mother, amazing wife, but fighting always against the whispers of what might have been. My Daniela carries a weight and a distance in her eyes that scare me sometimes. This Daniela is an inch off the ground. (88)

Jason is not initially attracted to Daniela2's "inch off the ground" energy, but rather to the elements that remind him of *his* Daniela; that "take [him] home" (101). He finds such elements when Daniela "sits in a chair in the corner with a distance in her eyes [he] know[s] too well" (98); when they cook together the same traditional Spanish dish that Daniela cooks on Jason's birthdays (102); when he feels protected by her - "she took me in when I was lost. When the world stopped making sense" (102). He knows by now that "[t]his is not [his] world" (103). Attraction builds up between them, and in the night Daniela2 knocks on Jason's door and climbs into his bed. Deciding how to respond, Jason's reasoning is disoriented: "And I almost say, I can't do this, you're not my wife, but that isn't even true [...] This is Daniela, the only human being in this insane world who has helped me [...]" (106). Her eyes glisten in the light coming from the window—the golden light of loss—and Jason decides to go with it:

> She isn't the mother of my son, she isn't my wife, we haven't made a life together, but I love her all the same, and not just the version of Daniela that exists in my head, in my history. I love the physical woman underneath me in this bed here and now, wherever this is, because it's the same arrangement of matter—same eyes, same voice, same smell, same taste…. (106)

In her presence and through his connection with her, he feels "grounded for the first time since [he] stumbled out of that lab" (105) and thankful for existence; "I don't know what I would've done if I hadn't found you" (107), he says after their shared moment of passion. His mind starts working again, and they make plans to check Jason's home office tomorrow to "find papers, notes, something that will shed light on what's happening to [him]" (108). Yet, after determining on their next course of action, the narrative takes a different turn and events start moving fast again.

When they are still resting in each other's arms, someone knocks on the door. When they do not open, an armed man breaks into the apartment. He does not ask questions, does not speak, just shoots Daniela2 between the eyes and ties Jason up. Jason is about to learn that he is in his doppelgänger's world. I move on to examine Jason's decision-making process in finding the reasons yielded by the two frames, and, for the second and the last time, reformulating the choice not between but across them (and finally arriving at a conception of what the difference is).

4.1.4 Reason construction and juxtaposition: Rationale

The framing techniques so far employed to describe and inspect Jason's decision-making in *Dark Matter* have allowed him to do all the groundwork needed to solve the decision problem. It has been shown that Jason is a skilled frame-

sensitive reasoner, because he is "capable of reflexive decentering, imaginative simulation, and simultaneous perspective-taking" (Bermudez 2021: 273). Reason construction reconstructs from a more informed standpoint the two frames that the previous stages deconstruct, and then compares them to one another. The task of this subsection is to examine Jason's reasoning concerning "the values that [he] express[es], for example, and the emotions that drive [him]" (Bermúdez 2021: 274). Although Jason (and, along with him, the reader) has an idea of the values that are expressed by the competing frames to the extent they were implicit in the aspects constructed in the earlier steps, as well as of what emotions cooperate in making their agent commit to the competing frames, the novel has not constructed these values and emotions as clearly defined reasons that could be taken into consideration in the process of juxtaposition. They are still too elusive for Jason (and, consequently, for the analysis).

To concretize them, I progress along the diegesis and focus on two scenes. The first one I dub the Researcher scene (115−142). In this scene, Jason gets acquainted with the research Jason2 has done. Jason admires his success, and through textual cues it can be seen that he assimilates with the experience of that success and the awe of bringing Jason2's ambition, which is also his own ambition, to life. This scene reveals and completes the reasons yielded by the career frame. Following that, the densest occurrences of revelations that can be seen as reason construction take place in a lengthy section of the novel that shows Jason visiting dozens of alternative versions of his life in rapid succession. During these visits, he reflects on the reactions evoked by these spaces; a process that I analyze as constructing reasons to establish and commit to a frame. I dub this the Door to Door scene and divide it into the two sections of Together (150−226 and 231−237) and Alone (226−231 and 237−244). During this scene, Jason learns to travel the multiverse in the box, first together with his rescuer, Amanda (the person who interviewed him at the beginning of 4.1.2), and after they part ways, alone.

Maneuvering the box does not require technical skill but rather something that can be characterized as emotional skill. These skills Jason and Amanda acquire by going door to door in the corridor of doors that in *Dark Matter* is the visualization of the multiverse. Going through the doors to alternate universes requires technically just turning the doorknob to open the door, but what awaits behind that door is a manifestation of the world inside the person(s) opening the door. Therefore, Jason brings along the unresolved baggage inside him that causes him to derail. That baggage is his framing effect and the reasons that sustain it. To find his way home—to his native world—Jason needs to process his framing effect. His framing effect manifests itself through feelings of being out of alignment with his environment—sometimes with his surroundings, sometimes with his mental self—as the physical consequence of his conflicted decision. Rationalizing his loss is therefore analogous to resolving his quasi-cyclical preference pattern. Resolving the quasi-cyclical pattern requires understanding the reasons yielded by both frames, and following this two-step process is the focus of this subsection.

Continuing from where we left off at the conclusion of 4.1.3, the kidnapper, who works for Velocity laboratories, brings Jason back to the laboratory. Oblivious to his real identity, they welcome him as Jason2. Jason is heavily sedated and "shaking with grief" (115) after witnessing Daniela2 be killed before his eyes. Leighton Vance is the first to meet Jason. Leighton looks "unbelievably sad" (115) to see Jason in this condition. Leighton confesses that he had ordered Daniela2 dead because they could not take the risk that Jason, in this vulnerable state of mind, would have told her about the laboratory and what they do there. Obviously, he does not know that Jason, not having worked there for a decade, does not have a clue what that work is. Leighton apologizes that Jason "had to see that" (117). Leighton feels guilty for not having understood Jason's mental state: "Maybe you can't hear this right now, but this place wouldn't exist without you. None of us would be here, but for your work, your brilliance. I'm not going to let anyone forget that, most of all you" (117). Jason pretends to calm down as a part of his plan to learn more about the research Jason2 has done, and to eventually get home somehow. (In the diegesis, he still does not know that he is in another reality by the hand of his doppelgänger. He just knows he is not in his world.)

The lab personnel want to recover Jason's memories to have their colleague and friend back. The will to achieve this is genuine, and Jason is again surprised by the warmth. When Leighton says that "[i]t breaks my heart to see you like this, Jason" (119), the words come out with "genuine bitterness and regret" (119). Jason learns that they were close friends. The group of people working at Velocity consists of only twenty-three people and they are all bound together by their common goal. Leighton explains: "You have to understand—we've dedicated everything to this place. To your work. We're all in. Any of us would lay down our lives to protect it. Including you" (119). Friendship in this community is built on achievement and ambition as absolute values over everything else. Jason questions whether that, still, justifies murdering anyone. Leighton sighs: "You've forgotten what we built together" (120), implying that it indeed does justify even murder. To refresh Jason's memory, Leighton takes Jason to the box.

This starts the Researcher scene, in which Jason is dumbstruck by the magnificence of the work done by Jason2 and Velocity Laboratories; the work that might have been his. The box is a developed version of the work he started during his doctoral degree; the work he never finished because he prioritized his family. The science behind the box is explained by Jason with intensity and awe. The box's theoretical premises are explained in the work (122−123): The paradigm dictates that reality consists of multiple parallel worlds that split into new alternative versions of the worlds all the time. Each of these worlds is coherent and complete on its own because it is continuously and consistently decohered by its occupants (whose competing versions occupy other equally complete and consistent worlds). The worlds split into new worlds according to possible outcomes as observed by any observer. Jason summarizes that "if the world really splits whenever something is observed, that means there's an unimaginably massive, infinite number of universes—a multiverse—where

everything that can happen will happen" (123). The purpose of Jason2's invention is, in a way, to control the inevitability and resulting uncontrollability of such a world.

Within the chosen lens of investigation, the existential construction of the literary world can be interpreted as overlapping with parameters of decision-making: "Because you have the ability to imagine, you can entertain many different kinds of forecasts […] your ability to imagine alternative futures allows you to consider their desirability and how you might achieve them" (Beach 2009: 397). Jason2's invention allows him to concretely experience such alternative futures, and therefore, the consequence of the decision he lives in.

The work for which the Pavia Prize was awarded to Jason2 considered "placing a macroscopic object into a state of quantum superposition" (53). A macroscopic object is anything visible to the eye, and in Jason's work it was a tiny metal plate. This plate he placed into an observable superposition, meaning that the metal plate existed simultaneously in multiple strands of reality.

Jason did not achieve this before his funding and time ran out. Therefore, it is both fantastic and humiliating to observe "a failed dream raised from the dead" (122). He feels "ashamed, like [he] lost a race to a better opponent. A man of epic vision built this box. A smarter, better [him]" (123). The intensity of his criticism reveals the narrowed perspective he occupies in this scene. Gradually he is allowed to step deeper and deeper into the world of Jason2, and in effect, he gets to know what would have waited at the end of the path he did not choose; why Jason2's house looked exquisite albeit lonely. Jason2's laptop is placed at his disposal, and he spends a full night perusing the files and folders. He comes face to face with the loss he has felt — this work, this achievement, is the object of that loss. The files on the laptop go back "to [his] grad-school days, when the first intimation of [his] life's ambition began to present itself" (127). This means that he can physically place himself into this journey. He experienced the early days of his research, but he gets to read an alternative ending to the one he experienced. He admires the intensity of this ambition, immersing himself in it:

> The cleanroom data is meticulously sorted. I read the files on the laptop until I start seeing double, and even then I push on, watching my work advance beyond where I know it stopped in *my* version of my life. It's like forgetting everything about yourself and then reading your own biography. I worked every day. My notes became better, more thorough, more specific. (127, emphasis in the original)

The original emphasis of the pronoun *my* likely denotes the distinction between Jason's and Jason2's experiences in their lives. What I find interesting, however, are the two instances of the first person singular that blur this distinction. He does not say *he* "*w*orked every day" but "I worked every day" and "my notes" improved when referring to the time beyond where it stopped in his life. He empathizes with Jason2 to the extent of, at least momentarily, identifying with him. Indeed, when he collapses onto his bed, exhausted, he finds his identity drifting. "I can feel my native world, and the reality that supports it, pulling away. I wonder: If I don't fight hard enough against it, will this reality slowly click in and carry me off?" (128) In other worlds, would it happen as naturally as fifteen

years ago, when his native world slowly clicked in and carried him off? His sense of agency of that decision is still shaky; *this world* is still a path that was taken away from him, even if passively, a path he lost rather than rejected.

The next morning he meets with Amanda, the lab therapist. Jason continues to insist on the story that he does not remember what happened during the last decade. Meeting her confirms to Jason that the laboratory was Jason2's home in the only meaningful sense. At the end of the session, Amanda acts with "unnerving intensity" (130). She wants Jason to feel assured of her, and the rest of the personnel's support:

> I just want to help you, Jason, however I can. If you don't remember me, that's okay. Just know that I'm your friend. Everyone in this place is your friend. We're here because of you. We're all taking it for granted that you know that, so please hear me: we're in awe of you and your mind and this thing you built (130—131).

The gains of the Career frame keep rising to the surface of Jason's experience. His image of Jason2's life, before the Researcher scene, was based on the forlorn solitude and lack of companionship whose impression he received in the House/Home scene. To complement the frame he thought was complete, it now seems that Jason2 was admired and brilliant—a quantum physics rockstar. It is no wonder, perhaps, that when Jason resumes the task of studying Jason2's computer, he continues to think of the work in first person instead of the previously used, more distancing "other version of me" (123). "Despite the circumstances" (132)—he is practically in captivity—he is beside himself with excitement: It is "exhilarating to read my notes, see them progressing toward my breakthrough with the miniature cube" (131). In this moment, he is not thinking of the cost of choosing this frame (that is, losing his family) that was dominant in the step of imaginative simulation and the House/Home scene. Instead, the conceptual journey through Jason2's research complements and glorifies the house – it was not homely and warm because it was not his home. This laboratory and this work were that for him.

The devastation he felt when vomiting in the luxurious bathroom at Logan Square is far removed from the excitement he feels now, assimilating to the Jason he still knows he is not. Similarly to the appearance of hypocrisy met in the Dialog with the Abductor scene (where he first labeled his family 'great', as opposed to 'exceptional', and then cried that he has never regretted choosing his family), Jason's excitement less that twenty-four hours after witnessing Daniela2's death, not to mention still being separated from his family, might seem treacherous and spineless. Yet, from the rationality-of-choice point of view obtained through the frame-sensitive reasoning model, this is not the case.

In fact, the very part where he seems to be drifting into the life of Jason2 is him executing frame-sensitive reasoning to perfection. He does not read the notes as a father, or even as the Jason who has been through hell in the last four days. He is allowing himself to be sucked into this world, this framing, to understand "this other Jason" as "him", thus making it possible "to see how different frames can bring different reasons into play" (Bermúdez 2021: 273). It is a genuine emotional commitment, and a risk at that. Jason2 rejected the frame he was in as

a result of a similar experiment; he immersed himself in the frame and world of Jason, father and husband, and concluded that it superseded his. Jason is able to be excited about Jason2's achievements as if they were his own. This is crucial for resolving the affect of loss—giving it a name to rationalize it (see Massumi 1995)—and resolving the framing effect. To execute these tasks, he needs information on the values this frame is based on, and the emotions that drive those values. Such information is not accessible through mere cognitive effort: Emotional commitment is needed. This is, in part, why frame-sensitivity (along with other ways to address inconsistency in decision-making) is challenging. What looks like drifting is, in this analysis, interpreted as constructing reasons through emotional commitment.

Jason continues his exploration and finds more to the story. A decade before the diegetic present, Jason2 had started working for Velocity Laboratories. Jason finds a mission statement speech from his first day. This mission statement sheds light on Jason2's motives—and thereby values and emotions—in this project. For Jason, "[o]ne section in particular, a discussion about dimensionality, catches [his] eye" (131):

> We perceive our environment in three dimensions, but we don't actually live in a 3-D world. 3-D is static. A snapshot. We have to add a fourth dimension to begin to describe the nature of our existence. The 4-D tesseract [106] doesn't add a spatial dimension. It adds a temporal one. It adds time, a stream of 3-D cubes, representing space as it moves along time's arrow […] Our path through this 4-D spacetime is our worldline (reality), beginning with our birth and ending with our death. Four coordinates locate a point within the tesseract. And we think it stops there, but that's only true if every outcome is inevitable, if free will is an illusion, and our worldline is solitary […] (132, emphasis removed[107]).

At the core of the project is the drive to prove that alternative timelines exist and can be traveled to. Perhaps already intuitively, but also in the novel specifically, this is explained to be an enormous task, the task of "a man of epic vision" (123). Considering how sacrificing their careers acted as a bonding agent between Jason and Daniela, it makes sense that the sacrifice of family drove Jason to work harder and better than he ever otherwise would have. After all, the novel does not feature a Jason who has achieved both. This massive breakthrough is not just the work of a brilliant researcher, but a regretful non-father, non-husband. Hence, this moment when Jason2 is starting his own research project with unlimited funding and support to reach the full potential of his ambition is the Career frame equivalent of the tesseract chandelier that Daniela gave him for their 10th anniversary gift (see 4.1.2). The lexicon *tesseract* blinks in both realities as a motif or a symbol of the gains yielded by the realities.

The moment (in the past) of giving the speech marks the moment of assessing the gains and losses of his decision (the one fifteen years from the diegetic present). It marked the reasons why it was good and right to stay within

---

[106] See Figure 3 in 4.1.2.
[107] In case removing the emphasis seems dubious: The emphasis I removed was continuous through the speech and in the novel, and apparently signaled only its intra-diegetic textuality, which was not necessary to accentuate in the analysis in addition to such excessive accentuating being plain confusing.

the frame of Career, and not take the risk of losing it. Yet, also, the flip side of those gains are present through the implied perspective of a man who missed the opportunity to have a family. Considering the role that the choice between family and career took later in Jason2's life — that he actually used his scientific ambition to trade it for familial affection — the inspirational words of his speech, as it continues in the next excerpt, seem chosen from the perspective of the loss that held a grip on his framing effect:

> The Many-Worlds interpretation of quantum mechanics posits that all possible realities exist. That everything which has a probability of happening is happening. […] What if that's true? What if we live in a fifth-dimensional probability space? What if we actually inhabit the multiverse, but our brains have evolved in such a way as to equip us with a firewall that limits what we perceive to a single universe? One worldline, the one we choose, moment to moment […] So how do we access this 5-D probability space? And if we could, where would it take us? (132, emphasis removed).

This is the value of The Researcher scene: Jason simulates occupying the frame of Career, the life of the person who lived in the luxurious house in the Logan Square of this world and is able to see it exactly — as opposed to the vague, unreachable dream it seemed in the past or the abject nightmare it seemed to be in the House/Home scene. It shows why this frame was exceptional, and why it was worthy, to what extent it resembles the perfection of a geisha it was masked as in the beginning. In the world of the Career frame, Jason got to fulfill his ambition and got recognition as a researcher who succeeded in an outstanding achievement. It is the individualistic fulfillment, supporting values like power, as in the capacity to make an impact. It is driven by the emotion of ambition, as in the will to achieve the capacity and position to make an impact.

Furthermore, Jason2's question from the Dialog with the Abductor scene, "Are you happy in your life?" (28, see also 5.2.1) reveals *happiness* as the goal. Happiness is obviously an elusive concept and can mean anything, from success to contentedness to joy, but as a label one would put on one's life, it must be understood as a state where the emotions and values complement one another and where the needs expressed by those emotions and values are met. This is what it is in *Dark Matter*. The rationale, the *reason constructed* through this frame can therefore be formulated into the following claim: A happy life requires making an impact. Therefore, a happy life must be spent on improving one's capacity to make an impact. Finally, succeeding in making an impact as a consequence of improving one's capacity in it is a happy life.

These are the premises, background assumptions, and conclusion that Jason2 lived by, and therefore, part of Jason agrees with them. As the novel puts it in the opening already (see 4.1.1), his "uncertain perspective" (3) agrees with this. It is only after he has also clarified the premises and conclusion of his native frame to himself and considered them from the perspective that he actually inhabits that he can resolve his framing effect.

Jason falls asleep in the middle of his browsing but is woken up abruptly. He is taken to the same auditorium as on the night he woke up in this world for the first time. Leighton Vance sits there, waiting for him, looking grim. He begins to explain what *family* means for the people working in the project:

> "My father founded Velocity forty-five years ago. In my old man's time, things were different […] it was more about keeping the big government and corporate contracts than doing cutting-edge scientific exploration. There's just twenty-three of us now, but one thing hasn't changed. This company has always been a *family*, and our lifeblood is complete and total trust" (133−134, my emphasis)

The complete and total trust of the laboratory family seems to mean that everybody follows the same rules. Jason has not trusted them, and he has been caught. (By a plot-point left out to not burden the analysis; Ryan Holder2, who Jason met at Daniela2's party, knew Jason was not Jason2, and told Leighton Vance about it.) Now that they know Jason is not the Jason they want, the door to that life is closed for him.

The world prevents the easy "sliding into" this world that Jason was thinking about earlier in the Researcher scene. Diegetically, Jason still has the option to cooperate with Velocity laboratories, but now it would have to be done after acknowledging his role and identity as a father and a husband. Yet, Jason is disillusioned immediately. The narration returns from "I" as in Jason2 to him as "another version of me" (139). What is more, the affect of loss as misplacement shifts toward a processed translation of the non-cognitive sensation. Loss shifts to longing, and from the hauntological longing of something that never was to something he actually had, built, owned, touched, and worked on. The intangible sensation turns into what Jenefer Robinson calls "a conscious judgement" that "catalogu[es] the emotion in recollection" (2005: 97), a conclusive process that revisits (a perhaps recurring) affective experience, encoding and translating it (Reddy 2001: 110), trying to find the words that describe the elusive sensation as correctly as possible with the words available in one's language and culture (Robinson 2005: 97). This way, the emotion becomes slowly more tangible and clearer in its dimensions as the "parts of an affective experience [that] emerge as salient" (Ottum 2019: 240) grow in number.

The affect-evoking descriptions in *Dark Matter* are not as eloquent and captivating as the passages often examined in affective literary criticism[108]; Crouch's style is straightforward and concise. However, the feeling in the parts that I have labeled as affect-evoking descriptions is tangible in a way that serves the analysis of Jason's framing effect. The straightforward simplicity of these passages comes across as a sincerity that I interpret as a genuine expression of the surprise that Jason often handles his feelings with. He has lived in the grip of a framing effect for so long that when he feels something unconflicted, it comes out as a burst of need, and as such, a strong argumentation of his preferences. The affect of loss existed (and to some extent still exists) because he was lost in the pull of competing worlds, but in this moment he does not feel the pull of another world — the world that rejected him as a result of him having rejected it fifteen years ago — just the world that is his native one. His very being is the loss that is now intensified to its extreme and therefore a culmination of everything that has been said (and felt) about loss in the novel prior to this moment. He

---

[108] For example, the beauty of the descriptions of the affect of 'grief' in *H is for Hawk* (2014), beautifully interpreted in Lisa Ottum's analysis (2019: 235−250).

returns to himself and his own, unique life and the tangible elements he needs from there:

> I am so afraid. I miss Charlie. I miss Daniela. I miss my run-down brownstone that I never had the money to properly remodel. I miss our rusty suburban. I miss my office on campus. My students. I miss the life that's mine" (141).

This is how he reaches the reasons yielded by his native frame; what values and what emotions drive it. This moment is an expansion of what he instinctively felt and thought already at the beginning, in the Dialog with the Abductor scene. Before answering "never" to Jason2's question about regretting his choice "to stay with Daniela and make a life with her" (28), he "think[s] of Daniela, and the emotion breaks back through […] Fear returns, and with it homesickness that cuts to the bone" (28−29). These feelings, described in an almost primal way, culminate in one specific preference: "I *need* her in this moment more than I've ever needed anything in my life" (29, emphasis in the original). At that point, the preference is still conflicted and unrationalized, and does not really fill the whole frame. The love for Daniela is at the core of the Family frame, but the other things that fill it have, by the diegetic present the analysis is at, been in conflict with his happiness: The average economic status they have and the meager amount of impact he is able to make teaching undergraduate physics at a local college seemed unsatisfactory because he entertained the idea that he had potential for something that was greater; or specifically, exceptional.

Having now experienced, to a sufficient extent, this potential, and this life that he previously valuated as exceptional, he can re-frame his preferences from his current perspective of a father who did not turn out to be a researcher, and construct the reasons yielded by the frame of family: A happy life requires loving and being loved in return. Therefore, a happy life must be spent on improving one's ability to love and be loved. Finally, succeeding in loving and being loved in return, as a consequence of prioritizing them, is a happy life.

Visiting Daniela2 in the past, Jason2 explained that "existence was all about choices and that [he] had blown some of them, but none so badly as" the one between family and career fifteen years ago (93). It is therefore only logical that Jason realizes that he has also perhaps blown some choices, but definitely not the one between family and career fifteen years ago. Viewing life as a chain of memories is what he did originally, too, but from that perspective such a future was uncertain and contaminated by the pain of letting go of the possibilities he was not fully prepared to let go. Now, when he is physically near death, when he is scared of his life, he views his past life not through its accomplishments and milestones, but through a combination of the story and the life; the ordinariness of their routines and the emerging exceptionality of the love that he has with Daniela.

The phase of reason construction has been completed, and thus the "[c]ompeting (frame-relative) values and reasons are available and open to scrutiny" (Bermúdez 2021: 278). This automatically leads, to some effect, to juxtaposition, and along with it, clarity, but also to a situation where "frame-sensitive reasoning becomes highly situational and context-dependent"

(Bermúdez 2021: 278). It is therefore rather understandable that in the frame-sensitive reasoning model, juxtaposition immediately follows reason construction. For the novel and for Jason, this, however, is not the case. After the model's phase of juxtaposition, all that is left is the solution, but the story is not ready for that yet.

Reasons for this are found in the requirements of the genre, and perhaps even the narrative arch in general, but also in the nature of the decision he is making. Firstly, his release of the dichotomy is not only the basis of the framing effect but also of the diegetic rivalry position between him and Jason2, and this tension cannot be released already halfway through the book. Secondly, within the story, this is not the first time he makes the same decision or even the first time he has questioned his original decision. It is understandable that he is not easily convinced. This makes his character more believable; he is not prone to whims of fancy but to employing the scientific method and letting the evidence convince him. He has persisted in his framing effect for fifteen years because the evidence for choosing right was contested by his conflicting preferences, and because the intensity of the emotions that drove both his ambition as a researcher and affection as a father and husband were, in the large scale of things rather than in the situational context, equal. In the diegetic present, the option of Career is not available anymore in the same way it was before, but that does not mean that he would have automatically been able to let go of it in his mind. Frame-sensitive reasoning, when performed with such devotion as Jason, discourages opportunistic swaps of commitment.

A well-executed frame-sensitive reasoning presumes making a distinction between *factual* and *non-factual propositions* (Bermúdez 2021). Therefore, the process of reason construction still needs to resolve the tension between the reasons constructed so far in this subsection; the two definitions of a happy life of which only one wins out, without residue of the other, if the framing effect is to be fully dissolved. When doing so, "[t]he point is to shift the terms of the debate from non-factual propositions masquerading as factual propositions to a constructive discussion about the values that underlie those non-factual propositions" (Bermúdez 2021: 278). To this effect, Jason now needs to understand the dichotomy of the constructed reasons: The factual and non-factual propositions these reasons are founded on, and the reasons for which they conflict.

Jason is on the right path. He sees his great life in a new, clarifying, exceptional light. Or without a light, as it happens, but paradoxically more clearly. He finally realizes the identity of his abductor:

> They kill the lights to my cell. […] And there in the darkness, like the filaments of a lightbulb warming to life, the truth finds me. I hear the voice of my abductor, somehow familiar, asking questions about my life. My job. My wife. […] Took my phone, my clothes. Holy fuck. It's staring me in the face now. My heart shuddering with rage. He did these things so he could step into my shoes. So he could have the life that's mine […] Because that man was me. (141−142)

Now he understands the viewpoint of the man whose life he visited in the house, whose deepest regrets touched his feelings in Daniela2's installation that was

inspired by those regrets, and whose ambition and motivation he has been simulating and constructing for the last days. In this space, both worlds are unreachable for Jason: "In this moment there is no logic. No problem-solving. No scientific method. I am simply devastated, broken, terrified, and on the brink of just wanting it all to end" (141). In this space that is utterly empty and robbed, he finds not only the truth about his abductor, but also comes to the realization that the life he had must have seemed like such a miracle to Jason2.

Immediately after the realization in the above quote, the door opens and Amanda steps in to rescue him. She is shocked to learn that Velocity had committed a murder to protect the project. She declares that she "didn't sign up for this shit" and that Velocity Laboratories "crossed lines that shouldn't be crossed. Not for science. Not for anything." (142.) Jason's escape is quickly noticed by the security personnel, and Amanda is forced to flee with him into the box, chased by Leighton and the security men. The decision to escape into the box is risky for both of them, as "stepping inside [it] is like jumping out of an airplane and not knowing if your chute is going to open" (142), but for that same reason, they know they will not be followed.

Amanda has brought along a standard pack of equipment for experimenting on the box, and she has been educated in operating the vehicle. First, they inject themselves with Ryan Holder2's serum. Along with the Box just as it is, this serum is what makes the multiverse navigable; there are no knobs and buttons. The serum cooperates with the box by manipulating brain functions so that the pre-frontal cortex tolerates the quantum state in which the box already is. When they recover from the hit of the serum, they look around:

> Amanda is holding the lantern, and as I move toward her, I see that the light isn't striking the wall of the box, which should be straight ahead of us. I walk past her. She follows with the lantern. The light reveals another door, identical to the one we just came through from the hangar. I continue walking. Another twelve feet brings us to another door. And then another. And another.

The visual representation of the multiverse is interesting. Adapted into the framework of meanings in T. S. Eliot's *Burnt Norton* that opened the novel, the corridor of doors is a physical manifestation of the longing expressed by the poem: The footfalls that echo down the passage not taken and toward the door never opened. More prosaically, each section of what seems to be a corridor is actually "the box repeating itself across all possible realities that share the same point in space and time" (151). What they see is "a manifestation of the mind as it attempts to visually explain something our brains haven't evolved to comprehend" (151), so even if they are at a point in space and time, that place is everywhere where the same time is spent (thus excluding only realities that have ceased to exist or have not been born yet). This visualization has in fact quite beautiful symbolic relevance to decision-making: What Jason observes is a concretization of perfect information, the state of having access to all the possible outcomes of all the possible options (see Kruglanski & Orehek 2009, March 1994: 18−24). Yet like the theoretical notion, the concretization, the space, is practically unattainable. Neither can be experienced in full. As they stare into the darkness,

Amanda asks: "So where does this corridor lead? […] If we just kept walking, where would we end up?" (152−153) Jason responds while "the wonder recedes and the horror creeps in: 'There is no end'" (153). They have access to all the possible choices, all the possible worldlines, but they cannot physically test each of them nor do they have the criteria to choose one (yet). They know how to make the box work, but they do not know where to go with it.

Here starts the Together part of The Door to Door scene. In the plot, their goal is to understand how the box works in order to get where they want. Iterating this process, I show how this assists Jason in his frame-sensitive reasoning by illuminating the difference between factual and non-factual propositions as well as relevant and irrelevant criteria when he continues to construct the reasons until he is ready to juxtapose them at the end of this subsection.

They start at random: "Try a door, see what happens" (153). Walking down the corridor to find any piece of criterion for choosing a specific one, he is "hesitant to make a choice. If there is an endless possibility of doors, then from a statistical perspective, the choice itself means everything *and* nothing. Every choice is right. Every choice is wrong." (153, emphasis in the original). He is too disoriented to really have a goal for his choice, and along with this goal, the criteria to work toward it are also non-existent. His goal to "see what happens" is too descriptive. Finally, he chooses a door after giving up trying to find a reason to choose one over the other. He feels terrified. The corridor collapses as a result of opening the door. This happens because by observing one world, he closes the doors to all others, "destabiliz[ing] the quantum state" (154). Simply put, making a choice makes the competing options disappear.

What he finds behind the first door is an abandoned-looking garage with walls of debris. Outside the garage, the world is dark and empty, taken over by "a blizzard of ash" (155), there is a "dead, burnt stench" everywhere (156) and black skyscrapers grumble down, trembling the ground beyond their feet. Scared to death, they escape back to the box, and then inject themselves with serum again.

Choosing the next door, they are at the verge of panic, "trying to come to terms with how horrifying infinity really is" (161). Jason tries to explain what he knows: "Everything that can happen will happen. *Everything*. I mean, somewhere along this corridor, there's a version of you and me that never made it into the box when you tried to help me escape" (164). The next door they open shows them the hangar to the box, with an empty mission control room next to it. Exactly as they saw it some hours ago. Soon, they hear "[p]anicked voices bleeding through the opening," another Amanda "fighting to squeeze through the space between the doors" (165), followed by another Jason. Leighton's men first shoot the other Amanda and then tase the other Jason. Amanda's shriek exposes them, and they escape into the corridor once again.

Before opening the next door, they try to process their feelings. The endlessness of the space they occupy reminds Amanda of her childhood. She explains that she "grew up in North Dakota, and [they] used to get these wild

blizzards. Whiteouts […] Blowing so hard it'd make [her] dizzy just looking at it through the windshield. [She'd] have to pull over […] That's how [she] feel[s] right now." (162) The next time she opens a door, "[s]now streams into the box" (168) from the biting cold and deafening wind where "snow is blowing sideways […] In every direction, it all looks the same" (169). They find shelter in a nearby house. In this world, they start to reflect more on the functioning principles of the box:

> "The doors in the corridor are the connections to an infinite array of parallel worlds, right? But what if *we're* defining these connections?" […] What if it's like dream-building, where we're somehow choosing these specific worlds? […] Not intentionally. Maybe it's a reflection of what you were feeling at the moment you opened the door." (175−176)

They understand that their intentions create the result, even though they do not yet understand in full how the correspondence works. However, if they are the controllers, "then [they] have the ability to go wherever [they] want. Including home" (176). They find their way back to the box and resolve to try again, now with more insight.

Once they sit in the dark, waiting for the serum to take effect, Amanda reflects on the differences between Jason and Jason2. She was Jason2's therapist, and it is implied while not confirmed that there might have been something else between them, too (for example, the intensity in her gaze when she asked Jason "You really don't remember me?")—regardless, she knows Jason2 well. Her insights into Jason2's character confirm what Jason has reasoned so far; that Jason2's life was exceptionally successful but despite it, insufficient to make him happy. Amanda reflects: "You're different than him […] Softer. He had a real hard edge when you got down to it. *The* most driven human being I've ever met." (179, emphasis in the original). Jason asks what Jason2 asked him: "Was he happy?" It takes Amanda time to formulate the answer:

> "I wouldn't say he was happy. He lived an intellectually stimulating but ultimately one-dimensional life. All he did was work. In the last five years, he didn't have a life outside the lab. He practically lived there." (179)

He had a rewarding but not a full life. It was exceptional but one-dimensional. The cure for that would not be to make it more successful, but to make it fuller; add contents laterally, if you will, rather than rise higher. To add dimensions. This was Jason2's reference point when asking "[a]re you happy in your life?" (28)" in the Dialog with the Abductor scene. He himself was not, at least not anymore. Jason tells Amanda that it was Jason2 who abducted him and traded places with him. To Amanda, this makes sense: "He tells himself he's giving you the chance of a lifetime […] Jason was obsessed with the path not taken. He talked about it all the time […] *He* wants a shot at the path not taken. Why wouldn't you?" (180, emphasis in the original). Jason2 was curing his own unhappiness by adding dimensions to his life. Jason does not mention his dissonance, the framing effect for fifteen years, and that it actually was within his interests to get "a shot at the path not taken", even though he never considered it to the same extent as Jason2, who actually had the means to make it happen. For Jason, the swap did

not directly add happiness, because it was not his choice. It happened to him, but he did not make it happen—like choosing the family frame also just happened to him. This lack of agency is behind his framing effect. He does not lack content, he lacks resolve, agency, and the power that comes from being the agent of one's choice rather than a willy-nilly consequence of a choice that just somehow came to be.

Now that they again have increased their information, they set to work. They agree to describe in a notebook (found in the bag) the kind of world they would like to open the door into, and then keep that description "in the forefront of [their] mind" (186) when stepping through. They set a clear goal, an intention. This intention is therefore constructed by first deconstructing the world they set as a goal. It is not apparent yet at this point in the diegesis, when their primary situational goal is to assure themselves of the possibility of safety and to gather more information on how the box works, but for Jason, filling the notebook with descriptions of the world he wants to build is a process of disseminating between the non-factual and factual propositions of his home, and the relevant and irrelevant aspects that make it *his* unique goal.

This makes the task analogous to the process of constructing the reasons yielded by the frames. In fact, Bermúdez describes reason construction as "frame decomposition, or frame deconstruction" (2021: 274). Constructing the reasons from frames requires deconstructing both frames and reasoning between the resulting propositions. Here it is important to be "very attuned to the distinction between factual and non-factual propositions" (Bermúdez 2021: 274). Bermúdez uses abortion and genetically manipulated meat as examples of complex issues where factual and non-factual propositions can be defined by, for example, whether a proposition is verified by science or not (see Bermúdez 2021: 274—278). In Jason's dilemma, factual and non-factual are defined in relation to his feelings—what values his happiness must be based on, and especially, what emotions click those values into place. Jason must, therefore, deconstruct the frame in order to be able to construct the frame; he must understand the pieces and aspects that define his world as his happiness before he is able to will into existence.

At their fourth attempt, Amanda writes down "I want to go to a good place, to a good time to be alive. A world I'd want to live in. It isn't the future, but it feels like it" (187, emphasis removed). They find a beautiful, futuristic Chicago where everyone is wearing workout clothes, the skyline is fantastical with buildings "too beautifully random and irregular to be man-made […] like a range of mountains" (189). They explore around and enjoy everything they see. "Was all of this in your head?", Jason asks. Amanda explains that "it all feels right somehow. Like a half-remembered dream" (191). In contrast to Amanda's sense of belonging, Jason glances longingly to the direction of his home, which "doesn't look anything like [his] home" (191). He does not feel right, the world does not feel right: "This world, for all its grandeur, isn't my home. It isn't even close." (191). Thus, they move on.

At their fifth attempt, Jason writes down "I want to go home" (193, emphasis removed). The Chicago they step into looks right at first, but soon the pervasive silence raises their doubts. Indeed, they find that this Chicago is ridden with a plague, and the Jason and Charlie of this world have died already. Jason helps the Daniela of this world die on the porch of their house[109]. Waiting for Daniela to die, Jason reflects on his life: "In this moment, my world seems so safe and perfect. I see now—I took all that comfort for granted. It was so good, and there were so many ways it could've all gone to pieces." (203) He does not elaborate on this revelation more, but the experience of seeing his family die is another piece of data that distorts, slowly, his framing effect insofar as it originally was constructed on the dichotomous, binary tension of the two men he has the potential to be. They escape the nightmarish world, and inside the box Jason breaks down crying.

They realize that ending up in this world when Jason wanted to "go home" was rather educational. Jason does not understand it at first, but Amanda, who was Jason2's therapist, identifies in this world "[Jason's] worst fear" (213), which is necessarily the same for both Jasons as it is grounded in their childhood: "Not just losing your family, but losing them to illness. The same way you lost your mother when you were eight years old" (213). She explains that this played a huge role in Jason2's life: "Watching his mother die was the defining event of his life. It played a critical part in why he never married, never had kids. Why he sunk himself into work" (213). Jason finds this easy to relate:

> There were moments, early on, when I considered running from Daniela. Not because I wasn't crazy about her, but because on some level, I was afraid of losing her. And I felt the same fear all over again when I found out she was pregnant with Charlie." (213—214)

Perhaps the decision of how to let the memory of his mother impact his decisions was what drove Jason2 to see more losses than gains in the family frame, momentarily. But "why would I seek out a world like that?", Jason asks. Amanda responds: "Why do people marry versions of their controlling mothers? […] Fixing things as an adult that hurt you as a child" (214). Amanda considers that this teaches them "a lot about how the box works" (214). Home, for Jason, had also been the childhood trauma of losing his mother to illness; nothing he *desired*, but what he incorporated in the familiar. He did not will this world, willingly, into reality, but the trauma of illness and death were already in him and transferred without conscious choice. Indeed, Jason reasons: "It's a troubling paradox—I have total control, but only to the extent I have control over myself. My emotions. My inner storm. The secret engines that drive me […] how do I find the [world] that is uniquely, specifically mine?" (214—215). At this point, it is clear that finding the door to his native frame requires dissolving the framing

---

[109] As any inhabitant of the contemporary world might instinctively realize, this would expose him to the virus. The plot takes this into account, and prior to him being in contact with the Daniela of this world, he is handed a mask and instructions from official government workers, and Jason keeps his distance from Daniela even when sitting with her on the porch.

157

effect. This means, in specific, disseminating the factual and non-factual propositions and their origin and committing to one frame — either one that exists, or one created across them — and finding happiness in and with his place in that space. Instead of looking in, he resolves to "stare at the page and begin to write down every detail of my Chicago that comes to mind," trying to "paint [his] life with worlds" (215). Laboriously, he lists all the aspects of his Chicago and of his home that can be seen, heard, touched, smelled, or tasted:

> Graffiti on the faded white brick of a building three blocks from my house that was so artfully done that it was never painted over […] The fourth step on the staircase that always creaks. The downstairs bathroom with the leaky faucet. The way my kitchen smells as coffee brews first thing in the morning. (215)

None of these elements is truly, exclusively *his*. He tries to control the "secret engines that drive" him, these by definition uncontrollable elements of his personality, by ignoring them, or maybe he does not fully understand what he is doing, and that is his mistake. The plot picks up tempo via an ellipsis of four Chicagos, none of them is exactly right but "*almost* home" (216, emphasis in the original). Something is always wrong. Either he is not married to Daniela, or one of them has died years before, or their relationship is different. Before long, Jason is emotionally, mentally, and physically exhausted to have failed so many times, to be short on food, money, and sleep, and to have witnessed all these ways of losing his family. In order to recover, they spend a night at the Chicago they happen to be in. They buy a new set of clothes from a thrift store, eat out, and sleep in a grimy but to their current standards blissful hotel. After the night out, they fall asleep happy. Jason wakes up to Amanda sliding next to him in the bed. He considers his options. His reasoning reflects the renewed understanding of the options he has and the transformed conception of the process of decision-making he has at large. Instead of urgent singularity of each decision, he makes the decision from the singularity of his unique perspective, distanced from the decision that has a life of its own:

> If I moved even an inch closer in her direction, we would do this. No question in my mind. And if I did kiss her, if we slept together, maybe I'd feel guilty and regret it, or maybe I'd realize that she could make me happy. Some version of me certainly kissed her in this moment. Some version knows the answer. But it won't be me." (223)

He makes decisions outside of the choice itself, and thus frame-sensitivity has become his modus operandi. Even if handled amicably, the rejection drives a wedge into their relationship. Jason's descriptions in the notebooks are not getting any better. After another ellipsis of four Chicagos, the narrative stops at the one where their roads part. After a serious discussion of the destructive habits Jason has adopted in their quest (an example follows after the next excerpt), Amanda leaves him during the night. She leaves a letter behind her:

> As your friend, as a therapist, I want to help you. I want to fix you. But I can't. And I can't keep watching you fall down. Especially if I'm part of the reason you keep falling down. To what extent is our collective subconscious driving our connections to these worlds? It's not that I don't want you to get back to your wife. I want nothing more. But we've been together now for weeks. It's hard not to get attached, especially under these circumstances, when you're all I have. I read your notebooks yesterday […] and

honey, you're missing the point. You're writing down all these things about your Chicago, but not what you feel. (236)

They have, so far, been lost in the multiverse together. Amanda has helped Jason understand his choices throughout the journey by reflecting on the core beliefs that Jason and Jason2 share. Now she leaves him with the final snippet of wisdom: He should write what he feels. However, for reasons not explained in the novel, he is not ready to either understand or obey, or both, this advice, but resists it. The rest of the reason construction focuses on Jason slowly and through trial and error understanding what Amanda means. The letter hinges the Together and Alone parts of the Door to Door scene together. Jason's task, alone, is to come to an understanding of what Amanda's accurate advice in practice means.

The first event of the Alone part takes place right before the letter and Amanda leaving him. This is because in this scene Jason has already abandoned his union with Amanda, choosing to act on his own. In the Chicago where Jason resides at the diegetic present where Amanda leaves him, Daniela works as a graphic designer, and they are expecting their second child. Jason spends a full day sitting on a bench outside his brownstone, watching another Jason leave for work and another Daniela starting to work in their study. He feels disoriented, forlorn, and at the edge of his emotional tolerance. However, the exhaustion brings him back to the revelation he had at The Maze scene—the revelation that shakes the ground below his framing effect:

> Sitting here, I realize I've always looked at Charlie's birth and my choice to make a life with Daniela as the threshold event that caused the trajectory of our lives to swing away from success in our careers. But that's an oversimplification. (225)

His thought-pattern here is a reason constructed across the frames rather than specific to either. At this point, Jason has witnessed numerous version of his family and his career in various stages of happiness, and holding on to the dichotomy between him and Jason2, or family and career, would be short-sighted:

> Yes, Jason2 walked away from Daniela and Charlie and subsequently had the breakthrough. But there are a million Jasons who walked away and didn't invent the box. Worlds where I left Daniela and our careers still amounted to nothing. Or where I left and we both found moderate levels of success, but failed to set the world on fire. And inversely, there are worlds where I stayed and we had Charlie, which branched into less-than-perfect timelines. Where our relationship deteriorated. Where I decided to leave our marriage. Or Daniela did. Or we struggled and suffered along in a loveless and broken state, toughing it out for the sake of our son. (225—226)

He understands two things. Firstly, that the variation that the above excerpt exhibits shows that the magic of loss that came from something being taken from him is lost—it was not that one fateful decision fifteen years ago but all the decisions after that until the present moment. There was not one path not taken but a myriad of crossroads leading to myriads of paths not taken. That makes his specific world both unimportant and pivotal in importance. Secondly, his life could have gone so many ways, but for him, it went in this specific way. The story itself, the past itself, becomes a value that honors his consistency in creating a life with his family. He is disillusioned from the non-factual propositions that

upheld the dichotomy and kept him longing after the potential he had already rejected. Both sets of reasons are laid out and the attention is drawn to how the story constructs Jason's juxtaposition of those reasons in preparation for the final step that shows his solution that results from the juxtaposition.

Juxtaposition is the final stage of frame-sensitive reasoning. According to Bermúdez, "[t]o get to this point the frame-sensitive reasoner has been able to follow a fairly well-defined procedure, exploiting the techniques" of frame-sensitive reasoning (2021: 278). It does not guarantee a result of a choice between two actions, nor does it guarantee that committing an action *as* a choice would resolve the quasi-cyclical preferences. Indeed, "there is no guarantee that frame-sensitive reasoning will be so well-behaved" as to "rank-order available actions by their expected utility" (Bermúdez 2021: 273). "Sometimes the frame-sensitive reasoner will end up with a clear winner, but at other times not" (ibid). However, it can already be seen that for Jason, the ongoing second round of the process of juxtaposition is likely to be fruitful, and a solution is in sight.

His reason construction ended in a refined version of the preferences that the reason construction fifteen years ago displayed. Back then, he chose between the memories he wanted to make by prioritizing the Family frame and the impact he wanted to make by prioritizing the Career frame. In the present reason construction phase, the remnants of this juxtaposition are saturated by the life lived after it. This means the happiness created by each frame during the fifteen years. His reason construction in (and through) the multiverse showed that the Career frame can lead to satisfaction and happiness if reaching the full potential of one's ambitions is a lasting source of happiness. Jason2 had all the financial, societal, and competence-based opportunities to do that, but his framing effect resolved into swapping the frames. It also showed that creating a story with loved ones leads to happiness if reaching the full potential of one's affection was a lasting source of happiness for Jason, who stepped outside of the Family frame, allowed himself to be emotionally involved in the simulation of the competing frame, and then reasoned across them. The process has shown him the magnitude of what he lost in prioritizing the Family frame, but more importantly, it has shown him the abundant value he gained. For both Jasons, the reason construction performed at the approximately fifteen years milestone (for Jason2, it was a year or so sooner) seems to break the quasi-cyclical pattern. Jason juxtaposes his and Jason2's world, and reasons across the values and emotions that define those frames:

> If I represent the pinnacle of family success for all the Jason Dessens, Jason2 represents the professional and creative apex. We're opposite poles of the same man, and I suppose it isn't a coincidence that Jason2 sought out my life from the infinite possibilities available. Though he'd experienced complete professional success, total fulfillment as a family man was as foreign to him as his life was for me. (227)

When juxtaposed, both frames are successes. Yet, it was not down to any one decision but a chain of millions of small decisions that made him *the pinnacle of family success* and Jason2 into *the professional and creative apex*. Upon uttering this juxtaposition, Jason has understood the power that the false binary opposition

held over him. The hauntological alternative life that the frame of Career presented for him was not false as such, but its flawlessness was. The flawlessness sprung from a simplistic thinking that he has now shaken. He pronounces the conclusion which culminates the frame-sensitive reasoning process: "It all points to the fact that my identity isn't binary. It's multifaceted." (227). There is no one *inherent* success.

He gains clarity. The path not taken is not a concrete, single, lost opportunity anymore; the dichotomy has no momentum because no one thing was taken away from him. It is much more complicated. He is himself because of the choices he made in a series of cross-roads forming a rhizome of paths not taken *because* that is his true identity—this multiplicity and this inconsistency. His "uncertain perspective" (3) was unfairly judged by him, as the requirement for consistency was based on an illusion. His uncertain perspective is not uncertain anymore, because the dichotomy that made it uncertain does not exist anymore:

> And maybe I can let go of the sting and resentment of the path not taken, because the path not taken isn't just the inverse of who I am. It's an infinitely branching system that represents all the permutations of my life between the extremes of me and Jason2. (227)

This is the moment when the framing effect is broken, and along with that his quasi-cyclical pattern of preferences. The "sting and resentment" that he felt as a sense of being not aligned with his environment no longer passivates him. It results in the conclusion that he, quite frankly, does not have an option anymore. The frame of Career has no other possibility than to dissolve. Free from the gnawing grip of entertaining inconsistent likings anymore, the exceptionality of his former life overcomes him.

He sits on the bench outside his brownstone and cannot make himself get up. "What a miracle it is to have people to come home to everyday. To be loved. To be expected." (230) He acknowledges having respected his life in the past, too, but "sitting here in the cold, I know I took it all for granted. And how could I not? Until everything topples, we have no idea what we actually have, how precariously and perfectly it all hangs together" (230). The realization brings no joy. The abstract, primal loss he felt is suddenly expanded to his whole being. He understands the strength of his devotion to his family and the profound role they have for his happiness. This makes his family feel more far away than they have ever been.

Jason is at the end of the processes of frame-sensitive reasoning. He has completed all the techniques rationally and has broken the quasi-cyclical pattern. Yet he is not happy; consistency did not directly lead to an elevated state. This does not mean that he would have failed. Frame-sensitive reasoning is process-oriented rather than product-oriented. Therefore, "lack of success does not necessarily show lack of rationality" and "it is perfectly rational to embark upon this type of dialog (whether internal or external), even though there is no guarantee of success" (Bermúdez 2021: 281). "Lack of success" refers to the task of breaking the quasi-cyclical pattern, so reaching uncontested consistency is the

goal of this process, and even embarking on the process is beneficial. Bermúdez argues: "How can it be more rational to persist in deadlock than to embark upon dialog?" (2021: 281). Agreeing with the negative implied by the rhetorical question, it can be argued that also Jason's reasoning process was, already, worth having. He is now fully, consistently appreciative of what he had, and understands both of the competing sides of his framing effect in more depth than he ever could have before (say, in the first chapter). Jason is forlorn in the now of his story, but his capacity to enjoy his family, and consequently the choices he has made, has increased.

What remains to be clarified in the analysis is the solution he arrives at. This involves the diegetic, technical solution to get to his family, and the steps after "the processes and techniques of frame-sensitive reasoning have effectively moved beyond discursive deadlock" (Bermúdez 2021: 179). The fifth and final subsection of this analysis discusses the solution Jason arrives at after having broken his discursive deadlock.

4.1.5 Solution: Choice

Amanda has left and Jason returns to stalk the Daniela and Jason of this world. He wastes days trying to live in the shadow of the miracle he now realizes his family is. The breaking of the framing effect did not automatically bring joy and bliss, but made him reach rock-bottom by revealing the extent of his loss. He imagines killing another Jason and taking his place:

> I see myself trying to be him. Trying to accept this version of Daniela as my wife. This Charlie as my son. Would this house ever feel like mine? Could I sleep at night? Could I ever look Daniela in the eyes and not think about the fear in her husband's face two seconds before I took his life? No. No. Clarity comes crashing—painful, shameful, but in the exact moment when it's so desperately needed […] This would never feel like my world […] I shouldn't be here. (241)

This reveals a decisive difference between him and Jason2. Jason is not morally corrupt in the way Jason2 is—he does not want to take someone else's place. Accepting another Daniela and another Charlie as his family would be just another variation of being out of alignment in his space, his life. In that moment, his relationship with his space is inverted. He assumes command and becomes an agent of his space. He rejects the space he is in now, realizing that it is he who cannot be in alignment with it.

Finally, the door to Jason's native Chicago opens when he takes Amanda's advice. He writes in his notebook about the day he met Daniela, how he felt watching her, how he felt about their connection, and most importantly, when opening the door, he has at the forefront of his mind this specific version of Daniela who is specific for the life they built and share:

> There is nothing else I want. Just my Daniela. I want her in a way I can't explain […] The one I chose to make a life with, even though it meant giving up some other things I love. I want her. Nothing more. (245—246)

Jason's story in the forking paths narrative started as a dichotomy of two worlds, expanded into an endlessly expanding web of worlds, and finally, subtracted into one world in synchrony with the process of his competing, then decomposed, and finally focused, consistent preferences. The world he describes is the specific, unique spatial reference point (Zoran 1984: 326) that only a Jason with this history can have; a Jason who has been abducted from his world, re-framed his perspective, and thus expanded his field of vision into his world as a unique instance in an ocean of almost similar worlds. Through this intention, he arrives in his own Chicago. It is confirmed by the abandoned ampoule right at the entrance to the box at the power plant, and a look into his house:

> I keep expecting to discover that some minor detail is off—the wrong front door, the wrong street number, a piece of furniture on the stoop I don't recognize. But the door is right. The street number is right. There's even a tesseract chandelier hanging above the dinner table in the front room, and I'm close enough to see the large photograph on the mantel—Daniela, Charlie, and me at Inspiration point in Yellowstone natural park. (248)

He is at home, in the world where his sacrifice was recognized (chandelier) and in the world that made him feel extremely important and incomprehensively small at the same time (mantelpiece). He has reached his destination by employing his skills as a researcher and his passion as a father and a husband, thus leveraging on both frames. He reached a solution concerning his psychological commitment to his decision—which is all the framing effect really was for him—after juxtaposing the reasons yielded by the competing frames. As was in the nature of the frames, the juxtaposition between them was competitive, and thus "one set of values and reasons" won out when "the reasons from one frame [...] outrank[ed] the reasons from another" and Jason "succeeded in eliminating the clash of frames" (Bermúdez 2021: 278). He has defined what in this world is exceptional and unique for him, and why he wants to be there. He is ready to be in alignment with the space he occupies. Hence, he is now free to "apply standard decision-making tools" (Bermúdez 2021: 279). Standard decision-making tools, in this case, means the go-to strategy of utility maximization. That option, without a question, is to restore his life with Daniela and Charlie.

Unfortunately, he is not alone in this. To his astonishment, this Chicago is already littered with other Jasons. Every time he has chosen among alternatives in the worlds he visited, another strand of universe has forked from his world, producing a Jason that made the choice he, in that moment, did not. Yet, all these Jasons (it is never told that it is *all the Jasons* but that a considerable number and hence the whopping majority at least) choose to combat their way back to Daniela and Charlie. The massive group of competing Jasons changes Jason's plans. He cannot just step back into the shoes of Jason2, as was his original plan.

The final rush of the thriller is a battle between the Jasons who try to outwit each other in getting to Daniela unnoticed by the other Jasons. Protagonist-Jason succeeds in this in a manner I soon explain briefly. The solution that his dissolved framing effect leads to takes place several days after the family is reunited. These two elements are the final points of focus of the analysis.

163

The novel, until now, has been about Jason's needs and wishes; about which of the extremely successful worlds he wants to be in. Now that he has gained clarity on that, the tables turn—the question is now whether he has the right to be with his family at all. Jason has a talk with one of the other Jasons at the bar, where they consider the complexity of identity:

> "We call him Jason2," I say, "which implies that we think of ourselves as Jason1. As the original. But we can't both be Jason1. And there are others out there who think *they're* the original."
> "None of us are."
> "No. We're pieces of a composite."
> "Facets," he says. "Some very close to being the same man, like I assume you and I are. Some worlds apart. (270−271)

The mood in the scene is grim, exhausted, and heavy with both the Jasons weary of being ambushed by other Jasons, tired from their trip through the universe, and emotionally drained from being separated from their family that they so badly want to return to. "None of us are" echoes back to Daniela2's art show, and the quote from Mark Twain's novel: "And you—you are not you […] you are but a thought" (85), making the abstract concrete—each Jason is a result of a mere thought, a doubt or a speculation that another, preceding Jason had: "Everything that can happen will happen" (123). This argument also extrapolates on Jason's realization that his identity is not binary. He is, in a way, all these *facets* of the *composite* that is Jason. All these Jasons have spent exactly as much time, and exactly the same time, with Daniela and Charlie as the facet the novel identifies as the protagonist-Jason. They realize that no one Jason is clearly in the right to live with this one version of their family again.

Nevertheless, Jason proceeds to act. He has proven to be honorable and righteous along the novel when he has done the right thing even though it often has meant denying himself something he would have wanted or needed at the moment. Therefore, Jason's action as his final task is to make sure that his family learns the truth and that they will be safe and happy with whichever Jason they end up with. Of course, he hopes to be that person. Therefore, he wants to test if it is he, out of all the Jasons, who can be uniquely important for his family, in the same way as they are for him. After the talk with another Jason at the bar, Jason has an idea and manages to find a way to get to Daniela and Charlie. Jason's strategy is *randomness*. When all the Jasons can guess his thoughts, the solution is to do something unthinkable.

Shortly after the meeting discussed above, the other Jason leaves and protagonist-Jason is alone. He, and no other Jason, witnesses a drunken man being dragged away from a bar by police officers and taken to the police station. Jason decides that meeting Daniela at the guarded police station is his best bet. Jason then deliberately misbehaves at an all-night diner, smoking and acting drunkenly—something he would normally never do. He is taken to the police station by an officer after he refuses to leave on his own. He calls Daniela, who arrives at the station to pick him up. He explains everything to her, but she understandably finds his story difficult to believe. After all, this malnourished, shabby Jason looks nothing like the groomed Jason she, first of all, knows, and

second, sent off to work less than an hour ago. To prove his words true, Jason dials his office number on Daniela's phone and asks her to call Jason2. Jason2 answers: "Hi, beautiful. I was just thinking about you" (286) and "Daniela's mouth opens slowly. She looks ill. (286) After a short back-and-forth of pleasantries that Daniela manages to perform, Jason mutes the phone for a while to guide Daniela:

> "Tell him you've been thinking, that since we had such an amazing time in the Keys last Christmas, you want to go back."
> "We didn't go to the Keys last Christmas."
> "I know that, but he doesn't. I want to prove to you he's not the man you think he is." (287)

Daniela obeys, and Jason2 answers "Absolutely. Whatever you want, my love" (287). This convinces Daniela, even if she is bewildered. They collect Charlie from school and start their escape journey to the North—another random choice. They have no plan, and they need time. Jason is wrestling with his need to get Daniela and Charlie somewhere safe, hidden from Jasons broken enough to harm them, and his need to be with his family. After all, his very presence with them is what would lure the vengeful Jasons to their family. He struggles to fit both of these needs into one plan.

They spend a night in a cabin in Wisconsin and talk things over. Daniela explains how life was with Jason2:

> "To be honest, it was amazing at first. The reason I remember that night you went to Ryan's party so vividly is because of how you—*he*—acted when you got home [...] It was like I was something, not that you wanted, but that you needed. Like I was your oxygen. (305)

Jason is hurt and insecure. He asks, do you want this other Jason?" to which Daniela responds "No. I want the man I've made a life with. The man I made Charlie with. But I need to know you're that man." (305) This defines the criteria for succeeding in the task Jason has already embarked on, which is how to make himself unique for the life that he knows is the one he, uniquely, wants. He proceeds by acting according to the rules their marriage is founded on (unlike he did with the rules of Velocity Laboratories, even though the rules are almost identical): "our marriage isn't built on keeping secrets. We talk about everything. The hardest things. It's embedded in our identity as a couple." (314) Jason talks about his night with Daniela2, and they resolve the issue. Yet, what they cannot resolve is why this Jason would be the one who needs to be with his family; the other Jasons bombard Daniela's phone until they shut it down, and Daniela cannot help but feel sorry for them: "You're right here in front of me, and I love you so much, but then I think about all those other versions of you, and [...] I don't know how to think or feel about this. And then I wonder [...] How do I know you're *my* Jason?" (303). They resolve that the problem is far too enormous to tackle at once, and instead decide to spend a day at the town, going to a movie, eating out. Toward the end of the evening, Charlie points out to his mother that it "[h]asn't felt like this in the last month, has it?" (316). Daniela agrees. Jason and Daniela reconnect, and the family reconnects. Later that night, when Jason and

Daniela are lying naked in the master bedroom of the cabin, Daniela returns to their earlier conversation:

> "Charlie was right […] What he said on the walk home. It *hasn't* been like this since Jason2 came here. You aren't replaceable […] I don't want some other version of you. I want you." (318−319)

This confirms Jason as unique to his chosen frame as his chosen frame is for him. After this, things resolve quickly until the final solution. The other Jasons find their way to the cabin. Most importantly, Jason2 reaches them, too. The final confrontation takes place between the protagonist-Jason and antagonist-Jason, and in the middle of that confrontation they revisit the framing effect that forked the paths between them. Jason2 accuses Jason of wasting an opportunity:

> "You weren't born to teach undergrad physics. To watch people like Ryan Holder win the acclaim that should've been yours. There is *nothing* you can't do. I know, because I've done it all […] I handed you, handed both of us, what everyone secretly wants. The chance to live two lives. Our best two lives." (326)

In Jason2's reasoning, Jason would not have ultimately wanted the life with his family, but the road not taken. But he is wrong. Even though Jason's framing effect persisted for fifteen years, it was because of insufficient addressing of the issue; now that he has had a chance to swap to the road not taken, he has rationally chosen not to engage in it. By making Jason go through the inverted loss and gain of his competing frame, Jason2, in fact, has helped Jason to break his quasi-cyclical pattern and finally come to an informed, uncontested resolve. Jason's frame-sensitive reasoning ended in "[t]he ideal endpoint" where "one reason wins out" (Bermúdez 2021: 273).

The cabin is soon infested with Jasons, and a bloody fight ensues. Jason2 threatens to kill Jason, but Jason manages to stab Jason2 in self-defense. At his dying breath, Jason2 tells Jason to check the glove box of his car. Jason, Daniela, and Charlie flee into Jason2's car, find the glove box stashed with Ryan Holder's serum, and drive back to Chicago and into the Box. The final scene, Blank Canvas, ties up the loose threads of the framing related development points of Jason's character.

The family have made up their minds to flee into another world together. Instead of Jason, Charlie will open the door. Charlie is terrified at the prospect. Jason calms him down: "Even though you'll be opening the door, the path to this next world is actually one we're creating together. The three of us." (339). It is diegetically essential that Charlie would open the door so that the other Jasons could not follow them, but the advice Jason gives to Charlie is evidence and a direct result of his vanished framing effect. Charlie was essentially the choice Jason made 15 years ago. Now, when they open the door to their new world as a family led by Charlie, they make their choice of the past make the choice in the present. This ties up multiple loose ends and recontextualizes some imagery from earlier parts of the novel, creating new meanings.

Firstly, in this moment, Jason has more to give than the "crumbs of [his] uncertain perspective" (4). He is "not afraid at all" but "filled with a childlike excitement to see what comes next" (339), and, in fact, he is a father who knows

just what to say: "The box isn't all that different from life. If you go in with fear, fear is what you'll find" (339). When Charlie feels nervous, saying "I don't even know where to start" (339), Jason can relativize that in a context familiar for his son: "It's a blank canvas" (339). Blank canvas alludes back to the whiteness of Daniela2's maze before the looping imagery (83, see 4.1.3) and the gloom awakened by the yawning open space during Jason's walk in the autumn night (10, see 4.1.2); a freedom and weightlessness of "no choices made" and "no paths committed to" (10). The world they step into, as a confirmation of their choice as a consequence of their choice, is "warmth and light. A wind through the door carries the scent of wet earth and unknown flowers. A world just after a storm" (340). Perhaps the sensations of wetness and flowers allude to the words of T. S. Eliot's *Burnt Norton* (1936) that follow the excerpt shown at the beginning of the novel (the last line in the excerpt below):

> Footfalls echo in the memory
> Down the passage which we did not take
> Toward the door we never opened
> Into the rose-garden

The rose-garden can be interpreted as the "one end which is always present" named in the beginning of the same section of the poem; the imaginary state of happiness where all the lacks and needs of reality and the present would be fulfilled. Or perhaps the description is not that different from the first blank canvas Charlie was filling on their family night—"a mountain range that looks like something on another planet" (1). Either way, the ending takes them back to the beginning, and to the warm mood of the family night. The decisional circle closes as the result of acknowledging and resolving the quasi-cyclical preferences.

4.2   The Post-Birthday World

Strategically, *The Post-Birthday World* is all about motivating indifference. Irina's dilemma concerns a matter where both options matter incredibly much, albeit equally so. It is clear already at the beginning of the analysis that Irina will not find a solution that would resolve the framing effect. Therefore, the story is a highly interesting one to study from the point of view of inconsistent preferences and rationality. Even if no single best solution is found, Irina does take all the steps of the model and reaches a solution—a solution that there is no right choice to make. In this section, I focus on the numerous literary devices through which this decision-making process is constructed in the novel.

As in the previous section, the analysis is divided into five subsections according to the steps of the frame-sensitive reasoning model (see 3.3). The next table (7) summarizes the distribution between the scenes in the novel, narratological frameworks, and the steps of the model:

TABLE 7   Summary of the analysis of *The Post-Birthday World*

Step	Tool	Scene(s)	Result
One: Reflexive decentering	Narrator's voice	1. Memories of Ramsey 2. Memories of Lawrence 3. Birthday Dinner 4. At the Snooker Table	Naming the frames
Two: Imaginative simulation	Characterization	5. Dinner with Irina's Mother 6. Pronouncing Snooker 7. Mingling at a Party	Constructing the dichotomy of the frames
Three: Perspectival flexibility	Fiction within fiction	8. Picture Books a) Frame and Match b) Ivan and the Terribles	Observing the dichotomy of the frames
Four: Reason construction and juxtaposition	Metaphor	9. Conceptions of Snooker a) Lawrence b) Ramsey c) Irina 10. Irina at home a) New Home b) Old Home c) Kitchen d) Bedroom e) Perfect coffee	Understanding the values and emotions that the two frames and their conflict is based on
Five: Solution	Closure	11. Post-Burial Coffee	Reaching positive indifference

I examine these eleven scenes, divided into the five steps of the frame-sensitive reasoning model, to explore in what ways analyzing literature in rational-choice terms can rely on details rather than exclusively plot; how is a decision-making process constructed in *The Post-Birthday World* that, unlike in *Dark Matter*, does not resolve the protagonist's framing effect? Apart from the scenes studied in the first step (scenes 1—4) and the final step (scene 11), the order in which the scenes are presented here does not follow the course of the plot as effortlessly as in *Dark Matter*, which already suggests that the ways of constructing the decision-making process are more abstract. To provide a clear idea of the diegesis, however, I offer a fairly detailed synopsis in the beginning of the second step (in 4.2.2).

4.2.1   Reflexive decentering: Frames

This subsection targets *The Post-Birthday World*'s opening chapter, which takes place in a still-intact world with only one Irina; the literary world before its

forking. I refer to it as the *pre-birthday world*[110]. The story opens with: "What began as coincidence had crystallized into tradition: on the sixth of July, they would have dinner with Ramsey Acton on his birthday" (1). The opening sentence summarizes the chapter: The chapter offers an explanation of the initial coincidence that led to the tradition and the exceptional conditions of the birthday about to take place in the diegetic present, and culminates in the birthday that acts as a watershed between Irina's pre- and post-birthday lives. These two possible versions of her life extrapolate from her choice of whether to kiss Ramsey Acton on the birthday.

The two framings of the kiss are the focus of this subsection, which inspects the narrator's voice in the framework of the first step of frame-sensitive reasoning model, reflexive decentering. Reflexive decentering involves the "frame-sensitive reasoner confronted with a sufficiently complex and multifaceted decision problem", who starts the frame-sensitive reasoning process "by stepping outside *their own framing* of an action or outcome in order to reflect upon the frame itself" (Bermúdez 2021: 252, my emphasis). Irina's own framing is, simply, that she is happy in her union with Lawrence. They are a stable item to the extent of the role being a burden sometimes. In this framing, the kiss that is introduced should not be even an issue; there is no need to kiss another man. But this is not the whole truth. During the opening chapter, Irina starts to pay attention to aspects that she feels conflicted about in her relationship with Lawrence. These observations accumulate, and by the end of the chapter she becomes aware of a need to challenge the happiness she has with Lawrence.

The kiss gets two conflicted, equally true, framings that she cannot choose between. Interpreting the pre-birthday world through the frame-sensitive reasoning model's step of reflexive decentering means tracking Irina's slowly growing awareness of the conflict in her preferences, starting from a state in which the kiss was unthinkable and ending in a state where it is urgently necessary. When tracking this progress, I focus simultaneously on two elements: The chronological and the narratorial. I investigate the role of the past in Irina's depiction of her life at present. The discrepancy between the past and the present helps identify the hopes, wishes, and needs that are divided between the forking paths. At the same time, I focus on the reliability of the narrator when addressing the discrepancy. The more aware Irina becomes of the happiness of the past and the routine existence of the now, the more aware she becomes of her preferences (needs, hopes, and wishes) that are not met. The gradual process of realization is uneasy for her.

Resulting from this unease, the narrator's voice is unreliable; it uses various techniques to conceal or mitigate Irina's arising needs, but in so doing actually signposts them and emphasizes their importance. Moving along the diegesis, I collect the events into four scenes in which the past and the present, and the uncomfortable but unavoidable aspects of her happiness, are communicated through analepses of various lengths and the distancing techniques of an unreliable narrator.

---

[110] This is done in the novel once, too, by the protagonist, and marked in cursive (168).

The first scene, Memories of Ramsey, tells from Irina's perspective the past and present of their relationship. During the scene, Irina lists her recollections of the four consecutive birthdays that the group of main characters—Irina, Lawrence, and Ramsey—have spent together. This analepsis reaches back to and extends over the course of the last nearly five years, as of 7 July 1992 to the diegetic present of 5 July 1997, stopping on each birthday. While the summary of birthdays describes the relationships between the group of main characters in general, it focuses on Irina's memories and impressions of Ramsey Acton in specific. Ramsey and Irina met for the first time when Ramsey was introduced to Irina as her friend's husband. Despite Ramsey's married status, Irina "met the tall man's gray-blue eyes with a jolt, a tiny touching of live wires that she subsequently interpreted as visual recognition, and later—much later—as recognition of another kind" (2). He is a snooker celebrity, and even though Irina emphasizes the time-gap between the two recognitions, the rest of the scene makes it clear that an initial interest in better recognition was instantaneous.

At first Irina and Ramsey have little to talk about, but Irina pays attention to *how* Ramsey speaks. Having dropped out of school at a young age, Ramsey is awkward around topics like politics (which is Lawrence's profession). Ramsey's social awkwardness is further amplified by his literary dialect that no one in the novel shares. The dialect is a construction based on Cockney English and diegetically located in South London, like its real-life counterpart. During their first meeting, Irina reports confusedly that Ramsey "had a way of looking at Irina and only Irina that no one had employed in a long time" (3). Ramsey's speech is focused on in the next step, so here the example serves to argue for the immediacy of Irina's attention to the nuances of Ramsey's speech. Despite feeling uneasy due to his intense gaze, the care with which the auditory experience of Ramsey's dialect is created implies that she listened to it rather carefully:

> Them pictures was top drawer, love. I were well impressed."
> (That was, *wew* impressed. Especially since his voice was soft, the thick South London accent took some getting used to) (3).

The excessive detail of her memory from four years back (*them pictures was*; *I were*; *wew*; soft voice; thickness of the accent) shows that she was focused on listening to Ramsey. Indeed, Irina finds herself consumed in his presence in a way she does not or cannot specify, and she is "relieved when the evening was over" (3). The tension and unease remains next year, when Irina and Lawrence prepare an intricate array of sushi-sashimi platters, mindful that Ramsey took care of the bill the last time. The catering leaves Ramsey blushed and flabbergasted, embarrassing Irina in response. The next year (the year previous from the diegetic present), Ramsey and his wife have divorced. The change in the harmony would be a chance to drop the friendship, but Lawrence wants to keep the snooker celebrity within his circle. Irina and Lawrence host a dinner at their home, again, and invite Ramsey over. Irina cooks what she describes as an old standby: "[A]n indifferent cut of venison in red-wine sauce with shiitake-mushrooms and juniper berries" (8). Having prepared an identical meal several times, she chooses to "add one note of novelty" by wearing a form-flattering

dress she had not worn before on these birthdays. She reports feeling abashed again when subjected to Ramsey's intense gaze: "[I]t was not the venison Ramsey kept staring at all night" (8). Lawrence pays no attention to either Irina's choice of clothing or the fact that Ramsey does. Reportedly thankful for that, Irina derides herself for bad judgement: "She'd no idea what had got into her, swanning around in such provocative gear before a man fresh from divorce" (9), signaling that the reaction she aroused in Ramsey was beyond her imagination.

The description of Irina's motivations comes across as unreliable. The impression is created by the sudden bashfulness that seems unwarranted: Ramsey's way of "looking at Irina and only Irina" (6) was an observation made by Irina, and being looked at like that again should not reasonably be met with such surprise. This inconsistency creates the impression that the narrator underreports Irina's true intentions. Indeed, she chose to decorate the meal by decorating herself; making the meal seem more special by making herself seem more special reveals that she understood that she would be looked at by Ramsey. Yet the narrator feigns innocence, misreporting Irina's expectations.

Misreporting the expectations and underreporting her intentions reveals that the narrator's position to the narrative is not neutral. Not being neutral could happen through cooperation with the narratee (i.e. the critic-reader), when the *discordant* narrator (see Cohn 2000) would be in favor of revealing the truth. By revealing the narrative's inconsistencies, the truth would be "silently signaled to the reader behind the narrator's back" (Cohn 2000: 307). The narrator of *The Post-Birthday World* does not seem to team up with the reader as much as she sides with the protagonist. Explicated through Jacke's three-fold typology of the narrator's unreliability (2018: 3−28, introduced in 3.6.1), the position does seem to purposefully, albeit not malignantly, misguide the reader: The narrator's unreliability is protective in *nature*, grounded in the *premise* of personal interest, to the *effect* of airbrushing the image of Irina. Therefore, when Irina claims that she *had no idea what had got into her, swanning around in such provocative gear*, she is unwilling to admit her need to be seen, and the narrator supports her in this pursuit.

The fact that Irina explains herself out of this situation by feigning more innocence than she might have been subject to reveals for the first time that part of her decision problem to come—the kiss—is that she is not fully aware of her preferences, or perhaps more accurately, that she is unwilling to admit the existence of some of them in the first place. The effect of unreliability is rooted in the structural relationship between the protagonist and the narrator. It has been shown already that the narrator, while covert when Irina speaks, can jump in as an overt narrator, expressing knowledge beyond that available to the protagonist. For example, the "jolt of recognition" (2) mentioned above was re-contextualized as (implied) romantic recognition that the protagonist is not yet aware of happening. Yet the narrative is focalized through Irina, and the narrator does not have access to any other character's mind. The narrator knows Irina's mind and feelings at the moment when they unravel in the diegesis, but also what is to come in the far future. Therefore, the narrator can be categorized as homodiegetic

and extradiegetic (see Genette 1980: 248); as a character in the narrative but outside the scope of its events. Protagonist-Irina is positioned in the diegetic present, living through the events, and Narrator-Irina is in the diegetic future, looking back at the events she has already lived through.

Such narrator position is typically met in autobiographical writing (which coincides with the stylistic label of *apology* equipped to the novel). The position is dubbed *omnipresent speculative discourse* by Genette, and it is defined by the dynamic of knowledge-production in the narrative (1980: 251−253). In omnipresent speculative discourse, the voices of the protagonist and the narrator are, despite their overlap, "never completely merged", because "the voice of error and tribulation could not be identified with the voice of understanding and wisdom" (Genette 1980: 253). It is worth pointing out that Genette does not refer to unreliability in his characterization of the position, but that in *The Post-Birthday World* the position is used to mis- and underrepresent information in hindsight. However, neither is omnipresent speculation classically objective, as it "requires the experience of the hero to merge with the past of the narrator (…) where the voice—of hero, narrator (…) may mingle and blend" (Genette 1980: 251). This mingling and blending of the voices manifests as comments that sometimes take the form of hints concerning future events (as in the instance of the *jolt*) and sometimes with more didactic content such as aphorisms (examples of which I provide in upcoming subsections).

As a result, Narrator-Irina can manipulate the interpretation of the diegetic present. The narrator knows when Protagonist-Irina is about to make a mistake. In this dynamic, Narrator-Irina has the chance to airbrush some of the mistakes made on the way. Indeed, in omnipresent speculative discourse, the "narrator does not simply know more, empirically, than the hero; he knows in the absolute sense, he understands the Truth[111]" (Genette 1980: 253). The hero/protagonist offers a set of raw data and the narrator offers its interpretation and wisdom of hindsight. From this premise, it is easy to understand why the narrator would be dishonest in the way demonstrated above (such as downplaying Irina's need to be seen by Ramsey and the simultaneous intention to provoke his gaze), manipulating the interpretation: The truth is inconvenient, and hence Narrator-Irina is defensive of her past self.

This is the primary conclusion to draw from the first scene. The narrator's unreliability is an important source of information in the analysis of Irina's framing effect and, at present, the development of her reflexive decentering process. Overemphasizing Protagonist-Irina's innocence in testing her attraction, the narrator actually supports the impression that this innocence is at risk. The Memories of Ramsey scene closes with having characterized Ramsey as a temptation that Irina is unwilling to admit she is tempted by.

At an interlude between the analepses (or the first two scenes), Irina describes the state of affairs in the diegetic present. She declares ominously: "It was July again. But this year was different" (9). This year, on Ramsey's birthday

---

[111] Genette speaks here of a style typical for religious, autobiographical texts in general, and St. Augustine's (AD 354−430) *Confessions* (I−XIII, AD 397−400) in particular.

taking place in July, Lawrence is at a conflict studies conference in Sarajevo and Irina is left alone to deal with the social obligations. With the history of awkward silence that "had come to describe their interaction" (7), the very idea of spending a dinner alone with Ramsey makes her feel claustrophobic. Lawrence calls from the conference, reminding her about Ramsey's birthday, and Irina promised to ring Ramsey, but has not held on to her word. Indeed, she keeps putting off the phone call until it is the day before the birthday, when she decides to refrain from doing it altogether. Upon the decision to not act, "a flood of relief was followed by a trickle of sorrow" (11). This description captures rather aptly the curious, intense ambivalence that dominates Irina's decision-making process: She is indifferent between two options that are both heavily charged.

To her surprise, on the same day that she decided not to act, the phone rings late in the evening. Due to the hour, she expects the caller to be Lawrence (this is the mid-nineties; the lexicon *phone* refers to a landline). She speaks the opening greetings in Russian that is their private language. The line responds with silence and confused stammering, and the caller is revealed to be Ramsey.

After an awkward beginning, the call takes an intense turn. At first, they struggle to find a rhythm in their speech: "The rhythm of Ramsey's phone speech was syncopated, so that when Irina began to soldier on, they were both talking at once. They both stopped. Then she said, "What did you say?" at the same time he said, "Sorry?" (12). Irina wonders "if a mere phone call was this excruciating, how would they ever manage dinner?" (12). She tries to excuse her part in the inarticulate discussion: "I'm not used to your voice on the phone (…) It sounds as if you're ringing from the North Pole" (12). Suddenly, the mood changes, and uneasiness evolves into intensity:

> "… Your voice is wonderful," he said. "So low. Especially when you talk Russian. Why don't you say something." *Summat*. "In Russian. Whatever you fancy. It don't matter what it means." (12)

The italicized repetition of the word *summat* that invites to pay attention to Ramsey's accent reveals that Irina, too, pays attention to the way he speaks. To her, Ramsey's request to "say something" alludes to "what Lawrence called *wank-phone*" (12). Her interpretation of the situation is mixed with her anticipation of what Lawrence's interpretation might be, showing that she has more than one schematic model of interpreting meanings: Hers and Lawrence's. Yet she obeys. Knowing that Ramsey would not speak Russian, she says: "*Kogda mi vami razgovariyem, mne kazhetsya shto ya golaya*," binding her breasts with her free arm (12). The translation is not conveyed to the reader (although it will be later) or to Ramsey, who contends in chuckling "Mm. I sense you're having a laugh" (12). They end the call in agreeing that Ramsey should pick Irina up at eight the next evening.

After the phone call, Protagonist-Irina's voice disappears for a while. The narrator does not make overt comments to announce entering her turn of speech, but rather, the abrupt shift in the mood creates the impression of a shift in speaker. When the phone call ends with "I was hoping you might see it that way. I'll call by at eight" (13), the Memories of Lawrence scene starts right away. In specific,

after a blank line, it opens with: "For the most part, other people took couples as they found them: you were, or, at a certain point, you weren't" (13). However, after this scene, the narrative returns to the moment of hanging up the phone. Irina wakes up in a blur, remembering that after the call, she had been a stranger to herself. In her hazy memory of the previous night, she pours a cognac, then another, she devours the chocolate-cappuccino cake to the last crumble and blasts Tori Amos' *Little Earthquakes*[112] so late and loud that the neighbor comes banging on her door. This reaction is just mentioned; its meaning or implications are not spelled out. The shift of mood and speaker right after the phone call creates the impression of the narrator intentionally shifting the focus from Irina's reaction to her collection of memories of Lawrence. The moment Irina ends the phone call is perhaps too laden, too shameful, too private to share with the reader. This amplifies the impression that Irina is, at present, unable to narrate or rationalize for being overcome by emotions she does not recognize, reacting to it with an indulgence and recklessness she does not willingly associate with herself or understand the origin of. Instead, the focus is drawn to her past and present with Lawrence.

The analepsis of Memories of Lawrence reaches back to the extent of their decade-long relationship. The narrator reminisces about the decade-long relationship with Lawrence with awe and gratitude: "Love having come to her neither easily nor early […] she regarded her relationship with Lawrence as a miracle" (14). They had struggled through the early, difficult phases where both were building their careers and relocating to London from the United States after Lawrence was hired by the Blue Sky Institute, a prestigious think-tank. Irina is aware of their relationship being ordinary in the eyes of their friends, or anyone else who might get to know them: "No modern-day Shakespeare would squander his eloquence on the ordinary happiness—if there is such a thing—that percolated within a modest flat in Borough through the 1990s" (14). After ten years together, they are accustomed to one another and have obtained established roles in their relationship.

The description of stability reveals an imbalance in their dynamic. Irina looks back to one of Lawrence's work trips for the duration of which she stays behind and home alone. Their home "seemed to generate an echo. She would not, any longer, understand why she was here, in both the general sense of alive, and the specific sense of on a Georgian square just south of London Bridge" (14). Narrator-Irina is self-aware enough to reflect on the need:

> She didn't care if feminists would have maintained that she didn't need a man; she did need a man, more than anything on earth (…) Shameful or not, having a man who

---

[112] *Little Earthquakes* is a dramatic love song about passion, pain, love, and struggling to be free. Toward the end, the song explodes into a lengthy chanting supported by a choir, repeating three sentences: "Give me life. Give me pain. Give me myself again" (*Little Earthquakes* 3:57—5:04). In addition to being a great song, it foreshadows Irina's conflict that is established through her competing framings at the end of this chapter. The novel does not elaborate on the relevance of the song, but it is a good example of the clever instances of intertextuality in it.

loved her and whom she loved in return was the most important thing in Irina's life. (14−15)

This is Irina's primary value and belief. When assessing the realization of this value, Irina's criteria seem to be rather physical; when Lawrence is physically not with her, she struggles to the extent of finding life worth living. Her non-negotiable value is, then, romantic partnership—receiving and giving love. As far as premises for narratives go, Irina's overarching and dominant value of partnership is a curious one, because it is already met. She is happily in a relationship, so no need for conflict should be present. And yet it is clear that something is stirring under the surface, knowing the state in which protagonist-Irina was left after the phone call. The extent to which Irina has so far been occupied with Ramsey and the feelings evoked by Ramsey form a stark contrast to the Irina of the past, who needs Lawrence so much that she does not feel she has a purpose to live when he is away. The intensity of her primary value is one of the two most important aspects that the second scene adds to the process of constructing her frames.

The second can be drawn from the end of the scene. The final memory of the analepsis concerns her routines during Lawrence's presently ongoing trip to Bosnia. It "had passed less painfully than most" (15), she reports. When together, their routine cycle of the day would involve Irina preparing "time-consuming meals for Lawrence," which she likes to do, but which constitute a habit that is also "festive to get out of" (15). Instead, she had "worked through the dinner hour" and helped herself to "a large, gooey slice of Tesco chocolate-cappuccino cake, whose very purchase was out of character" (15). Moreover, "[u]nsmitten by Lawrence's disapproving glare," she had continued the evenings by relaxing with "the sappy music that Lawrence detested," smoking a few cigarettes, and "pouring herself a tiny nightcap before bed" (14). Her private agenda is in stark contrast with the one they follow as a unit. Instead of following principles, she follows her impulses. These secret vices she keeps to herself consciously, revealing another belief:

> She wondered if you didn't need to keep a few bits and pieces to yourself even in the closest of relationships (…) The odd fag in [Lawrence's] absence confirmed for her that when Lawrence walked out the door she did not simply vanish, and preserved within her a covert capacity for *badness* that she had treasured in herself since adolescence" (33)

Irina considers her *badness* a counterforce to Lawrence's, at least implied, *goodness*. In the light of the all-encompassing value of romantic partnership, the depth of Irina's devotion and the need to not rock the boat by insisting on her habits that irk Lawrence makes sense. She explains that Lawrence could be stodgy and judgmental: "He was awfully hard on people, especially anyone he considered of inferior intelligence. His favourite word was *moron*" (17, emphasis in the original). This way, it becomes understandable that even though Irina sometimes finds Lawrence patronizing, with his disapproving glares, their relationship is, to her, "sound, satisfying, and permanent" (41). It needs to be. The scene Memories of Lawrence reveals a state of oppressive safety arising from the

conflicting need to preserve the love of a man and a sense of self. When two cannot coexist in their relationship, the path-forking decision problem is a direct consequence: Ramsey represents both a prospective partnership (as a man who has expressed, at least implicitly, interest in Irina) *and* badness (in the way of temptation and less-restrictive habits).

The analepsis closes, and Irina wakes up on the morning following the phone call. It is only at this point that the narrative reveals what took place after hanging up. Irina looks back at her alternative self from the previous night failing to recognize her. Instead, she concludes that she is turning morally "wobbly" (16). To correct that, she tries to go about the day per usual, but she is helplessly out of alignment. She tries working in her studio but manages to just sit staring at a paper. The day dawdles in wriggly anticipation. She cannot help but constantly be aware of the pretense, the façade of pretending that it is just another Saturday. Her normal Saturday routines are repeated, but half-heartedly; "slapping a superficial gloss of normalcy over an alarmingly unstable foundation" (18). The cracks in her foundation are showing.

As she continues to suppress them, she must pretend that she is not about to have dinner with a man whom she finds dangerous to her partnership. This pretense is concretized in her process of choosing an outfit for the night. An inversed re-enactment of her strategy to spice the, in her words, *indifferent* piece of venison and juniper berries with latex, she is now avoiding all spicing and aiming at an indifferent impression. She is "striking pose after critical pose in the full-length bedroom mirror with an eye to looking as dowdy as possible" and "rummage[s] through the wardrobe's nether regions for the longest skirts, the crummiest fits, and the least becoming colours she could find" (19—20). To look *as dowdy as possible* needs to be taken with a grain of salt, as she also reports that "early in this melee she had toyed with the notion of the pale blue sleeveless that last year had threatened to keep Ramsey in their living room all the way to breakfast" (20). She did not act on it—"she'd immediately chucked the idea. Was she insane? (20)"—but she is reportedly thinking about it. By binning the idea as *insane*, she declares her own preferences insane. They are insane because they are not consistent with what she should want and suppressing the impulse with principles works still at this point in the evening.

Ramsey presses the buzzer, and The Dinner scene opens. They drive to the restaurant in silence, but Irina starts to calm down when Ramsey eyes her appreciatively and acts nervous around her. She tries to explain the phenomenon: "The feeling was not of being attractive precisely, but rather of *not having to entertain* […] right at this moment the fact of her presence alone was its own redemption" (21, emphasis in the original). This state of self-sufficient confidence and openness dominates The Dinner Scene. On the one hand, it leads to her letting the events develop on their own without interfering much with moral judgment or even rational thinking. Not suppressing impulses leads to her letting feelings arise to the extent that she, eventually, is frightened by them. On the other hand, she entertains an expectation where she does not have to assume agency for the evening's events. At the end of the scene, this no longer works.

The Dinner scene establishes the role of kissing in the narrative. This happens through their discussion that eventually ensues vibrantly after the long silence. They talk about their childhoods: How Irina's mother, a *prima ballerina*, was ashamed of her klutzy daughter, and how Ramsey's parents cut all ties with him after he dropped out of school to play snooker professionally. They discuss their lives at present: How Irina's current drawings lacked a "sense of wildness" (24) that had marked her earlier work, and how Ramsey was still recovering from the divorce that "left him 'knackered'" (30). Irina notices that it had been ages since she has talked so much.

Kissing becomes a theme when they share memories of early adolescence loves and sexual experiments. Irina explains being shocked when she was suddenly considered attractive by boys after she got her braces removed, and Ramsey reminisces how he used to spend hours on end with his first girlfriend on a park bench: "We always walked through Clapham Common and stopped midway at the same bench. We snogged there, for hours. It sounds innocent; I reckon it was. Them kisses, they was so endless, and each one so different" (29). Listening to this story, Irina feels "a squirm of an emotion that she was reluctant to name" (29). The reluctance to touch upon something is a motif that I connect with the framing effect building up. While after the phone call, the reluctance was so palpable that Irina's diegetic presence was shut out completely, it is now directly named and explored. She drifts into a memory of a time when she and Lawrence had only started seeing each other:

> In the early days with Lawrence, they, too, had whiled away hours on the battered brown couch in her apartment on West 104th Street, giving each other mouth-to-mouth. But those memories had grown too precious. At some indeterminate point in perhaps the second year they lived together she noticed that they no longer kissed—really kiss-kissed, the way Ramsey meant, even if they still pecked good-bye. It probably wasn't fair to blame it all on Lawrence, but Irina couldn't resist the impression that *he* had stopped kissing *her*. (29, emphasis in the original)

Framing the loss of kissing as a rejection from Lawrence's part perhaps adds to the pain caused by the loss. The loss is *too precious* to think about in detail, and too incorporated in their relationship to address in conversation. So, as with her secret indulgences, her need to revive kissing is kept private. She returns to the conversation, and after a short reflection on the matter, they agree that in comparison to sex, kissing might "mean more" (29). Seeing that the chapter is developing toward the kiss that will fork the paths, this conclusion is important. Contextualized in young adulthood memories of times when the insecurities of the future were met with the innocent seriousness that both have lost since, kissing is an act that neither of them would engage in lightly.

The dinner is eventually over, but neither of them seems to want the night to come to an end. After a three-course meal, Ramsey suggests that they should continue the evening by smoking weed at his place. Irina feels conflicted, offering a lengthy (three pages) back-and-forth with herself on the matter: On the one hand, it would be a perfect situation to commemorate the *badness* in her that she cherishes, but on the other hand, she is aware that Lawrence would find the activity "preposterous" and "juvenile" (32). On the third hand, her "last-minute

extrication would seem cowardly, and conclude Ramsey's birthday on a note of rejection" (34). Her contemplations on the matter focus mostly on Lawrence's and Ramsey's expectations and her need to fulfill them both.

She is confused to the extent of being ambiguous of her most profound physical states: "She was tired—or ought to be" (33). She is not tired, but the absence of fatigue seems impossible. Frustrated by her mental chatter, she forces a solution and agrees to join Ramsey: "Sometimes when you make a mistake, you just have to go with it" (34). Even if she labels the choice to join Ramsey as a mistake that she is happy to make, there really are no grounds for equipping any labels to her decision-making: She is not acting according to her preferences, because she is not fully aware of them, and to the extent she is, they are conflicted. There is no criteria for calling the choice a mistake or a success.

As they arrive at Ramsey's house, the narration reflects the shift of mood that is caused by the fatalistic choice to engage in what she labels a mistake. They leave the car and walk to the house in silence, but Irina's mind keeps racing: "She could hear the narrative of the last two minutes in that waltzing, emphatic cadence with which people compulsively read to children" (35). This narrative assumes the passive-aggressive voices of her mother (by direct naming) and her spouse (through his favorite lexicon *moron*):

> *Irina climbed the big steps to the tall man's dark manor. […] Too late, the little girl remembered that her mother had warned her never, ever to get into a strange man's car! True, Irina's mother had never warned her not to go into a strange man's house, especially when not safeguarded by her stalwart friend Lawrence. But that was because her mother had never imagined that her daughter was a moron.* (35, emphasis in the original)

The stylistic rupture in the narrative mode of the fairy tale, along with the cursive, can be interpreted as an avoiding strategy that creates distance between Irina and the unfolding events. It alleviates her agency and responsibility. The stylistic excursion alludes to a regression into the innocence of childhood, to setting herself in harm's way without true intention. Imitating the decision-making style she followed when procrastinating making the phone call and settling on an outfit—delaying the decision until an external factor solves it for her—she continues to diminish her agency and identifies more as a victim of circumstance.

In rising tension, they grab drinks and descend into the basement. The basement houses Ramsey's snooker room, where they get settled on the sofa to smoke. As Ramsey is preparing the joint, Irina's inner narration resumes the fairy tale contextualization: "The black specks dropping from [Ramsey's] fingertips recalled dark potions that had sent Sleeping Beauty to her long slumber, or felled Snow White to the cold ground" (36). Avoiding the reality of her agency, she draws examples from Sleeping Beauty and Snow White, both victims of their situations rather than agents in it (Reilly 2016: 53). After the ritual, they set themselves comfortably; Ramsey by the snooker-table and Irina on the couch, absent-mindedly watching Ramsey play: "Irina wondered why she had let herself get so tied up in knots over the prospect of such a commonplace narcotic's effect" (37). She relaxes in the downfall of what she now considers over-reacting.

So far, the narrative has lingered more in the past than grasped the present. Similarly, Irina's character has been introduced through the needs and wishes that have not been met. She is an abstraction and a negation of those needs and wishes, in the perpetual flux of denying what she wants but continuously working toward them as if she were not, thus never arriving anywhere she could admit being happy. She needs a man, has not been kissed enough, does and does not want to be seen as beautiful, and wants to be good and wants to be bad. Her hopes and needs have so far been reported in relation to what they should be, or what they cannot be, and therefore not being allowed to exist fully. Against this history, her revelation on the couch, right before the opening of the final scene of the present examination, is earth-shatteringly important to her.

Sitting on the couch, Irina is suddenly and sharply awakened to the present and the physical needs with which she just moments ago was at a loss: "[S]omething happened. The dope, it turned out, was not mild. After only two tokes, it was not mild by a mile" (37). Slowly but insistingly, the narcotic dismantles any defensive barriers she might have held up, nudging Irina out of the control she was only barely holding onto anyway, and she is explosively, intensely aware of her body:

> [...] under the plain white blouse her breasts began to heat, like seat-warmers in expensive cars (...) since her de facto husband never lavished them with any attention—never even touched them to speak of—Irina saw no reason to pay them any especial mind herself. Now they seemed to be rebelling against the neglect (37−38)

It is central to the present step's objective of identifying and naming the competing framings that she in this moment mentions Lawrence's neglect. First of all, it reveals that the suddenly and intensely felt need that is expressed through her heating breasts has in fact been developing for a long time. She wraps her arms around her chest in a desperate attempt to hide any visible signs of the heat. The gesture and its purpose allude back to the night before, when she also wrapped her breasts when speaking Russian to Ramsey over the phone. The connection is made explicit by translating her confession: "When we talk, I feel naked" (38). This connects her breasts to Ramsey, who is still standing by the snooker table. In this state of mind, she turns her gaze to him. In this moment, the strategy of letting her feelings and impulses surface with little control stops working as it becomes too scary. Being allowed to continue for so long, the strategy has given rise to a competing framing about her partnership with Lawrence: Originally, their partnership, to her at least, was stable and uncontested. Now, this has changed. The final scene of the first step examines the nature of this change.

Opening the At the Snooker Table scene, this is the moment when the forking paths start to loom on the horizon. Irina's conflicting needs concretize into the act of kissing when she admits thinking: "If Ramsey didn't kiss her, she was going to die" (39). Still, the wording manifests the passive conception she has of her agency. It is *Ramsey* who needs to kiss *her*, not she who should make an initiative. In effect, her response to this newly found clarity is to stare mutely at Ramsey. Upon noticing her attention in the middle of his game, Ramsey asks:

"Fancy trying a shot, to get the feel of it?" (39). She remains muted and "seized by raw, abject terror" (39). Approaching Ramsey at the snooker table opens the opportunity for the kiss, making it a physical, concrete possibility. Her raw, abject terror is an adequate response to her (finally) practicing the principle of due diligence. The kiss is, in the context of the novel, as grand a turn of events as the prediction that tells Agamemnon to murder his daughter. It is a sufficiently complex action to which "no single frame-dependent, emotional perspective can be fully adequate" (Bermúdez 2021: 227), calling for frame-sensitive thinking. Her thoughts declare the awakening of the first step, reflexive decentering. She steps outside her original framing where the prospect of kissing another man was unthinkable, to understand that it now feels pressingly necessary:

> Summoned, Irina obeyed. Her will had been disconnected, or at least the petty will, the small, bossy voice that made her put dirty clothing in the hamper or work an extra hour in her studio when she no longer felt like it. It was possible that there was another sort of will, *an agency that wasn't on top of her or beside her but that was her*. If so, this larger volition had assumed control. *So eclipsing was its nature that she was no longer able to make decisions per se*. She didn't decide to join Ramsey at the table; she simply rose. (39, my emphasis)

In her own interpretation, it seems that she is simultaneously in full control and disarmed of all control. She is controlled by a *will that was her* and yet she is *no longer able to make decisions*. This state of helpless agency or inversed emancipation is the climax of the paradoxical states and goals Irina has had (such as spending hours to choose an outfit in which she would look the worst). The discrepancy between what she wants and how she acts have taken her to a situation where she, faced with a temptation, does not know where she stands. She does not recognize the *agency that is her*, because she cannot understand the preferences by which it operates. Equally paradoxically, this realization paralyzes her *and* sets her into movement.

It becomes clear that Ramsey will not solve this matter for her. She is disillusioned by the evident absence of any intention on Ramsey's face: "Turning her face to his, Irina was startled to confront an expression of idiotic innocence" (41). She takes a moment to reflect on Ramsey's motives and realizes that it is unlikely that he would make an initiative to hurt his friend by seducing his partner even if he seems to find Irina attractive. Irina arrives at a conclusion: "If anyone was kissing anyone tonight, she would have to kiss him" (41). Protagonist-Irina fades away again, as the detailed description of the events turns into reflection of the meaning of the kiss in Irina's life:

> […] it could have been a small decision. Drunken, addled revellers often do things late at night for which they apologize in the morning with a reductive titter. But the minimizing of such moments was a matter for other people. For Irina knew with perfect certainty that she now stood at the most consequential crossroads of her life. (41)

Expanding the valuation given to kissing a couple of diegetic hours ago, the kiss that might "mean more" than sex (29), this specific instance of a kiss, for Irina, is *the most consequential crossroads of her life*. She turns around to face Ramsey and utters the closing line of the chapter: "I almost forgot," she said with a shaky

smile. "Happy birthday" (41). Their lips are just millimeters apart, and it is up to Irina's choice whether they will inch closer for a kiss or pull away from the prospect of the kiss.

At the end of the scenes connected to the first step and at the end of the novel's first chapter, what remains is to name the frames of Irina's dilemma. The paths fork with saying *yes* to the kiss and saying *no* to the kiss. The decision problem is complex because of the conflicting emotions connected to both solutions. Saying *yes*, she gains a set of aspects that she wants but loses aspects that she also would prefer to hold on to, and saying *no*, she gains another set of aspects that she wants but loses another that she is reluctant to let go. I conclude the subsection by first examining and finally naming the frames (necessarily the same as the forking paths).

On the one hand, the framings concern her alone. Even though the kiss emerges impromptu, it is a solution to a problem that has been in the making for a long time. The small steps Irina takes toward the kiss are all steps into the aspects of her that she dubs *badness*. The steps toward her badness are, equally, steps away from her fiancé. Her fiancé is not familiar with her aspects of badness because Irina has chosen to suffocate them in his presence. The emerging prospect of the kiss overwrites the choice to suffocate these aspects. She is not the same person she was in the beginning of the chapter because she is now aware of the preferences she had been suffocating. In this new state, the intra-personal battle of wills takes place between "an agency that wasn't on top of her or beside her but that was her" and "the petty will, the small, bossy voice that made her put dirty clothing in the hamper or work an extra hour in her studio when she no longer felt like it" (39). These wills are the first (of two) aspect she must choose between. Therefore, I dub this battle of wills the first of the two aspects of the framing effect: Refraining from kissing is to *suffocate the will that was her*, whereas leaning into the kiss is to *follow the will that was her*.

On the other hand, the frames concern partnership. Irina is aware that initiating the kiss is irrevocably a betrayal. Comparing her situation to the drunken, addled revelers that can minimize betrayal with a reductive titter, Irina positions herself in opposition to them. She acknowledges that were she to choose betrayal, it is done in full understanding of the consequences. Therefore, the previous framing is coupled with the kiss as *cheating on her partner* and no-kiss as *staying faithful to her partner*. The conclude, the discussion is able to construct the following framings (Figure 8):

	CHANGE		STABILITY	

CHANGE   **STABILITY**

Following "the will that was her"

Cheating on her partner

Suffocating "the will that was her"

Staying faithful to her partner

LIFE WITH RAMSEY   LIFE WITH LAWRENCE
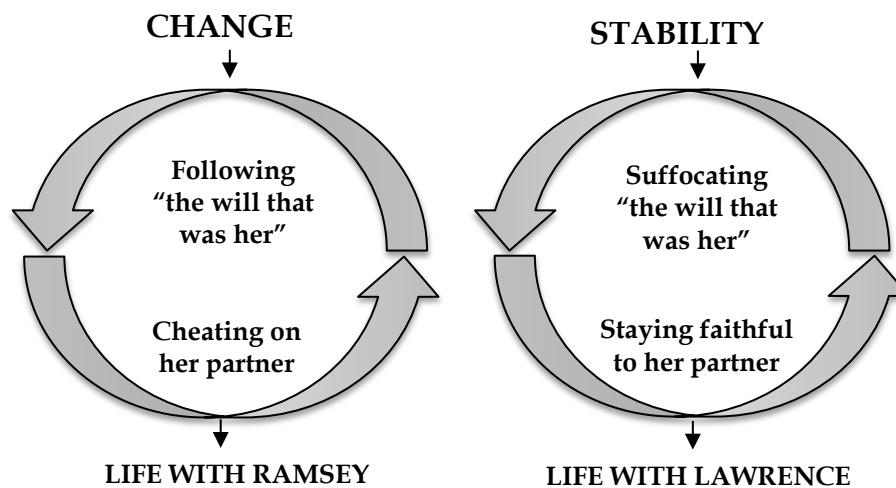
FIGURE 8   Irina's competing frames

Irina's competing frames conflict between her need for *change* and need for *stability.* They manifest through the cyclical preferences of *following* and *suffocating* the will that was her and *cheating on* or *staying faithful to her partner.* She prefers *following the will that was her* more than *suffocating* it, but this requires *cheating on her partner,* while she prefers *staying loyal to her partner.* Yet that entails *suffocating the will that was her,* and to that she prefers *following the will that was her,* et cetera, ad infinitum. The framing effect was born out of due diligence, and therefore it is rational: Irina is aware that "the most important cross-roads of her life" (41) is conflicted. Her preferences are intentional, as they are consistent, but they are so within the two frames arising from due diligence. Refusing to reduce the complexity of the dilemma into either of the frames by force, she is faced with quasi-cyclical, ultra-intentional preferences. The framing effect needs to be resolved before either choice can be rationally acted upon. The framing effect can be resolved by finding the reasons to prioritize one frame over another. The resulting dynamic of comparison is what the forking narrative is all about, and therefore, this is what I turn to in the next subsections.

The following steps extrapolate Irina's life as a consequence of either framing. She chooses to lean into the kiss and chooses to refrain from the kiss; the kiss happens and does not happen. As a result, the next decade of her life that the forking paths comprise are labeled as a life of *change* and a life of *stability.* What she has in the one she lacks in the other. This dynamic is examined in the next step, *imaginative simulation,* where the two forking narratives show what it would be like to occupy the competing worlds.

4.2.2   Imaginative simulation: Dichotomy

The forking of the narrative's reality divides the story into two simultaneously and linearly unraveling embedded narratives. I examine the embedded narratives as Irina's competing framings of the kiss. As a forking paths novel in the genre of domestic fiction, *The Post-Birthday World* views each framing as a

domestic space. Irina navigates the rules and conflicts of these domestic environments, negotiating these rules with the agency she has in each, comparing the resulting domestic culture to, simply, her happiness—her utility. She keeps comparing the men she lives with, the houses they share, the routines of these houses, the sex had (and not had) in the relationship, the support she receives, and various other aspects of the relationship in a meticulous, calculating way that echoes Ken Binmore's characterization of strategic thinking as robotic calculation (see 2.2). The novel is, essentially, an evaluation of which strategy would have been right, or at least better than the other.

The strategies start off with a kiss, but extend to its resulting, competing domestic spaces. I understand the domestic space more inclusively than as the home as a house with an address; the home is the agreement between a couple that defines them as a family. While this sounds perhaps poetic, it is not rosy. The institution of *family* is a concrete realization of Irina's primary value of partnership, and she holds important that the parameters of her family—how it resolves conflicts, what its routines are, what its values are—match her ideas and, especially, *ideals*. Discussions of domestic fiction frequently refer back to Marguerite Duras's *Practicalities,* especially its chapter "House and home", in which she states that "[t]he house a woman creates is a Utopia" (1992: 42). House and home take on many meanings in Duras's hands, but the sentiment is often taken to mean that the home, created into the space of a house by a woman, is her way to make the home almost magical, better than reality (see Maura 2021). Irina's utopia, which she puts into words more than once over the course of the narrative (I point them out when they appear in the analysis), is a combination of the two paths and frames. As the choice takes place between the two, her utopia is not feasible. Nevertheless, the search of it is at the core of *The Post-Birthday World,* constructed through the interplay of Irina's forking paths and the framing effect in which the interplay is grounded.

The forking paths manifest her framing effect often not only through comparison, but in terms of juxtaposition. Events are contrasted by opposition meticulously: There is no shortage of situational contexts, phrases, morning routines, weather conditions, bathroom habits, Christmas gifts, expressions, colors that clash, and other elements that appear in both realities, the second encounter in binary opposition to the first. Such rigorous employment of *Chekov's gun* leads to the flag-marking of an enormous number of elements. As a technical term, Chekhov's gun means that a narrative should only mention and show items that are important for the narrative. This is traditionally illustrated through the example of a gun hanging on the wall in the first act of a play; it needs to go off by the third or it should not be there at all (Goldie 2012: 165, see also Alvarez Igarzábal 2019: 191). From shocking revelations (infidelity; childlessness) to tiny details (wet socks when walking out; liking popcorn; chopping vegetables), elements turn out to be meaningful for the interplay of the forking paths. The importance is revealed when events, items, or elements are inverted through recontextualization upon the second encounter. This element of the story acts as

an anchor to my analysis of the second step of frame-sensitive reasoning, *imaginative simulation*.

As the second step, imaginative simulation follows the step of accepting the complexity of the decision problem. After accepting the complexity, the second step is focused on understanding it down to its most minute detail: Not only imagining what the competing frames would mean but also simulating what it would be like (Bermúdez 2021: 260). This phase aims to add content and volume to the dilemma in order to maximize the possibility of finding enough reasons to set a hierarchy between the frames during the steps following it. The second step, however, does not aim to enact on a choice yet—it is simply a collection of data.

I collect this data from how people speak in the competing domestic environments. More specifically, I focus on the element of language variation and the use of literary dialects in characterization. Lawrence and Ramsey are highly different, almost juxtaposed characters, and their character traits dominate the rules and routines of the domestic spaces Irina shares with them. The scope of the novel examined for language variation is the full duration of the forking paths, or the doubled chapters from two to eleven (twenty chapters altogether, 470 pages in duration). However, I focus primarily on three double-scenes in which the descriptions of non-standard literary dialect (see 3.4.2.2) are the most clearly connected to Lawrence's and Ramsey's character-traits and their impact on Irina's happiness within the competing frames:

- Dinner with Irina's Mother

- Pronouncing Snooker

- Mingling at a Party

These scenes appear two times but with contrasting meanings, reflecting the conflict of Irina's preferences between *change* (Ramsey/*kiss*) and *stability* (Lawrence/*no kiss*). To further argue my claims on the connection between Irina's framing effect and the linguistic characterization of her love interests, I examine how the interpretation of the scene is connected to Irina's framing effect within and across the forking path(s) in general. As the entire forking paths provide the background for the examination, I begin by providing synopses for both *kiss* (life with Ramsey) and *no kiss* (life with Lawrence). They are outlined in two columns. Like in the novel itself, the synopses of chapters two to eleven can be read either linearly by reading one column from start to finish first and then returning to the beginning to read the second, or they can be read chapter by chapter by reading first the left and then the right paragraph.

Kissing Ramsey makes Irina realize that her love toward Lawrence has been spent. She observes Lawrence's face as he comes home from Bosnia: "To the degree that Lawrence's face was familiar, it was killingly so—as if she had been gradually getting to know him for over nine years and then, bang, he was known. She'd been handed her diploma." (43). At the end of the day that Lawrence returns home, they go to bed. Not wanting to arouse suspicions, Irina responds to Lawrence's incentive to have sex. Yet, she fantasizes about Ramsey. She feels fiendish for doing so but does not deny the thought from herself.

The next morning, their familiar routine makes her feel claustrophobic: "For a moment it had been touch-and-go as to whether she would top up the steamer with bottled water one more time, or shoot herself" (79). After Lawrence is gone for work, she contacts Ramsey. When she reflects on how wrong it is to start an affair with him, she concludes: "It's beyond my control. It's not supposed to be an excuse. Just the truth. I feel possessed" (82).

Irina continues to neglect her work and spend her days with Ramsey in the snooker cave in the basement of his house. She feels overwhelmed with the new-found intensity of her feelings, and fantasizes about Ramsey all the time. Lawrence notices that something is wrong, but does not address the subject directly. Instead, he brings home movies about difficult ethical choices (such as *Sophie's Choice*) as subtle hints. Meanwhile, Ramsey grows tired of the secrecy and lying. Before leaving for a tournament, he gives Irina an ultimatum to choose him or leave him. After many days of agonizing contemplation on the matter, Irina confesses to having an affair.

Having withdrawn from the kiss, Irina relishes the relief of avoiding a disaster. This bliss extends to her reflections on Lawrence's complexion: "It was peculiar how little you knew, how little you had ever known—as if progressive intimacy didn't involve becoming ever more perceptive, but growing only more perfectly ignorant" (63). Irina realizes that for eight years she and Lawrence have been having sex in the same position, one where their eyes do not meet. She suggests them to try a position where they would face each other instead, but Lawrence grows suspicious that something is wrong, and they drop the subject.

The next morning, Irina enjoys the familiarity of their everyday routines that feel to her like "a well-oiled clockwork" (94). She tries to stall Lawrence from going to work, but he is eager to leave. Irina then goes on with her normal routines, content with the stability and predictability of her life. At the end of this day, she reflects on the many things that in her life are right: "Nothing was wrong. Most of all, the air between them was clear" (100).

The gratitude that Irina felt after the birthday starts to fade when her new-found appreciation for Lawrence does not result into anything, but days keep on rolling per usual. She is consumed by an unremitting feeling that something must happen. She proposes to Lawrence, but he is indifferent, failing to understand why anything should be changed; everything is fine as it is (161−162). They choose to continue as they had so far. After the argument, Irina sits down on her armchair with a bowl of popcorn, feeling defiantly proud for not being sad. The narrator marks her blasé reaction ominously: "Maybe she should have been" (163).

The next day, Irina leaves Lawrence. When she walks out from the apartment and into the rainy morning to meet Ramsey at the snooker tournament he is at, she is terrified and uncertain if her choice makes any sense. "She couldn't remember what Ramsey looked like. Nor could she remember why she was venturing out ill-clad in miserable weather when she had a nice warm home a few steps away, installed with a nice warm fellow" (166). Instead of relief or bliss, she feels "unprotected"; "having done something biologically stupid" (168).

After leaving her home and her art equipment in the house they shared with Lawrence, Irina is not able to work. Instead, she devotes all her time to accompanying Ramsey on his games and after-parties. The few moments she spends alone are torturous: "Alone, she no longer understood what to do with herself or quite who she was" (243). She understands that her identity is in "mortal danger" (244) but does not act on it because she is also very happy.

Irina and Ramsey have a fight because Irina needs to get her art supplies back from her old apartment to finish the project she needs to complete. When Irina and Lawrence meet, they initially feel like strangers. Lawrence notices that Irina is thinner than before; Irina feels self-conscious about wearing clothes Lawrence has not seen before, as he used to take care of the laundry. Irina brings along a bag of Lawrence's favorite popcorn seasoning. Lawrence's response is mainly confused, and Irina realizes that even though pre-dinner popcorn was part of *their* routines, it no longer is Lawrence's. Despite the awkwardness, they realize that they can be friends even after Irina's betrayal.

The next day, their routines continue uninterrupted. On a regular morning, she walks out into the rain to bring Lawrence the lunch he had forgotten on the counter. Her socks get wet, but she muses that she has "a nice warm home to go back to" (193). Warm socks back on her feet, she sits by the kitchen table, thinking that she feels "protected" (194). At the same time, she is disdainfully aware of the mundanity of the event, and ironically notes that it was "little wonder that Irina began dinners with friends […] at a loss for stories" (194).

Irina continues to work consistently, but she fails to find the spark to immerse in her drawing. The situation of the world escalates in terms of terrorism, and Lawrence's work requires more and more of his time. In effect, Irina's time alone grows exponentially: "It was one thing to be independent, but independence could slyly morph to exclusion, and Irina felt shut out. Through the following months, his omission grew tumorous." (255).

Irina and Lawrence have a fight because Lawrence has a business trip to Russia and does not want Irina to come along. When Lawrence returns, "the distance between them seem[s] so great that [it] might have been a first awkward platonic reunion after a harrowing breakup" (298). Irina notices that Lawrence has lost weight and is wearing a new shirt even though he hates shopping. The unwrapped present he brings is an impersonal choker-necklace, and Irina thinks to herself that she would have preferred "a package of Russian seasoning for their popcorn" (300). When Lawrence leaves for the office, Irina has "an eerie impression of saying good-bye to him in a more profound sense" (301)

They spend the Christmas holidays with Irina's mother in the US. Irina has a dysfunctional relationship with her mother. Irina asks Ramsey not to pick a fight during their stay. Against his promise, Ramsey does get jealous, picks up a fight, and embarrasses Irina in front of her mother. Yet, when Irina flips over her wineglass over a dinner with her mother and screams, "Oh—nothing's changed, I'm still a klutz!" (318), Ramsey ignores Irina's mother's scornful smirk, responding gently: "You're no such thing, pet!" (318). He covers the stain with a napkin and fills her glass again.

Irina decides that she should take her professional career seriously and stays behind on most Ramsey's tournaments to write and illustrate a children's book. When home alone and Ramsey abroad, she finds out that she is pregnant. She starts bleeding before she has had the time to tell Ramsey about the baby. When she does talk about the miscarriage, Ramsey cries.

Irina's book gets shortlisted for the Lewis Carroll medal. Irina invites Lawrence to the gala where the medal is granted, making Ramsey jealous. They fight throughout the gala. Irina wins the medal, but collects it teary-eyed.

Ramsey is distant, and Irina assumes that he is simply less attracted to her. However, they find out that Ramsey suffers from serious prostate cancer. Consuming treatments to which Ramsey's body does not respond swallow most of their savings, and the rest Ramsey gambles and loses. Irina is forced to accept that this five years stretch was their time together. At the end of the chapter, she delivers a lengthy speech to Ramsey, thanking him, and listing the many things that in their life turned out to be right.

They spend the Christmas holidays with Irina's mother in the US. Lawrence makes Irina promise not to pick a fight with her mother over Christmas. Irina keeps her promise, even though it means swallowing the need to defend herself against her mother's cruel comments. When Irina flips over a wineglass over dinner and screams "I'm still a klutz!" (357), Lawrence responds ""You can say that again!" […] For Peter's sake, Irina, what a mess!" He makes cleaning the table look arduous and time-consuming and joins Irina's mother lamenting how Irina "has always been like this" (357).

Irina keeps feeling that something must happen, and suggests that they should have a baby. Lawrence's sperm count proves to be low, however, and they drop the subject without much show of emotion. Lawrence suggests that Irina might make progress on her professional career by authoring and illustrating her own book instead of just working for an agency.

Irina's book gets shortlisted for the Lewis Carroll medal. She does not win the award, but Lawrence praises her work to everyone throughout the evening and supports her so thoroughly that she feels like she won anyway.

Lawrence is distant, and Irina assumes it is due to working so hard. However, she finds out that Lawrence has been cheating on her for five years with his colleague. Irina and Lawrence talk, but Lawrence leaves her. Irina contacts Ramsey again, but he is already ridden with the illness. Ramsey admits that the birthday five years ago was special for him, too, but that "timing is everything" (505). The chapter ends in a dull description of Irina's lonely day, saying that she is thankful that the day, finally, is over.

As can be gleaned from the synopses, Irina's happiness is dependent on the success of her relationship with her partner, regardless of the frame. The narrative juxtaposes the partners in a complex way that resists straightforward labels of good and bad, right and wrong. Good and bad, however, are not within the power of the decision-maker, as these labels can only be applied in hindsight. Right and wrong can be applied in advance, based on the expected gains and losses, prioritizing as good the ones that are consistent with the decision-maker's preferences and goals. These, as has become clear, Irina cannot provide because of her framing effect. Solving the framing effect would allow prioritizing some preferences over others, and this is Irina's task: establishing which partner would make her happier.

I now take a closer look at the three scenes (numbers 5—7). The Dinner with Irina's Mother scene (5.) shows competing valuations of *change*. Change is the value that was embraced in *kiss* but rejected in *no kiss*. In this scene, the juxtaposition of embracing and rejecting change is represented further in a discussion about linguistic accents. Over the dinner where Irina flips the wine-glass (chapter eight, see also 2.4.2 where another part of this scene was used as an example), Irina's mother points out that Irina's speech has "every year, more differences" (354). Lawrence joins in, complaining how Irina ordered *tomahto* juice on the plane, emphasizing the British accent with which she pronounced the word. Initially unfazed, Irina responds by explaining how "growing up bilingual, language seems less fixed" (354). Lawrence rejects the explanation as nonsense, positing an alternative explanation:

> [G]rowing up as a second generation Russian-American gave you an identity problem. […] But this faux Brit-speak is wrong-headed. You're trying to please, and it backfires. You invite contempt. Brits want you to talk like an American, because that's what you are. (354)

The merciless depiction shows that to Lawrence, Irina's *less fixed* attitude is spineless. Change takes place to fix something, and Irina's flexibility is a sign of lack of confidence. His attitude to variation as such is supported by other aspects of his characterization: He invariably orders lamb-stuffed vine leaves in the one restaurant he takes Irina to, and Irina's suggestion to try another position in bed makes him flinch (as depicted in the synopsis above). Irina describes Lawrence's sense of variation by saying that he "did not live in a world of subtleties or shades" (156). His character is consistently consistent.

Indeed, Lawrence is characterized as intellectual, straightforward, and making decisions based on logical rather than emotive cognition (apart from the affair—I address this issue in connection to the Pronouncing Snooker scene). Narrator-Irina tells us that Lawrence "may have accepted a research fellowship at a prestigious London think tank, but he was raised in Las Vegas and remained unapologetically American" (3). Lawrence's *unapologetic Americanness* is represented in his linguistic stubbornness: although he has lived in London for seven years, like Irina, he refuses to pick up idiomatic expressions, phonetic features, or other influences from the surrounding culture. Irina explains this in

detail: "He said "*con*troversy," not "con*tro*versy"; he never elided the K-sound in "schedule" (3, emphasis in the original). Sharing a taxi with Lawrence in chapter five of *no kiss*, Irina listens to Lawrence's carefree banter with the cabbie. She contemplates that the way Lawrence "leaned hard on his Rs in a refusal to apologize for his accent" actually awoke respect among some people for the implicit self-assuredness. Yet she cannot help it that Lawrence's accent "grate[s] on her ear" (202). Adopting aspects from another variant would express the ability and willingness to change and renew, neither of which is connected to his character through the perspective Irina provides in the novel.

Lawrence's stagnant consistency has good and bad sides. The positive sides are that when living with Lawrence, his disciplined habits extend to her. In *no kiss*, she enjoys "feverish afternoons, when she was so consumed by an illustration that she forgot to eat" (259). Being "blocked" she considers "arty-farty […] rubbish", because "[a] real pro sits down and does the job, whether or not she feels like it" (91). The flip side of these traits is that he is pedantic and sometimes crude and blunt. Often these traits manifest in harmless situations when his stodginess is amusing to Irina: It amuses her when ordering a minicab takes "longer than need be because Lawrence refused to say *boot*, and the dispatcher refused to understand *trunk*" (285, emphasis in the original). However, the trait has the potential to also hurt her, as seen in the fifth scene above. Irina's partnership with Lawrence is valuable because of the stability and continuation; it is rooted in their identity as a couple. They share a past, and they grew up to speak in the same accent. Therefore, when Irina adopts British expressions and phonetic features, the variant does not only merge with her accent but comes *between* the couple.

This is concretized in the scene of their break-up, the Pronouncing Snooker scene. Both versions of the scene depict the end of Irina's and Lawrence's relationship, and in both, the separation is triggered by a seemingly harmless spat about how to pronounce the lexicon *snooker*. The spat takes place on a day when Irina and Lawrence, at least superficially, try to rekindle the flame over a romantic dinner. In both, the dinner turns out to be a disappointment and they return home. They set themselves in front of the television in order to watch a broadcasted snooker-tournament. Essential for the scenes is that "Brits rhymed the game with *lucre*, whereas Americans […] rhymed the game with *looker*" (138), and that they are watching Ramsey play on the screen.

In *kiss*, this happens in chapter four, where Irina has by this point received Ramsey's ultimatum. She stares at Ramsey on the screen in mixed feelings, lost in her thoughts. To Irina's annoyance, Lawrence runs a commentary on the side: "Notice how such-ass shots are always *unfortunate* or *unlucky*? […] The commentators are so decorous. *Unfortunate* is a euphemism for *incredibly stupid*" (136). Continuing to explain the events on the screen, he insists on rationalizing and explaining the televised vista in a language that is incomprehensible to Irina in that mood: She cannot rationalize, only feel. Finally, Irina lashes out in defense of British pronunciation:

> "It's *snooker*!" she exclaimed. "Not *snucker*!" You've lived here for seven years, it's a British game, and if you're going to be a snooooker fan you should at least learn to PRONOUNCE it!" (138)

On the surface, the disagreement concerns pronunciation. Yet, through the role language variation has in the novel, and how it relates to the imaginative simulations, it becomes a deeper and more meaningful disagreement. Irina's exclamation expresses the disparity between their attitudes on *change*. To Irina, change is attractive but to Lawrence, it is alarming. By standing up for the British pronunciation, she stands up for herself and her ability to change. In response, Lawrence is so appalled that he finds no words to say. They switch the TV off and have a lengthy discussion that ends their relationship.

In *no kiss*, the scene appears in chapter eleven, where Irina has found an unknown mobile phone in Lawrence's pocket but has not addressed her suspicions concerning it. Pronouncing Snooker still precedes Irina and Lawrence breaking up, but this time due to Lawrence's affair with his colleague. The roles are reversed, and it is Lawrence who peevishly listens to Irina's comments on unintellectual points such as "Paul Hunter's girly hairstyle[113]" (489). After a sequence of short-tempered responses, Lawrence unleashes his disgust concerning Irina's contaminated English:

> "Americans say snooker!" he exclaimed, rhyming the word with looker. "I'm sick to death of this pretentious wannabe Brit-speak! You're a Yank just like me, and an American doesn't watch snoooooooooooooooooooker!" (490)

Now it is Irina who is so appalled that she finds no words to say. Instead, she simply switches off the television. She initiates a talk, directly addressing Lawrence's odd behavior, and soon Lawrence confesses the affair that at this point has been going on for five years. The narration does not allow access to Lawrence's thoughts, but within the logic of language variation in the novel he is, like Irina in the alternate lifeworld, standing up for himself and his values by defending the American pronunciation. The difference between the defenses is that Irina argues for adaptation and change whereas Lawrence argues for permanence and stability. In both realities, this outburst ends not only the relationship of Irina and Lawrence, but, perhaps more positively, also the silence between them.

By being the outlet for renewed communication between Irina and Lawrence, the scene portrays the end to *suffocating the will that was her* in both of the speculative versions of the outcomes of her dilemma. It does not matter if she stays faithful to her partner or cheats on her partner, because the need to change and break the rules was there already. Indeed, Lawrence's rationale for cheating is the very temptation of being inconsistent: "[D]oing something that wasn't like me was part of what drove me to it" (493). Irina does not berate him for that. She

---

[113] Like other snooker players that Shriver mentions throughout *The Post-Birthday World*, Paul Hunter (14 October 1978 – 9 October 2006) was a successful snooker player in real life. His distinctive look involved shoulder-length blonde hair. (See Hunter 2008)

understands: The cheating "made Lawrence seem less virtuous, but more ambitious" (510, emphasis removed). The novel's focalization does not facilitate any further examination of Lawrence's motives, but the central aspect of them is that they are relatable to Irina. While she suffocated the will that was her, Lawrence did not. Irina's happiness does not depend solely on executing change but is more complex.

This becomes clear in the Mingling at a Party scene, the final of the three scenes. In this scene, Irina reflects on her conflict between change and stability, between the traits of partnership with Ramsey and traits of partnership with Lawrence. The Mingling at a Party scene reports Irina's reflections on the dialects (*kiss*) and registers (*no kiss*) she is surrounded by during the occasion. In *kiss*, the party is the snooker-players' get-together after a long tournament and it is Irina's first as Ramsey's partner. Clinging to the man throughout the evening, she laboriously embraces "the rapid banter of the players and their managers, the clamour of Welsh, Scottish, and Irish accents, and the multiple allusions to notorious fluke pots" which "all left her feeling in over her head, and she spoke little" (192). Resorting to politics to start a meaningful conversation but to no avail, she craves for serious conversation. Glumly, she concludes that "there was only so much party she could take" (192). The change that resulted from, initially, leaning into the kiss, and more concretely after defending the British pronunciation of the lexicon *snooker*, overwhelms her. She feels out of place.

Yet, the same happens in *no kiss*. At a reception following Lawrence's lecture, Irina observes the crowd in critical soliloquy. She explains that she "had milled at similar gatherings before, and always felt a little in over her head" (250). Now more actively peeved, she wonders:

> For pity's sake, they were supposed to be socializing!" […] How about a few amusing anecdotes, a little playful, meaningless banter to lighten things up? […] After about an hour of this intellectually high-protein diet […] her only remaining appetite was for sweets. (251)

To find the balance she craves, she tries to pick up a conversation on the topic of snooker, but the very mention of the word "to these lofties brought their self-important discourse to a thudding halt" (251). Again, Irina feels ill-fit, as if she was in the wrong place.

The goal of the imaginative simulations step was to collect data about the results of choosing, according to different frames, either too much or too little variation. American English brings along a *lack* of variation and a lack of change. Thus, life with Lawrence is rules-bound. Cockney English brings along an *excess* of variation and an excess of change. In effect, life with Ramsey is spontaneous. Between the lifeworlds constructed on the fixed character traits of her partners, Irina strives for a balance that she cannot find. Seeing that language is less fixed for her than for her partners, it makes sense that she cannot find a balance that would satisfy her. I spend the rest of the subsection on explicating this suggestion in the context of literary dialects (see 3.4.2.2).

The standard dialect of *The Post-Birthday World* is Irina's dialect, as it is the one heard most. Her dialect, however, is not American nor British English.

Instead, it is both; a combination of the two. The standard literary dialect of the book is simply not fixed. She is born bilingual, raised in the United States, but after living almost a decade in the United Kingdom, "appropriate[s] British lingo whimsically" (62). Against this backdrop, both fixed dialects of her potential lovers are *non-standard literary dialects* (Määttä 2004), deviations from the norm set in the novel. The dynamic is analogous to Irina's dilemma, and thus informative of it. The standard literary dialect is not fixed; Irina's decision is not made. One of the non-standard literary dialects dominates each path; each path is an exploration into prioritizing one frame. She was raised surrounded by American accents, and choosing Lawrence equals choosing the stable continuation of her past. British accents surround her in her present culture, where she wants to integrate, and choosing Ramsey equals choosing a changed, different future. Therefore, fixing on a dialect would equal making a choice. She remains unfixed, holding on to both Lawrence and Ramsey throughout both forking paths.

In *kiss*, Irina leaves her home with Lawrence, but they are able to stay friends after the break-up. Yet more importantly, Irina holds on to Lawrence as an aspect of her own personality. Lawrence becomes emblematic of his characterization: "Somehow Lawrence had morphed from ex to alter ego, her good angel, the voice of her straight-A self" (259). It is not surprising that mentioning Lawrence in Ramsey's company invariably sparks a fight. Regardless, Irina works to preserve the friendship. She "love[s] him, in a way" (317), she explains, with "a feeling that I'm not ashamed of and that doesn't threaten [Ramsey] in the slightest" (321). Yet, looking into "Lawrence's deep-set brown eyes" at the reception for the Lewis Carroll Medal "put out of mind, however temporarily, the scale of her mistake" (414). The way she loves Lawrence is not resolved exhaustively before the closing chapter where she lets him go. Until that, her love for him guides her to bounce back from the hedonistic slumber of her early days with Ramsey, and stay disciplined with her work after that.

In *no kiss*, the get-togethers to celebrate Ramsey's birthday are dropped, but Irina and Ramsey meet three times altogether. More important than the meetings, Irina resists dropping the memory of his influence on her life. Ramsey becomes emblematic to Irina of his characterization, like Lawrence, but Ramsey is an emblem of Irina's badness. Already on the day Lawrence returns from Sarajevo, Irina notices that she avoids mentioning Ramsey's name in their conversation: "Ramsey had become—private" (97), and later "a funny mental dependency" (431). Memory of Ramsey is Irina's counterforce to rebel against Lawrence's routine-and-rule-oriented lifestyle that has little place for pleasure. Holding onto the lost path, on both paths, displays Irina's insistence on not being locked into a decision.

The examination has so far has established that the imaginative simulations show Irina either rejecting stability to accept change or rejecting change to choose stability. In the world where she accepts change, she loses peace but gains passion; loses clean conscience but gains self-knowledge; loses stability but gets an adventure. In the lifeworld where she chooses permanence, she turns away

from passion but preserves safety; turns away from a temptation but retains an intact self-image; turns away from an adventure but preserves a sense of being at home. These elements are detectable in the characterization of Lawrence and Ramsey as the objects of the choice, and the imbalance of them in Irina's inconsistent preferences. Both domestic settings feature conflict to the extent that the frames cannot be dichotomized as happy and unhappy. Irina is not fully happy in either and in effect, Irina's feedback on occupying both frames is mixed.

Language variation is consistently emblematic of change. As alternate, competing outcomes for resolving Irina's quasi-cyclical preferences, the frames are not polarized in terms of good and bad but in terms of *more* and *less*, and especially, the difficulty of establishing *enough*. The Mingling at a Party scene showed that in *kiss*, language variation is present and adapting to change is required, even when Irina does not feel comfortable with either; and that in *no kiss*, language variation is restricted even when she craves it. Variation is the need, ability, and willingness to change, which Irina, as a bilingual and *less fixed* person, has by nature.

Both of her partners are fixed on their own variants. Ramsey's working class dialect is learned by choice: he was raised by parents whose English is described "perfectly BBC" (512). He had decided to learn the dialect after dropping from school and immersing himself into the world of snooker. His change was as all-encompassing as the consuming transformation required from Irina when *following the will that was her*. Lawrence, in contrast, is and remains American. His linguistic persistence on changing nothing at all is as all-encompassing as the consuming persistence required from her when *suffocating the will that was her*. Both options are too restrictive for Irina, as pretending that language should be fixed to one construction would *reduce* her conception of language. Similarly, neither partner nor the life they create together succeeds in being fulfilling enough to be concluded as the better option.

The present subsection examined the contents of the frames and the conflict that defines their interplay. The aim was to collect Irina's feedback about occupying the imaginative simulations of her competing frames concerning the kiss, and the resulting choice between change and stability. She craves both: she is frugal and moderate, but also hedonistic and excessive. Her partners in the competing lifeworlds resonate with one side of her character, but neither life is fulfilling enough to win over the other. Both frames are disproportionate.
The next step delves into Irina's attempt to establish reasons across the excess and lack of change and stability that each frame represents. Reasoning across these frames requires scanning similar qualities in the competing frames; shared values that manifest in unrecognizably different ways (Bermúdez 2021: 266–271). This is the next step of the analysis, in which I examine fictions within fiction as methods of occupying both frames at the same time.

4.2.3   Perspectival flexibility: Observing

In addition to finding both frames equally tempting, Irina considers both choices right *and* wrong. The juxtaposing interplay between the forking paths shows how

she keeps entertaining feelings for both partners. Living within the framing effect, she oscillates between labeling her life a mistake and a success, craving more change or more stability. As shown in the previous subsection, the see-saw of her framing effect is in constant motion. She rarely takes the time to sit down with her feelings to try to make sense of them. However, in the ninth chapter of *The Post-Birthday World*, she does exactly that. She sits down to write and illustrate children's books (one in each frame) whose themes reflect her reasons for choosing between the paths and the effects of that choice.

Instead of writing a story analogous to her life as a result of a certain frame, she focuses on the frames themselves. One of the books discusses the question of whether to follow or suffocate one's passion, and the other reflects on the question of whether to stay faithful to existing ties or allow change to happen when an opportunity arises. The answers she gives are as ambivalent as her choice between the frames, but instead of labeling each choice right or wrong, she addresses the rightness or wrongness across the frames. For this reason, I focus on this specific part of the narrative in the third step of frame-sensitive reasoning, *perspectival flexibility.* Perspectival flexibility focuses on the elements that connect the frames. They can be detected by "holding multiple frames in mind simultaneously" (Bermúdez 2021: 254). The concrete outcome of this step is to escape the juxtaposition.

I approach Irina's books as fictions within fiction, and my goals is to understand how they comment on the novel they appear in. By examining the connection between the fictions within fiction of each forking path, and through that, to the novel as a frame-narrative to both, we can understand the dynamic and interplay of the framing effect in detail. This prepares the analysis well for the fourth and conclusive step of reasoning, that should lead to a solution right away. Irina's books are not metafictional [114] but they are metadiegetic. Metadiegetic narratives comment on the higher levels of the narrative through their embedded position (see Genette 1980, see also 3.4.2.3). They have informational value on the decision-making process taking place in the novel. As Irina's values guided the decision-making process from which the framing effect emerged, the metadiegetic commentary of the fictions within fiction shed light on the beliefs that keep her indifferent between the options. These beliefs are constructed as theses of Irina's fictions.

These theses are clearly spelled out. The clarity can perhaps be attributed to the books' target audience and genre. Children's literature is often understood as simple and didactic, and this relatively outdated premise leads to the expectation that children's literature is not supposed to be entertaining, but only educational, in order to be considered worthwhile (Nikolajeva 1996, see also Reynolds 2011). Irina's fictions, too, have an educational component that complements the theses. These components are discussed in brief dialogs between Irina and her partners. In addition to the theses that the books construct on their themes, I take these

---

[114] The fictions do not express awareness of their fictionality in the sense that they would step out of the diegesis (see Neumann & Nünning 2014); they do not step outside the diegesis to reflect on their fictionality.

discussions into account when interpreting the books. Much like any work of literature is a product of the historical and social context it was produced in, furthermore, so are the metadiegetic works products of the diegetic environment in which they were created[115]. I examine the following aspects of the fictions:

(1) Connection points between Irina's dilemma and the dilemmas of the heroes of her fictions

(2) Creative processes and technical choices

(3) Reflecting on the contents with her partner

These three focal points show how Irina takes a further step back from her frames and observes them simultaneously. The subsection takes two steps, the first of which focuses on interpreting the metadiegetic narratives and the second on connecting those metadiegetic narratives to Irina's framing effect.

I begin by describing the diegetic contexts of creating the books. The diegetic contexts in which Irina chooses to create the books stand, perhaps unsurprisingly, in stark contrast to each other. At this point in the narrative, the birthday is five chapters and 18 months in the past.

In *kiss*, she has embraced the change that followed the birthday. She has spent her time following Ramsey around the world on his tournaments and ignoring her responsibilities as an illustrator. She has received an extension to her latest project and yet met the deadline only barely, submitting a set of drawings that were rejected as unacceptable. The rejection is a wake-up call. Upon the event, she scolds herself mercilessly:

> On an average day, you don't get out of bed until noon; you go through half a pack of cigarettes and never less than a full bottle of wine. […] Even during occasional erotic respites, you spend a disproportionate amount of your leisure time—assuming you have any other kind of time—thinking about sex. […] You had six extra months to complete one project, and you botched it. (370—371)

After the brutally honest reflection, she refuses to accompany Ramsey on his tournaments anymore. She realizes that immersion into Ramsey's values threatens to merge her into a "conjoined twin" (33) of her spouse, as was the situation in the pre-birthday world with Lawrence. This time, Irina sets out to re-establish *stability* into her *change* by "reinstat[ing] the same strict, diligent woman whom she had once come to resent" (369). An era of hedonistic indulgence comes to a close. The narrator intervenes in the narrative overtly again, stating that "[s]he would come to miss it" (371). Despite the threat of regret, at the diegetic present, Irina is decisive in learning to find pleasure in a disciplined life once again.

The first step involves finding work. In the past, Lawrence helped her with contacting publishers and other marketing, but now she does not have that luxury. After sending emails to multiple publishing houses in hopes of work but to no avail, she is forced to accept that her bridges to too many publishing houses

---

[115] This does not necessarily always apply; not all fictions within fictions are *produced* in the sense of the protagonist authoring them.

have been burned, at least as an illustrator. Forcing a solution, she decides to produce her own material instead. *Frame and Match* is created out of necessity, but once she sets to work, she finds it rewarding and immersive.

In *no kiss*, the eighteen months have been spent descending into a hibernation that could, perhaps, be clinically diagnosed as depression. After the birthday, Irina has had a "niggling sensation of something being wrong" (383). Lawrence has grown increasingly distant and focused on his work, and their mutual relationship has settled into a partnership that Irina describes as an antithesis to "consuming passion" and "obsessive love" (383). Neither of the two seem even possible to her in her life with Lawrence. Instead, they have companionship. She describes their relationship as "an alternative romantic model, one that […] did make for a fruitful life. Lives. Separate, fruitful lives" (384). Irina and Lawrence support each other, and Irina continues to feel content in the same incomplete way she did in the opening chapter. However, she also experiences the unremitting need for change that was born on the birthday: "[S]omething more needs to *happen*" (390, emphasis in the original). As summarized in the synopsis (see 4.2.2), matrimony was discussed and rejected, and after they find out that Lawrence's sperm count is low, they give up the idea of starting a family.

Seeking "the standard compensation for a childless career woman" (382), Irina is motivated to focus on her career. Lawrence gets a promotion at work, and in effect, he wants to support Irina's career. He buys her a brand-new Apple computer and teaches Irina how to illustrate with the software. After Irina masters the software, he suggests her to author a book of her own instead of the poor material she was accustomed to working with. Irina's reputation at the publishing houses is great after multiple projects executed carefully and ahead of time, so she is not forced to expand her field of operation. Yet, "fortified by [Lawrence's] faith in her" (385), Irina agrees to try. *Ivan and the Terribles* is born out of Lawrence's steering rather than her own intent. However, when she sets out to fulfill the given task, she makes it her own.

These contexts set the mood for the creative processes of the two very different books. The novel explains both stories in great detail, in a closed loop of narrative time outside the progression of the plot proper. Instead of simply repeating this, I connect the embedded fictions to their frame-novel here already within the synopses. Both books are inspired by a childhood toy she had, and attributes of these toys are transferred into the narrative structures of the stories.

In *kiss*, the toy is a flip doll (also known as *topsy turvy* doll). The following picture (Figure 9[116]) exemplifies the toy:

---

[116] "How to Make a Topsy Turvy Doll" by Wendi Gratz is licensed under CC BY-NC-SA 2.0.

FIGURE 9   Flip doll, or topsy-turvy doll

As a distinction from the illustrative photograph above, "[t]he hair was tousled brown yarn, the dress a dark floral print. When it was upended, the skirt flipped over the brunette's head to reveal a blond-haired *alter ego*, with a dress of light blue plaid" (371, my emphasis). The flipping and the contrast in the doll's look resonates with her transformation after the birthday. She characterizes the revealed version of the doll as an *alter ego*, echoing the early days of her romance with Ramsey when she was a stranger to herself, a "changeling" (79) with few moral boundaries, whereas in the past she had considered herself "a decent person" (105). Both the doll's alter egos are also revealed by flipping over the skirt; a mechanism that alludes to her sexual empowerment and rejuvenation that takes precedence when she decides to follow the will that was her.

The book *Frame and Match* (372—374) can be flipped like the doll, unraveling two stories depending on the way it is held in the hands of the reader. "Both stories would involve the same hero, and both stories would start at the same juncture in the hero's childhood. Yet the tales would proceed differently, depending on how the protagonist resolved his initial dilemma" (371). The hero of the story is named Martin. Martin's dilemma, much like Irina's, is one between a rules-bound and a rebellious life-path. Also much like Irina's, the rules-bound choice equals obeying an authority and turning away from snooker, whereas rebelling equals following one's passion and being immersed in snooker.

In the opening chapter, before the forking of Martin's world, he is introduced as a snooker prodigy. Despite his talent and passion for the game, his parents want him to forget snooker altogether. They want him to focus on his studies and go to the university. He loves his parents, and he loves snooker. "What is Martin to do?" (372) From here, the story forks into stories of rebellion and obedience.

The first version is that of rebellion. Rebelling against his parents, Martin continues to visit snooker clubs, skips school to play snooker, and improves his skills until he is good enough to beat many of the grown-ups in his local. His priorities start to show in his school reports, and his parents find out about his lying. They let him know that he needs to either leave snooker or leave home.

Martin leaves home, but misses his parents terribly. Life in the world of snooker makes him wealthy and he has a lot of friends. Still, he continues to miss his parents, and at times he gets bored with the monotonous snooker world. "There are good things and bad things about his life […] But when he looks back on his life, Martin realizes that he has spent his time doing something that he loves, and that, to him at least, is beautiful" (372—373). This is the end of the story when the book is opened from one end.

Flipped over, the second version is that of obedience. Obeying his parents, Martin reluctantly gives up snooker. He misses it, but directs these emotions into working hard on his studies. He receives perfect marks, is especially gifted in geometry and mathematics, and proceeds to study these topics at the university. Having graduated from the faculty of astronomy, Martin becomes an astronaut. He experiences many adventures, is close with his parents, and his parents are proud of him. Yet life alone in space gets lonely and sometimes boring. "There are good and bad things about his life […] when he looks back to his life, Martin realizes that he has spent his time doing something that he loves, and that, to him at least, is beautiful" (373—374). This is the end of the story when the book is opened from another end. In sum, both choices make him happy; if not perfectly happy, at least content enough.

In *no kiss*, the inspiration comes from an Etch-a-Sketch. It is a magnetic drawing toy that, after its original release in 1959, has seen many modifications (Figure 10[117]):

FIGURE 10   Etch-a-Sketch toy

From early on, Irina remembers enjoying drawing immensely, even though the end result on an Etch-a-Sketch was often blurry. She also remembers that "when you were painstaking enough (…) it was possible to improve on crude outlines" (385). The process requires ardent balancing between the lateral and the vertical axis. The knobs, black and white in the picture, "control the horizontal and vertical rods that move a stylus where the two meet. The point scores a line across the screen's reverse side. Experts can draw curved and diagonal lines." (Townsend 2011) The inspiring toy complements the elements of the forking paths in which the story is produced. In *no kiss,* where she prioritizes stability

---

[117] "Etch-a-sketch" by unloveablesteve is licensed under CC BY-NC-SA 2.0.

over change and suffers from the lack of variation, the inspiration comes from a toy that draws in black-and-white and requires painstaking precision to look beautiful.

The story is not told in a forking paths format, but it does introduce a dilemma and two solutions to it, as did the other book (and as does the novel itself). The hero of *Ivan and the Terribles* is a young boy named Ivan. Like Irina, Ivan is faced with an opportunity but finds neither acceding to it nor rejecting it an easy solution. The story begins in a situation where Ivan and Spencer have been best friends for years and years. Spencer is smart and often helps Ivan out with homework. They have created countless memories together, and everybody—fiends, teachers, and other adults—consider them inseparable. Then one day, Spencer does not come to school because he has a head cold. Strolling around the schoolyard on his own, Ivan is lonely.

During recess, Ivan bumps into another boy. This boy, Aaron, "is tall, witty, and clever, as well as gifted in kickball" (386). He likes Ivan immediately, and they start playing together. After spending the school day together, they want to keep playing together, and walk together to Ivan's home. After they have finished their homework and had a snack, they go out to skateboard. When Aaron is teaching Ivan how to do a new trick, Ivan looks up to the gate to his home. There he sees Spencer. Spencer looks at Ivan and Aaron with a look more forlorn than Ivan could have ever imagined. "That night, Ivan feels terrible" (386). The next day, Ivan tells Aaron that even if he likes Aaron immensely, he "already has a best friend," and that "Aaron will have to find someone else to play with" (386). One day, after couple of weeks have passed, Aaron does find another boy to play with. They become best friends. Unluckily for Ivan, Aaron's new friend is Spencer. "That night, Ivan feels terrible" (387). Both choices—getting a new best friend and sticking to his old best friend—make Ivan miserable.

The dilemmas that Martin and Ivan experience repeat the themes that Irina's forking paths have introduced. The storylines also foreshadow the conclusion of some storylines that Irina is not aware of in the diegetic present (such as being cheated on by Lawrence, foreshadowed by Spencer's betrayal). The solutions that Irina gives to her heroes reflect the insight into her framing effect that she has developed over the forking paths.

In *Frame and Match*, Martin is forced to make the decision after an ultimatum set by his parents. The decision must be made in the moment, but its effects are extrapolated over his entire lifetime. The book's title emphasizes this. The title of the book comes from snooker terminology, where it means roughly the same as battle and war in everyday language: If one loses the frame but wins the match, they have lost the battle but won the war. In *kiss*, Irina's character experiences a growth that she does not experience in *no-kiss*. Cheating on her partner and feeling guilty about it, she is forced to accept that she is as flawed as anyone. The humbling experience allows for a more in-depth perspective than she is able to cast when she chooses loyalty. Martin loses the frame but wins the match; he is forced to give up something that he loves, but he succeeds in a fulfilling life, nevertheless. Regardless of what he chose, he found happiness.

In contrast, Ivan's dilemma in *Ivan and the Terribles* becomes a choice only after the damage has already been done, and the consequences of Ivan's choice extend over just a couple of weeks. Ivan is stuck in the conflict between his intentions and their causes. He is sincere in playing with Aaron but gets punished by unwittingly causing pain to his best friend. His guilty conscience guides him, and he is sincere in choosing Spencer over Aaron. Yet he gets punished—both friendships exclude him. He is miserable either way. As the Irina of *no kiss* never experienced any change, her fiction in this frame does not conceptualize what the gain of change would be. Choosing *stability* over *change* was an attempt to preserve what she had, but for reasons unknown to her, even that happiness is escaping her. Regardless of what Ivan chooses, he cannot find happiness.

The dilemmas and Irina's solutions for them become issues of control. Martin is able to control his fate to a certain extent—even though he keeps missing either his parents or snooker, depending on the version of his life, he directs those negative feelings to getting even better at either snooker or his studies, depending on the version. Neither of the choices is clearly better than the other, but he has control. Ivan, on the other hand, is not able to control his fate. He realizes his unintentional mistake too late, and when he tries to fix it, it is, again, too late. A juxtaposition of control characterizes also the creating processes of the books. I turn to them next.

The creation process of *Frame and Match* is a search for techniques that fulfill Irina's intention. She creates passionate color schemes using inventive techniques. In long, comma-ridden sentences Irina describes how the pages of *Frame and Match* are dictated by "hard line and bold contrast," how "[f]orms didn't blend into the field, but fiercely stood their ground, brilliant red balls looming against a pulsating green backdrop" and how "she reached for whatever chalk, colored pencil, charcoal, or tube of acrylic would deliver the desired effect, and (…) razor-bladed swatches of glossy paper from adverts" (374). Fierce, brilliant, and pulsating energy of the pictures resonates with the revival that Irina goes through in *kiss.* In effect, she leads with the intention, making the material resources work for her rather than compromising on a set drawing technique or a single way to represent reality. The process also takes her closer to the world of snooker that she has come to hate: "It was always this way, that by drawing something she came to own it" (375). Working on this story, she approaches problems by experimenting with solutions.

The creation process of *Ivan and the Terribles* is a consistent process of mastering a single technique with precision. She works with a minimalistic color scheme and overcomes its restrictions with patience. Meticulously, Irina produces the illustrations solely on the computer software that allows her to imitate the real Etch-a-Sketch style. She produces the drawings in a solemn atmosphere, describing the restrictions of drawing in black-and-white. Deprived of the expressive powers of color, she is forced to focus on "the expressiveness of the figures" (388). That is challenging in and of itself, as "to accurately reflect the nature of an Etch A Sketch drawing the line could never lift, depicting isolated elements like eyes and shirt buttons was technically challenging" (388). The

difficulties with drawing eyes and shirt buttons echo her growing distance from Lawrence. It is not only that "they never kiss", but that in the one position in which they have been having sex for nine years "they never look at each other", and Lawrence only sees "the blurred profile of her head" while "she always stare[s] at the wall." (56) Working on this story, she approaches problems by finding new ways to work with what she has.

After the drawings for the books are ready, she shows them to her partner and discusses the storylines with them. Her partner would prefer a simpler storyline in both cases, but Irina argues for the complexity. These brief exchanges demonstrate most clearly how the fictions evidence her occupying both frames. I elaborate on this after analyzing the discussions between her and her partners.

In *kiss*, Ramsey is puzzled by the lack of a perfectly happy ending. As it is, in Martin's paths as an astronaut and as a snooker player, he never reaches a point where it all culminates and becomes worth the sacrifice at the forking of the paths. Irina explains:

> "The idea is that you don't have only one destiny. Younger and younger, kids are pressed to decide what they want to do with their lives, as if everything hinges on one decision. But whichever direction *you* go, there are going to be upsides and downsides. You're dealing with a set of trade-offs, and not one perfect course in comparison to which all the others are crap." (379−380, emphasis in the original)

Ramsey calls this "[b]ullocks," (380), but Irina stands her ground. In *Frame and Match*, Irina forwards an absolving and forgiving thesis that comments on the first aspect of the frames that have to do with the need to let go of the control (see Figure 8 in 4.2.1):

- Frame 1: Following the will that was her

- Frame 2: Suffocating the will that was her

On the one hand, she suggests that even when suffocating his will, Martin can be happy. One the other hand, she suggests that by following his will, the consequent pleasures are not so blissful that imagining other kinds of happiness would be beyond feasible. Mistakes are practically impossible in this fiction that focuses on the good sides, the gains of the decision problem. Furthermore, the thesis of *Frame and Match* is that the same aspects that produce happiness on one path can be used to produce happiness on another. Indeed, Martin's competing trajectories from childhood to late adulthood contain enough ups and downs to even out the gains and losses. The function of *Frame and Match* across the frames is absolving: There is no right choice to make.

In *no kiss*, Lawrence finds the storyline of *Ivan and the Terribles* too complicated for the intended child audience. To his sensibilities, it would be better to stop already at the point "where Ivan tells Aaron to find another playmate" (387). Irina disagrees, saying that she wants to avoid being obvious. Lawrence remains unconvinced:

> But that ending fucks everything up! (…) up to that penultimate point, you're saying basically, stick by old ties (…) but as it is, the moral of this story is that the protagonist was a sap, and should have run off with the new kid when he had the chance. (387)

Categorizing Ivan's solutions into a dichotomy of good and bad, his interpretation is black-and-white. He does not question the bias he holds, that Irina is formulating a didactic narrative that would extend a norm for the children to grasp. She is not: Irina dismisses his view as "one way of reading it" (387), explaining her own rationale:

> Ivan feels terrible in both instances, and your author never tells you in which he feels worse. In fact, the suggestion is—since the wording is identical—that between betraying and being betrayed, the anguish might be toss-up. (387)

Irina's task is more complicated. She describes a situation where the dichotomy of good and bad cannot be applied. Ivan does not choose well when rejecting Aaron, but staying with Spencer would not have made him any happier. In *Ivan and the Terribles*, Irina crafts an unforgiving yet absolving thesis that comments on the second aspect of the frames (see Figure 8 in 4.2.1):

- Frame 1: Cheating on her partner

- Frame 2: Staying faithful to her partner

On the one hand, she suggest that by cheating on her partner, the pain of guilt will be terrible. One the other hand, she suggests that by staying faithful to her partner, the pain of being abandoned will be terrible. Ivan is punished for even formulating the decision problem, but it can be speculated that Spencer already had it in him to trade friendships. Mistakes are unavoidable in this story that emphasizes the threats and the losses. The thesis of *Ivan and the Terribles* is that chances, once lost, are lost forever, and ties, once broken, are irreparable. The grimness of the thesis is strengthened by the narrow scope of the story. When time would pass, surely also Ivan would find happiness. But the Irina of the *no kiss* frame has not seen this yet, and thus it is understandable that the fiction within this forking path does not provide such perspective. Even when Ivan chooses to frame the event of befriending Aaron as a mistake and return to his old friendship with Spencer, happiness does not ensue. Yet the function of *Ivan and the Terribles* across the frames is absolving: There is no right choice to make.

Irina's fictions highlight the connections between the frames. To this effect, Irina's fictions are declarative of the competing frames. Specifically, they declare another argument for being indifferent between the frames. Irina's effort to hold the frames in mind simultaneously concretizes in each children's book, creating a *mises en cadre*[118] where Irina relives the birthday and the choice that defines her post-birthday world. The similarities between Irina's fictions and the events surrounding the birthday—the juncture of her post-birthday worlds—are numerous. By embedding her own dilemma into the dilemmas of Martin and Ivan, she questions and examines the alternatives to the values according to which she made her decision. The storylines of her fictions are produced within each forking path, within one frame, but they discuss themes that manifest only

---

[118] Werner Wolf defines the structural adaptation of the originally filmographic *mise en cadre* as "a 'top-down' construction of similarity within a text" (2010: 58).

by occupying both frames simultaneously. The following figure (11) illustrates the relationships between the diegesis, the frames, and the fictions within fiction:
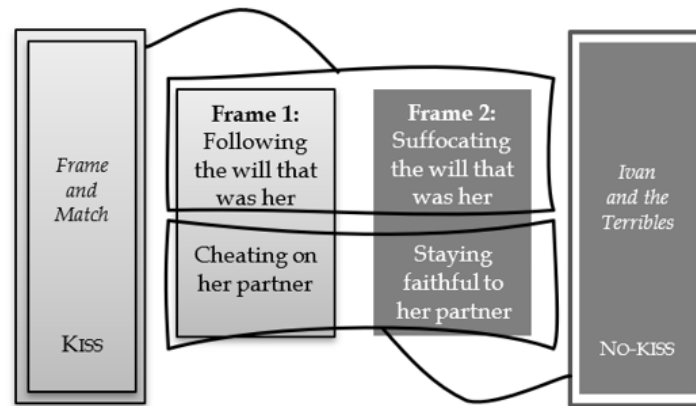

FIGURE 11   Relations between Irina's fictions and frames

Irina's dilemma is between following and suffocating her will *and* cheating on or staying faithful to her partner. Viewed as the step of perspectival flexibility, her fictions isolate a pair of aspects into one story and speculate on the possible differences. However, at the end of each story, she argues for indifference. In the frame-sensitive reasoning model, perspectival flexibility aims at forming the terrain for resolving the (in this case, intrapersonal) discursive deadlock that the framing effect creates. The discursive deadlock in *The Post-Birthday World* concerns the choice to either lean into a kiss or refrain from kissing, which becomes emblematic of either accepting or rejecting *change* and either discarding or preserving *stability*. Irina's fictions explore the frames simultaneously, but argue for equivalence. The next step of frame-sensitive reasoning focuses on the dynamics of the frames in Irina's attempts to create a hierarchy.

4.2.4   Reason construction and juxtaposition: Rationale

Moving on to the examination of Irina's attempts to create a hierarchy between the frames allows us, finally, to juxtapose the reasons against one another. So far, the steps have focused on describing the framing effect without attempting to solve it. This subsection consists of two phases, after which the solution, if attainable, should emerge. The first of the two phases, reason construction, involves "seeing how values and emotions refracted through frames yield reasons" (Bermúdez 2021: 254). This task draws attention to the motivations for prioritizing one or the other frame at the juncture of the forking paths (the result of the first step), feedback from occupying the frames (the result of the second step), and elements that connect the frames (the result of the third step). In other words, everything that the analysis has so far revealed is examined through the lens of finding the reasons why these elements exist: Why these are the motivations, why the feedback is what it is, and why certain aspects connect the

frames. When the reasons have been constructed, the second phase entails their juxtaposition. This juxtaposition reveals the differences between the reasons yielded by opposing frames.

Reason construction and juxtaposition thus involves two phases that I examine through two scenes. The scenes differ from the previous ones in that they are constructed from multiple flash scenes or moments within a scene. I introduce the scenes in connection with each phase, beginning now with the ninth scene.

I examine Irina's reason construction through the constructed scene Conceptions of Snooker. Focusing on this scene, I establish the connection that snooker has with decision-making. The scene consists of three flashes:

- Lawrence Describes Snooker

- Ramsey Describes Snooker

- Irina Describes Snooker

I keep approaching the framing effect through the comparison of the three characters. The relationship between the character traits of Irina's lovers and Irina's framing effect has been shown throughout the analysis. In effect, Conceptions of Snooker involves all three main characters explaining their conceptions of the game. Each of the three main characters has a distinct conception of snooker—a conception of what is important in the game, what kind of people play it, and why it is interesting. Their accounts differ from each other greatly, depicting snooker as a game of extreme states in Lawrence's and Ramsey's views and melting into a distancing balance in Irina's.

Snooker's importance in interpreting the decision-making process and the framing effect lies in its role as a metaphor. Metaphors introduce an analogical relationship between a concrete and an abstract element (Kövecses 2010). The relationship states that what holds for the one holds for the other. The connection is implied in the novel by Irina: "Snooker was all about taking advantage of opportunities that may never come your way again, providing it some romantic application" (136). Snooker is *risk*—but the element of risk rather than an instance of one.

Through the diegetic relevance of romantic opportunities in which timing is everything, snooker obtains tactical significance, emblematic of how to take advantage of opportunities that may never come your way again; how to conceptualize the risk that seizing the moment inevitably presents. How snooker is played is how risks should be approached in decision-making. To begin unraveling the relationship, I briefly explain what snooker in and of itself is.

From a neutral perspective, snooker is a ball game that resembles billiards or pool. It is played on a 365.8 cm × 182.9 cm wide table with a wooden frame topped with a slate bed that is covered with green baize cloth. The game is played with twenty-two balls: One white cue ball, fifteen red balls and six colored balls. The rules are summarized by Irina: "[Y]ou alternate potting a red with potting a color. Potted reds stay potted, potted colors return to their spots. Reds cleared off,

you sink the colors in a set order" (5). The duration of a match depends on the number of games played in the match and the number of frames played in one game (WPBSA 2019: 10), so the duration of a match varies greatly. Culturally, snooker carries an aristocratic air, with gentlemanly behavior and a formal dressing style of the players. Finally, the snooker details in *The Post-Birthday World* are accurate: The players against whom Ramsey plays are actual snooker players, the reputations of these players are what Irina explains them to be, and Ramsey's game schedules follow the real cycle of snooker tournaments.

The first flash scene, Lawrence Describes Snooker, is the first in order as it comes first in the novel, and as it is the one through which Irina is familiarized with the sport. For Lawrence, playing snooker requires establishing a balance between risk-taking and foresight. Lawrence never plays snooker but has a fascination for the game as a sport to follow. He appreciates its difficulty and elegance. Irina describes the precision in which Lawrence described the game to her initially: Snooker was "*much* more difficult, and *much* more elegant than dumpy old eight-ball" (3, emphasis in the original). His conception stresses the technicality and cognitive challenges of playing the game successfully: "It was a game not only of dexterity but of intricate premeditation, requiring its past masters to think up to a dozen shots ahead, and to develop a spatial and geometric sophistication that any mathematician would esteem" (3). Lawrence's description is so rule-oriented that the game becomes rather daunting; it is no wonder he never takes up the game himself. He has a theory of the people who do, however, and there he uses Ramsey as an example:

> "Sportsmen seek out games that suit their natures. He's weak, so he's avoided a test of physical strength. And he's averse to head-on conflict—with another man anyway. *In snooker, your opponent is an abstraction*. The lay of the balls could as well be generated by computer. Ultimately, all snooker players are playing against themselves, their personal best." (127—128, my emphasis)

As an observer rather than a player, Lawrence's version of snooker is a technically sophisticated game of playing against the abstract opponent of the player's prime. He stresses the importance of careful planning and calculating to minimize the element of surprise. Playing well is to control the game. Interaction is insignificant, as the game is played against the arrangement of balls rather than the person whose cue participated in placing them so.

Lawrence approaches risks by avoiding them, and consequently, his efforts are directed at predicting risks. Predicting and, subsequently, avoiding risks is important in order to minimize its effects on the pre-existing schedule. The forking path that Irina spends with Lawrence is numbing with its lack of change, and the fiction Irina produced in *no kiss* emphasizes the losses of this lifeworld by punishing Ivan for not thinking through the consequences (i.e. not realizing that playing with Aaron would hurt Spencer). It has been shown that Irina assimilates with the values of the man she loves. In *no kiss*, she prioritizes Lawrence, and thus also Lawrence's values. Risks become dangerous, something to be avoided. When she prefers *suffocating the will that was her* and *staying faithful to her partner*, she chooses to not seize the opportunity and instead to minimize

the risks born from the unforeseeable situation of dying to kiss Ramsey on his birthday.

Ramsey's account is far removed from Lawrence's. Instead of foresight, planning, or technical finesse, he stresses the importance of reacting to the unexpected. At the dinner with Irina on the titular birthday, Ramsey brushes upon the subject: "After every shot, it's a whole new frame. You live with the balls the way they lay, and not the way they were a minute ago when you had the whole break planned out" (30−31). His attitude manifests through his use of money, driving habits, and the manner of proposing as well as getting married to Irina. To the extent these manners are calculated, they are calculated in the moment.

Ramsey Describes Snooker takes place in chapter four of *kiss*. Ramsey is frustrated with Irina's indecision over leaving Lawrence. In the world of snooker, Ramsey is famous for his "celebrated attacking game" (267) and for being "a momentum player" (5). Consequently, he is frustrated by Irina's statement that she cannot choose because if she comes clean about her affair to Lawrence, "there [would be] no going back" (120). The flash scene is Ramsey's outburst to this statement. Contrary to Lawrence, he puts little value to precaution:

> There ain't never no going back! In snooker, you learn the hard way that every shot is for keeps. I got no time for prats who hair-tear about *Oi, if only I'd not used quite so deep a screw on the blue*. Well, you didn't. You potted the blue, or you didn't. You're on the next red, or you ain't. You live with it. You make the best call you can in the moment, and then you deal with the consequences. (120, emphasis in the original)

The gameplay is dictated by the moment, and the key to successful playing is to release the need to control the game by planning. Instead, what can be controlled is the practice of reading one's opponent as the game progresses. In one of the tournaments Ramsey wins, it is described how he manipulates his opponent to change the course of the game. Ramsey plays against an opponent whose playing style is as aggressive and moment-bound as his own, and Ramsey is losing. He changes the course of the game when he tailors his game against his opponent: "He knew that momentum players get tripped up when they have to keep rising from their seats only to play a single shot and sit back down" (182). This is what he decides to do − he "played safety instead […] the kind of snooker that [Ramsey] despised" (183), and wins the match in the end. As a player rather than an observer of snooker, Ramsey's version of the game involves reacting rather than predicting, and taking into account that the game is played against a concrete opponent who has all the merits and flaws of a human, not the neutrality of a computer.

Ramsey approaches risks by taking them as they come, and consequently, his efforts are directed at adapting to risks. Responding to risks is important because in his view, most things cannot be predicted. The forking path that Irina spends with Ramsey is overwhelming with the intensity of change, and the fiction Irina produces in *kiss* emphasizes the gains by rewarding Martin for making the best call he could in the moment and dealing with the consequences. When Irina prefers *following the will that was her* and *cheating on her partner*, she

chooses to seize the moment and adapts to the risks of the unforeseeable situation of dying to kiss Ramsey on his birthday.

Irina's reasons for prioritizing either *kiss* or *no kiss* on the night of the event are now constructed. Deducing that *seizing the moment* is better than *letting it slip* simply because it is braver would be too simple. Admittedly, the individual forking paths are two contrasted ways of conceptualizing the unexpected, the risk of seizing the moment, leading to strategies motivated by either adapting to or controlling the risk involved. However, this explains only the reasons behind the individual frames, not the conflict between them. As shown throughout the analysis, the forking paths resist morally polarized categorization. The paths, and the frames that make them, are opposite, but Irina creates a dynamic between them. Therefore, her framing effect is the interplay between the two extremes, the conflict between the clashing frames. Her framing effect persists without leaning into either of her lovers' risk-conceptions. This is because here, she is not *led* by either, but the framing effect is dictated by a third conception of risk, which can be discussed through the analysis of Irina's conception of snooker.

Neither a fan nor a player, Irina describes snooker from a distance different than Lawrence's and from an intimacy different from Ramsey's. For Irina, the game is not about foresight nor responding, but one of stimuli. She explains her conception of snooker in the pre-birthday world:

> [T]he game's ambiance was one of repose. The vitreous click-click of balls and civilized patter of polite applause were […] soothing […] The players wore waistcoats, and bow ties. […] Fans had sturdy bladders, for even tip-toeing to the loo invited public censure from the referee, an austere presence of few words who wore short, spotless white gloves. (3)

Her bodily, observing attitude manifests through her profession in illustration, as well as through her overall tendency to rather try to disseminate what is happening around her than to affect those happenings in any way. Indeed, when listening to the commentators narrate the game, she focuses on how their words sound instead of what they say: "The commentators spoke just above a whisper in soft, regional accents. Their vocabulary was suggestive, although not downright smutty: *in amongst the balls, deep screw, double-kiss, loose red;* the black was *available*" (3). Snooker has romance; it is suggestive. Her description addresses attributes whose value is higher the longer it lasts. Lawrence's conception of snooker emphasized thinking in advance and Ramsey's conception emphasized reaction in response; Irina's conception emphasizes living in the moment. This does not mean that she would be interested in following the course of the game in the moment. In fact, she is not very engaged in the sport at all. Snooker makes for "a pleasing backdrop while Irina sketched the storyboard of a new children's book, or stitched the hem on the living-room drapes" (4). She is happy to watch the events unravel before her eyes, living within the stimuli.

Irina, not sharing the more straightforward attitudes of her partners, does not approach risks. She does not try to foresee or adapt to them. She is merely invested in the existence of the risk, in the prospect of change. The interplay between the forking paths that she spends the entire novel in is oscillation

between the overwhelming and the numbing; change and stability; taking and avoiding risks. She is not sure about her choice on either path, as she does not feel fully in sync with either frame. The moment in the At the Snooker Table scene is when she has the most to lose and the most to gain. The unforeseeable situation of dying to kiss Ramsey on his birthday *is* already the destination, in this sense.

The reasons for prioritizing either frame and the rationale behind the persistent framing effect have now been constructed. Irina keeps oscillating between the frames because ending the cycle is not within her immediate interests. She does not want to be fixed to a specific aspect; her fictions argue that ambivalence can be comforting — she is not willing to count the losses and gains.

The domestic spaces that Irina shares with her partners concretize the values and emotions that yield her reasons for choosing either frame. Therefore, I proceed to juxtapose these reasons by juxtaposing the domestic spaces of the novel. Previous steps have discussed two domestic spaces, as they sufficed for describing the differences between Irina's frames. The phase of reason construction revealed, however, that there are three sets of reasons: Ramsey's, Lawrence's, and Irina's. I examine these through another scene that consists of flash-scenes. The tenth scene, Irina at Home, has five sub-scenes:

a) New Home, in which Irina meets Ramsey's house as her home for the first time.

b) Old Home, in which she visits her old home to meet herself.

c) Kitchen, in which Irina and Ramsey have a conflict.

d) Bedroom, in which Irina and Lawrence avoid a conflict.

e) Perfect Coffee, in which Irina describes her ideal balance.

Domestic spaces are the private environments intended for a family to share, and the genre of domestic fiction addresses the conflicts that arise in these spaces (Jacobson 2010: 24). The first two scenes discuss the houses as homes for their small families to share, and the latter two discuss the conflicts that arise when Irina tries to bring something over from one domestic space to another. The final scene explains her ideal domestic space, her *domestic utopia* (Duras 1992), summarizing the clashing frames and leading toward the solution.

New Home takes place in chapter seven of *kiss*, where Irina has spent months on the road with Ramsey and is longing to be back in England, back home, back in the stability and away from the excess of change. At this point, she has not yet embraced what the excess of change that comes with living with Ramsey will entail, and she envisions the domestic environment they would return to when everything would finally be normal again. On their way back to England, she tries to formulate an idea of her new home:

> Vaguely, she'd envisioned accompanying Ramsey on his travels to a cornucopia of other lavish hotels; with equal vagueness, she'd pictured a comfortable domestic routine on Victoria Park Road, more or less a facsimile of her life with Lawrence, but with better sex. (233)

When they arrive at Ramsey's house that is to also be her home, she is faced with the reality. As a distinction from the pretentious narrator of the pre-birthday world, the narrator of the forking paths is brutally honest:

> Much as she had pined for months to go "home," as she walked into Ramsey's gaunt three-story house, Irina's heart sank. Apparently the home for which she'd really been pining was the flat in Borough. She missed her mismatched Victorian crockery, her multiple rows of spice jars, her 1940s mixer lovingly retouched with green and manila enamel. (263)

She is disappointed because she feels that something is stopping her from collecting the crockery, spice jars, and mixer from her old apartment. The homes, in her head, are strictly separated, and she cannot bring herself to take these items from Lawrence. Describing domestic fiction, Deborah Levy talks about the woman's act of "canceling her own desires" for the benefit of the family (2013: 2016). Even though Irina has left Lawrence, her conception of family clearly still extends to him, and she positions herself as the one responsible for making his house a home.

The irony is that Lawrence does not want these items. When Irina visit Lawrence later in the story, she brings him a package of his favorite popcorn spice to commemorate their pre-dinner popcorn ritual. Receiving the gift, he does not even understand what it is, and once Lawrence's new girlfriend moves in, the first thing to go are Irina's beloved "rows of spice jars" (263). Irina is unwilling or unable to let go of the past, trying to retain both homes.

This pursuit develops into concrete measures in the Old Home scene. In *kiss*, she picks up the habit of sneaking into her old apartment "[o]n occasional weekdays, with Lawrence sure to be at work" (376). The possibility of changing something in Ramsey's house to make it more home-like for herself is never addressed. Instead, she simulates the life that she left behind:

> Sometimes she simply stood in the middle of the living room for minutes, or walked down the hall, glancing into the kitchen at the long rows of fading spices, touching the prints of Miró and Rothko, amazed that this diorama of her former life remained so intact that she could physically walk around in the past. (377)

Irina explains that she does not pine for Lawrence when visiting their home: "On these surreptitious trips to Borough Irina wasn't really visiting Lawrence, but herself" (377). Against the backdrop of her resigned attitude to risk and change and seize the moment, this makes perfect sense. She misses the easiness of daily routines that were a part of her life with Lawrence (even though in the opposite frame, the permanence of those routines does not save her from the gnawing feeling that something must happen). She does not talk about these issues with Ramsey or make herself face the issues on her own. She only chooses to observe the ready solutions as they were, admiring their aesthetics, without engaging.

There are two situations in which she tries to negotiate the rules of their homes. However, in these situations, where she does try to bring something over from one domestic environment to another, the spaces resist mixing.

In the Kitchen scene, Irina and Ramsey are about to spend their first real evening in. Soon they realize that their domestic routines clash starkly. Most

importantly, their tastes in cooking collide. Solving the problem by reacting to it, Ramsey suggests that they might eat together but separate dishes. Appalled, Irina shrieks "I'm not going to make myself a separate dinner" (265) because "[b]efore long we'd sleep in separate beds […] I just know there's a relationship. We have to be able to eat together" (268). They do not end up doing either; they never find a balance for eating in, but neither do they end up estranged in bed.

The opposite is true in the Bedroom scene. In the second chapter of *no kiss,* Irina understands that the disaster she averted on the birthday was a result of her relationship with Lawrence lacking change. Trying to adapt to this realization, she suggests to Lawrence that they should leave the light on and face each other during sex. Lawrence is perturbed; "What's wrong with the way we usually do it?" (76). Irina gets frightened for having rocked the boat; that is not within the rules of their household. Withdrawing her suggestion, Irina cannot find the words to express what she wants, and they continue to not face each other, making the act feel impersonal to Irina. Soon they stop having sex altogether, and Lawrence starts an affair. Yet until Lawrence's affair is revealed, they continue to share pre-dinner popcorn and enjoy creative, home-made dinners.

She cannot share both rooms (the kitchen and the bedroom) with either of her partners, because their character traits clash in a way that makes it impossible to be spontaneous and organized, rules- and practice-oriented, a scientist and a snooker-player at the same time. Yet she wants this to happen. The final subscene of her homes, Perfect Coffee, takes place in the third chapter of *no kiss.* Happy because she averted the disastrous results of kissing Ramsey, she enjoys her morning routine with Lawrence the morning after he gets back from Sarajevo. She stops to think about the very idea of routines and repetition, reflecting on the ideal ratio of change:

> The properties of repetition, she considered, were complex. Up to a point, repetition was a magnifier, and elevated habit to ritual. Taken too far, it could grow erosive, and grind ritual to the mindless and rote. In kind, the pound of surf, depending on the tides, could either deposit sand on the shore, or wear it away. While Irina was not averse to variety—sometimes the coffee was from Ethiopia, others from Uruguay—overall, variety was overrated. *She preferred variation within sameness.* (94, my emphasis)

Variation within sameness is retaining the structure but mixing up the details. In the subscene of New Home, she describes how she had expected to get back to the home she shared with Lawrence but "with better sex" (233). The unreachable combination is her version of *domestic utopia;* a home that she imagines in search of happiness without ever getting there (Duras 1992). Originally formulated by Marguerite Duras in her essay collection *Practicalities* (1992), the domestic utopia is built for the ones that the woman loves, but for Irina, the domestic utopia concerns herself alone. The imaginary, ideal and perfect home is meaningful "not in happiness but in the search of it" (Duras 1992). Variation within sameness is a strategy that allows happiness to take different shapes and come from different sources.

The practice of searching for happiness—the ideal home—*is* her framing effect. Her primary value is partnership (see 4.2.1), and the forking paths result from competing framings of that happiness. Neither frame meets her ideal, the

utopia, and thus her unresolved quasi-cyclical preferences guide her to look for an improved resolve. The framing effect persists as the quasi-cyclical preferences become "reflected in regret, indecision, and backsliding" (Bermúdez 2021: 281).This results into a dynamic where Lawrence's and Ramsey's ideas of home, failing to match hers, are signals that she has chosen wrong. Whenever they encounter a point of friction that leads to a conflict, she swings to the opposing frame, sincerely regretting her choice. She keeps waiting for things to work out by themselves, for the phone to ring; buzzer to blare; to be kissed. Due to her inherent disengaging attitude to risk and change, she keeps oscillating between the consequences of kissing and not kissing Ramsey, according to the feedback of her situation. During the early steps of the analysis, this seemed like an obvious flaw in her process, but considering the reasons for choosing or refraining from choosing, it now seems like the best option she has. At the end of both of her paths, she is alone, reflecting on the partnerships she lost. This is what I turn to next.

4.2.5   Solution: Ambivalence

The forking paths close at the end of the eleventh chapter, and the twelfth and final chapter returns to the intact world. Chapter twelve (512–517), however, offers only a partial conclusion. To the extent the ending is a conclusion, the framing effect has been resolved; to the extent questions remain open, the framing effect keeps going. This correlation is my focus in this subsection. The final chapter opens after a hypothetical ellipsis of a few months, to the day of Ramsey's funeral. I examine scene eleven, Post-Burial Coffee. The subscene Coffee in the previous subsection defined what the ideal home and ideal partnership were for Irina. Similarly, Post-Burial Coffee reflects on the ways in which the forking paths, in retrospect, were perfect.

Irina returns to reflect on her dominant value of partnership and the two ways it manifested in her life. Despite the differences between the competing framings of the kiss, they are both realizations of the same value. The first step of frame-sensitive reasoning established the value of partnership as the one that drives Irina's decision-making. She repeats the sentiment explicitly:

> "[…] [T]he truth is, there's only one thing I've ever really wanted more than anything else, and it isn't professional success. I could live without that. The only thing I can't live without is a man. That must sound dreadful, out in the open! But at the risk of sounding gormless, I wanted true love that lasts. […] I thought setting my sights that low, I had some chance at getting what I wanted. And now even with so meager a goal, I've failed it. (514)

Framing this declaration as a continuation to *kiss*, she acts rather selfishly by lamenting on the loss of Ramsey to Lawrence, who suffered because of their affair. Yet it fits her character traits. She has focused solely on herself throughout the framings, treating her lovers as extensions to her life, rather than partners. It is she herself who does not engage in the act of a relationship, of constructing it into a partnership. Her framing effect is based on the value of *partnership* in a situation where neither of the available options reflect the value in the way she finds ideal.

It might seem odd that such a profound clash has been constructed on one single value. Bermúdez specifically points out (2021: 232):

> [O]ne might think that whenever there is a clash of frame-relative values, there must be a clash of values—or, in other words, that there cannot be a clash of frame-relative values unless there are (at least) two conflicting values. That would be a mistake, however. There can be deep and apparently irreconcilable conflicts between frame-relative values, even when there is a single value in play.

The single value, partnership, was extrapolated into two manifestations defined by the character traits of Irina's partners: A partnership that is stable, supporting, and peaceful, or one that is volatile, passionate, and impulsive. After this realization, Irina meticulously attempts to resolve the clashing frames of this value through the solution concepts listed in the frame-sensitive reasoning model (see Bermúdez 2021: 278—281, see also 3.3). I overview them individually.

First, the frames are brought to a *competitive dialog* in an attempt to "remove the clash of frames" (Bermúdez 2021: 278). Consequently, what gets compared are the partners that Irina had over the forking paths. After a stretch of silence, Lawrence says half to himself: "Ramsey […] He was all right" (514). This prompts Irina to delve into a deeper reflection: "Ramsey […] was what I would call a *lovely man*. You're what I would call a *fine man*" (514). Lawrence inquires which do women, in Irina's opinion, prefer. She contemplates that "whichever a woman ends up with, she'll wonder if she wouldn't rather have the other" (514). Neither of the frames win out.

Second, she attempts to solve the clash through an *overarching frame.* An overarching frame restricts the complexity to one aspect of the framing effect that is present in both, but, if solvable, manifests differently in both (Bermúdez 2021: 280). The narration drifts further away from the conversation. She identifies her own love, "her passion" (515), as an overarching element of the frames. Delivered abruptly by a voice that might equally well belong to Narrator-Irina or Protagonist-Irina, the passage has an air of both revelation and conclusion:

> For years she had loved Lawrence Trainer and Ramsey Acton at the same time. That had seemed to cast suspicion on the integrity of both affections, leaving each dilute. *But perhaps instead she was doubly blessed, and her passion hadn't been divided in half, but multiplied by two.* (515—516, my emphasis)

By not making a choice, she has kept both of them, having one as the overlay of another, and consequently doubled her love. This is her domestic utopia; days shared with a seamlessly coordinated partner, who wants the same routines and deviations from them in the same perfect ratio to one another that Irina does. It is a life of pre-dinner popcorn and lovingly home-cooked, healthy meals (Lawrence) but also with indulgent meals catered to her in lavish restaurants (Ramsey). It is a life with immersive bouts of fulfilling work (Lawrence) but also with leisurely days filled with tantalizing sex (Ramsey). Nevertheless, it remains that the overarching frame of Irina's love does not resolve the framing effect. This is the third solution emerging from the frame-sensitive reasoning model: That the quasi-cyclical preferences cannot be solved (Bermúdez 2021). Irina continues the revelation from the previous excerpt, accepting the result:

> After all, it had always been frustrating: if you put the two of them together—Lawrence's discipline, intellect, and self-control, Ramsey's eroticism, spontaneity, and abandon—you'd have the perfect man. (515—516)

To what extent is this rational? Rationality is consistency in which preferences, strategies, and goals comprise a system of means-to-an-end. In terms of substantive content, Irina's methods of pursuing what she wants often leave much to be desired, as she is a dishonest and hard-to-read partner. However, she *is* rational within the criteria of frame-sensitive reasoning (see Bermúdez 2021: 122—146; 225—228, see also 3.3). Her preferences are not cyclical, but quasi-cyclical—she is aware that *cheating on her partner* and *following the will that was her* are, as Bermúdez formulates quasi-cyclicality, "different framings of the same event" (2021: 226). Therefore, the value of partnership remains ultra-intentional throughout the process, extending to both framings in a different, conflict-inducing way.

The key aspect of rationality, here, is awareness. In the first chapter of the novel, Irina is in the grips of a framing effect because she cannot reach consistency in her preferences. She is aware of this conflict: "[S]he knew with perfect certainty that she now stood at the most consequential crossroads of her life" (41). Therefore, she must be considered rational. She prefers *following* and *suffocating the will that was her* and *staying faithful* and *cheating on her partner* in the ultra-intentional sense of consistent preferences. She ardently goes through all the steps of the frame-sensitive reasoning model in the narrative. Now, in the end, she is again confirmed rational: She is aware of having loved two men (517) and thus having held on to both framings for the duration of the forking paths.

But now, at the end of the paths, she describes her passion *doubled* instead of divided in two; she argues for unresolved complexity over linearity. As she has been rational, albeit not successful in the expected sense, this result should be taken seriously. The option of accepting non-resolve as anything else but an antonym of success is not considered in the frame-sensitive decision model. Bermúdez's vision of a persistent deadlock is viewed as a failure[119]:

> A frame-sensitive reasoner may do everything that can be reasonably expected of them by way of reflexive decentering, imaginative simulation, perspectival sensitivity, and reason construction and juxtaposition without a single frame winning out […] Such reasoners cannot escape their quasi-cyclical preferences. (280—281)

In the model, resolution is always preferable to non-resolution. Yet the notion that quasi-cyclical preferences should be *escaped* does not sit well with Irina's description of being *doubly blessed.* It should also be noted that Irina's reflection comes *after* she has described "a man" as "the only thing [she] can't live without" as something she failed at (514), and that Irina's contemplation here is equipped with the sense of revelation. These two aspects suggest that insofar as Irina's revelation contradicts her previous statement, the new information overwrites

---

[119] I explain earlier (3.3) that according to Bermúdez, lack of resolution is not lack of rationality or a sign of bad procedure. These two claims should not be confused with one another: The procedure can be sound even if the problem itself is too complicated to be resolved as a result of following the procedure.

the old. Furthermore, Irina's viewpoint contrasts with that of Bermúdez, which supposes that unresolved quasi-cyclical preferences are "reflected in regret, indecision, and backsliding" (281). All of these qualities were part of Irina's forking paths, but arriving at the end of them, they have disappeared. She confirms her happiness with her resolve when her dilemma reappears at the closing words of the novel. Leaving the coffee shop, Irina asks Lawrence whether he remembers the one birthday, years ago, when he was in Sarajevo and Irina spent the birthday with Ramsey. When Lawrence says he does, Irina confesses:

> "There was a moment, that night. I was overcome with the desire to kiss [Ramsey]. […] I had the unshakable conviction, at that juncture, that I was facing, strangely, the biggest decision of my life."
> "Well. Did you make the right choice?"
> "Yes," she determined, with a little frown. "I think so." (517)

The affirmation can be interpreted to mean that she either made both choices or neither of them. At the end, then, her quasi-cyclical preferences over *following* or *suffocating the will that was her* and *staying faithful to* or *cheating on her partner* remain. Instead of adapting to the change by leaning into the kiss or minimizing the consequences of the change by refraining from the kiss, the novel shows her doing both and neither. The partnerships that she has with the two men look, sound, and feel different from each other. Yet partnership, her primary value, was manifest in both (hence the *yes*) while not completely, not with the perfect man of her domestic utopia (hence the frown). Her dilemma remains unresolved, but she has made the right decision. The ending offers little closure apart from Irina's happiness. Drawing from the description of the decision-making process in *The Post-Birthday World*, I transfer the paradox into the framework of game theory in the following chapter.

5 FORMAL ANALYSIS OF SOME LITERARY DECISIONS

> I kept moving […] to defy any logical path and experience the building naturally,
> like a forest, without desire, without rational choices.
> The protagonist, Neil Double, of Will Wiles' *The Way Inn*, 2014: 95

Neil Double in Will Wiles's *The Way Inn* constructs an opposition between *natural* and *rational* choices. He maintains that a forest grows without desire; without consideration of the preferences that rationality requires. But the character is wrong; the forest must grow with a desire to reach the sun, and rational choices cannot exist without desire directed to a specific goal. Juxtaposing the rational and the natural, Double's misunderstanding of rational choices is as fundamental as the coordination problem between the fields of game theory and literary studies. The opposite of rational is not natural, but aimless, and therefore Mr. Double, with his aim *to defy any logical path* is actually following a rational strategy of randomizing. This does not take away his impression of acting *irrationally*, but perhaps he would have felt more in control in this situation knowing that he is not strategically lost but strategically sound.

After showing in detail how the decision-making process is constructed in the literary narrative, this chapter offers examples of the ways in which game-theoretic modeling can enrich the understanding of those narratives. I focus on four situations in which the structure of the events of *Dark Matter* (in 5.1) and *The Post-Birthday World* (5.2) is strategically interesting. I examine how game theory can elucidate the consistencies at play. I adopt the rule of not using calculus, but use the demonstrative power of game theory in *showing* what the strategic patterns are: This is an aspect of game theory's "richness that goes beyond mathematical symbols and abstract forms" (Brams 2012: 27). When constructing the games, I pay special attention to the interplay of the details and the structure, by tying the games to the results of the previous chapter's analysis.

5.1 Game-theoretic analysis of two aspects of *Dark Matter*

Strategic decisions in Blake Crouch's *Dark Matter* concern the choices of, with respect to the first game, Jason and his doppelgängers, and with respect to the second game, Jason and Daniela. The games are drawn from the novel's final parts of rising tension toward the conclusion (251−340). This part was the least relevant in the literary analysis of the previous chapter, as by this point, Jason's framing effect has been solved. However, an in-depth understanding of his framing effect is crucial in studying the strategic structures of the plot that I target in this chapter, as the process of resolving the framing effect is the only thing that sets the returning Jasons, that is, the Jasons who have found their way back to the native world, apart.

5.1.1 N-Jason Prisoners' Dilemma

At the end of the Door to Door: Alone scene, Jason finds his way back to his native world. Shortly after arriving in this world, Jason discovers an online "UberChat" (258) that the Jasons use to communicate with each other. The chat is established by one of the Jasons for all who identify as "The Real Jason Dessen" (258). The protagonist-Jason is given the username of Jason9, meaning that he is the ninth Jason to find his way to this social platform. Jason breathes in deep and instructs himself to think of his situation and its possible solutions "logically, rationally" (257), but obviously so are his doppelgängers. The discussion flows on the screen:

> Jason3: Did everyone run through the game-theory scenarios?
> Jason4: Yes.
> Jason6: Yes.
> Jason8: Yes.
> JasonADMIN: Yes.
> Jason3: So we all know there's no way this ends well. […]
> Jason5: I have a gun too. None of you fought as hard as I did to get home. None of you saw what I saw.
> Jason7: You have no idea what the rest of us went through.
> Jason5: I saw hell. Literally. Hell. Where are you right now, Jason7? I've already killed two of us. (260)

Jason observes the chat for a while, profoundly confused. However, he is able to come to terms with the situation and understand its strategic structure:

> The other Jasons want the thing in the world that is most precious to me−my family. That makes them my enemy. I ask myself what I would be willing to do to regain my life. Would I kill another version of me if it meant that I could spend the rest of my days with Daniela? Would they? I picture these other versions of me […] wrestling with this exact line of thinking. […] Attempting to forecast their doppelgängers' next moves. There can be no sharing. It's strictly competitive, a zero-sum game, where only one of us can win. […] It's a classic setup, pure game theory. A terrifying spin of the Prisoner's Dilemma that asks, Is it possible to outthink yourself? (262)

The *spin* on the Prisoners' Dilemma that he identifies and that is created in *Dark Matter* is two-fold: Instead of two players, like in the classic form of the game, 1)

there are multiple players, and instead of two different people, 2) they are versions of the same person. For the number of players, the game constructed here becomes an *n*-player Prisoners' Dilemma, and for the similarities between the players, the game focuses on the *types* of the players.

The game is constructed on the event of Jason's proposal that the Jasons should hold a peaceful lottery to decide who gets to be with Daniela and Charlie. When Jason proposes this, he has been reunited with his family, and has explained the situation to them (see 4.1.5). They drive north and find a cabin to stay for the night. During the night Jason sits down to contemplate the situation, and with Daniela and Charlie asleep, he suggests the lottery in the chat:

> Jason9: DANIELA AND CHARLIE ARE WITH ME. […] they're safe. They're also very scared. […] I would rather die than see anything happen to them. So here's what I'm proposing. Two days from now, at midnight, we all meet up at the power plant and conduct a peaceful lottery. The winner gets to live in this world with Daniela and Charlie. Also, we destroy the box, so no other Jasons find their way here. (308–309)

By suggesting the lottery, Jason suggests resigning from the Prisoners' Dilemma setting, willing to let chance decide instead. Risking an assumption, Jason expects all the Jasons to share his selfless devotion to his family:

> I know I'll keep my word, and maybe this is naïve of my part, but I think that means all of you will too. Because you wouldn't be keeping your word for us. You'd be keeping it for Daniela and Charlie. […] All that matters is our wife and son living out the rest of their lives in peace and safety. If you feel otherwise, you don't deserve them. (310)

He believes that others, more or less, share his viewpoint. However, within a diegetic nychthemeron after Jason's proposal, dozens of Jasons one by one find their way to the cabin, fighting each other, killing each other, and even threatening the safety of their family. Jason, Daniela, and Charlie flee to the abandoned power plant where the box is situated. There, another group of Jasons are waiting for the lottery to commence. Daniela tells them that the lottery is off the table. The Jasons are crestfallen, but let Jason and his (or their) family pass into the box, and the family starts a new life in the new world we see them discovering at the end.

The narrative structure that I address in this section is the following: It seems circumstantial that the Jasons waiting for them at the plant simply let them pass, seeing that the group of Jasons they fled from was trying to kill Jason. Therefore, I attempt to see if game theory can shed light on the understanding of the structure of the narrative's plot.

To this effect, I study the situation as an *n*-player Prisoners' Dilemma, drawing from solutions introduced by Miklos Szilagyi in a computer-assisted study, in which he simulated different outcomes of an *n*-player Prisoners' Dilemma based on the composition of *types* of players (2003: 155–174). Szilagyi employs his own simulation tool (Szilagyi & Szilagyi 2000, see also Szilagyi 2001, Szilagyi & Szilagyi 2002) "designed to simulate social dilemmas" involving an "unlimited number of agents with various personalities" (2003: 156). For comparison: If I was to get hold of this simulation tool to replicate the study but

on the present study's material, I would be setting up different scenarios where, for example, all the Jasons would have wanted to do the lottery, or 60% of them would have not wanted to do that, and so on. While this would be interesting, the *n*-player Prisoners' Dilemma I construct is less explorative and instead more strictly founded on the plot and what we know about the actual Jasons. Next, I will explain the general conditions of the game.

The conditions of a multiplayer Prisoners' Dilemma are fundamentally the same as for a standard two-person one. The basic formulation of the *n*-player Prisoners' Dilemma is similar to the situation of the Jasons in the narrative:

> (1) Regardless of what the other agents do, each agent receives a higher payoff for defective behavior than for cooperative behavior.
>
> (2) All agents receive a lower payoff if all defect than if all cooperate. (Szilagyi 2003: 157, see also Dawes 1980)

Similarly to the Prisoners' Dilemma in 2.2., also here the highest payoff comes from non-cooperative behavior, but if all choose a non-cooperative strategy, it would have been better for everyone to cooperate. When each player has the same *strategy set* (here; cooperate, do not cooperate) and identical *payoff functions* (here; defect when others do not > cooperate when others cooperate > defect when others defect) it is intuitive to think that all players, regardless of their number, would act similarly, but this is not necessarily the case (Harrington 2009: 117). Against Jason's expectations when he makes the proposal for the lottery, the differences between the Jasons matter. In fact, Szilagyi, in the context of his own study, maintains that "[t]he personalities of the agents is one of the most important characteristics of the game" (2003: 158, see also Komorita & Parks 1994), meaning that the personalities of the agents will make them act differently by making different behaviors rational. Accordingly, one of the main parameters of Szilagyi's examination concerns the personality profiles of the players. Szilagyi differentiates between five categories (2003: 159):

> (1) *Pavlovian*: adhering to Thorndike's law[120], Pavlovian players would change their action according to it being rewarded or punished by the environment.
>
> (2) *Stochastically predictable*: contrary to the previous, the stochastically predictable player's actions do not change, as they either a) *cooperate* (100% of the time), *defect* (100% of the time), or *randomize* (50% cooperate; 50%defect) consistently throughout the game.
>
> (3) *Accountant*: keeping count of the past events in the game, accountants act based on the average of previous rewards and punishments.
>
> (4) *Conformist*: keeping count of the other players' actions in the game, conformists act according to what they observe being the most commonly chosen action to take.

---

[120] Based on considerations about animal intelligence like Pavlov's famous experiments, Thorndike's law maintains that rewarding encourages the behavior that earned the reward (Thorndike 1911).

(5) *Greedy*: keeping count of the other players' received payoffs in the game, greedy players act according to what they observe yielding the best result for other players.

Each of the categories of players has a slightly different incentive to either cooperate or defect, and a slightly different incentive to repeat that action. Similarly, each Jason has a slightly different incentive to either participate in the lottery or continue on their killing spree, and each Jason chooses to either hold onto this motivation or change it based on their type. Based on the Jasons who get a voice in the narrative, I see reason to construct a three-fold typology of personality profiles for them. Below, I introduce them by explaining their personality categories and their level of cooperation. The personality profiles are introduced from the most cooperative to the least cooperative:

(1) *Organizer*: JasonADMIN, who tirelessly minds the chat; the Jason who at the power plant persuades other Jasons to cooperate: "This isn't about him. It's about what she wants. What our son needs. That's all that matters now. Let them pass. All of you." (336); protagonist-Jason, who organizes a lottery in which he acknowledges being "almost certain to lose" (310).

(2) *Hit-or-miss*: Jason at the bar with a scar on his face (see 4.1.5, also 270−271), who at first is peaceful and much like protagonist-Jason, appears in the cabin ready to kill Jason; "I'm not sacrificing myself so someone else can be with my wife and son […] I'll kill a thousand of you if that's what it takes" (323).

(3) *Terminator*: Jason5, who happily declares "already kill[ing] two of us" (261) and asks for the whereabouts of Jason7 in order to end him next.

All the Jasons who get a voice in the narrative fit into the three categories above, and those who do not get a voice are expected to fit into these three categories. In terms of Szilagyi's typology, the Jasons seem to invariably represent *stochastically predictable* types: *Organizers* always cooperate; *terminators* always defect; *hit-or-missers* randomize (half the time cooperate, half the time defect)[121].

The predictable types are, obviously, also the simplest. Overall, it is not surprising that these would be the types found in the narrative, seeing that the Jasons consciously interact only for slightly over thirty pages. Establishing the relatively complex profiles of *greedy*, *accounting*, *conforming*, or even the slightly simpler *pavlovian* profile would require more interaction between Jasons and more information on their choices and those choices' rootedness in their personalities. What we do know is that when pleading for the lottery, Jason draws on the value of *keeping their word for Daniela and Charlie*. Therefore, it can be expected that as a rule the cooperative Jasons would want to keep their word to their family whereas non-cooperative Jasons do not.

Szilagyi simulates the iterations (up to the 1000th iteration) of the development of strategic behavior among different personality types and their combinations, but he does not experiment on the agents' predictable actions (perhaps simply because they are predictable). Therefore, I cannot copy the

---

[121] Szilagyi refers to them as *negatively stubborn* ($p = 0$); *positively stubborn* ($p = 1$); *unpredictable* ($p = 0.5$) (2003: 159).

strategy pattern that his simulation identified. However, the division of strategic behaviors among the population of Jasons can be constructed from the narrative.

As a rule of thumb, if the division between personality profiles among Jasons is even (that is, one third for each type), then the development of the behavior remains balanced. This means that however many times the Jasons should choose between defecting and cooperating, *terminators* would always defect, *organizers* would always cooperate, and *hit-or-missers* would always randomize, that is, be divided equally between the two.

The narrative does not give exact numbers of Jasons at any point, but it provides some signposts: The Jason with the highest username is Jason109, which implies the existence of 109 Jasons, to which we must add JasonADMIN. Furthermore, for the sake of convenience and lack of information in the narrative, I assume that the flow of new Jasons replenishes the negative flow of Jasons killed by other Jasons. Based on this, I define the number of Jasons to be 110.

It seems that half of them are indeed cooperative: When Jason leaves his native world with his family and takes a last look through the slowly closing door to the box, he reports seeing "fifty versions of me [who] all stare toward the box in a stunned and eerie silence" (337). I find it reasonable to give an error of margin of 10% to Jason's estimation made in an extremely stressful situation, making the count of Jasons at the powerplant to be 55. Therefore, we can assume 0.5 of n Jasons to be cooperative per one iteration of the game. I visualize the situation based on these narrative-based deductions in the graphic below. The graphic presents the distribution of cooperative and uncooperative strategies among Jasons (each square is one Jason) in a one-shot game when $n = 110$ (Figure 12)[122]:
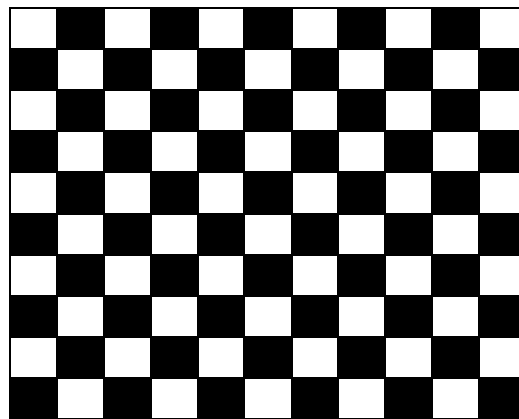
FIGURE 12   Distribution of strategies when n = 110.

The narrative's solution becomes less circumstantial: The non-cooperative Jasons were either killed at the cabin or left behind, whereas all the Jasons who came to the abandoned power plant for the lottery took the cooperative strategy. In effect, they all want to keep their word for Daniela and Charlie, and it is *Daniela* who tells them that she has chosen Jason: "Charlie and I are going into the box with

---

[122] The visual expression is a simplified imitation of the graphical snapshots reported in Szilagyi (2003: 166—169).

this man" (337). Cooperative like Jason, they "would rather die than see anything happen to them" (308), and thus give way, staring at the closing door in eerie silence, as reported by Jason.

Examining the narrative through *n*-player Prisoners' Dilemma enriched the understanding of the narrative's conclusion by strengthening its rationality. Understanding the effect of the personality types on the strategies adopted by the Jasons makes it understandable that the Jasons at the power plant chose to give way, but also that the Jasons at the cabin chose to try to kill each other. Furthermore, it eases the ethical problem given to Daniela: She understands that each one of the Jasons, apart from Jason2, is a version of a man whom she has shared almost half of her life with, and yet she has to choose one of them as, in some way, the real Jason. Strategic behavior plays a significant role in, of course, the credibility of the plot, but also the ethical rationale behind Daniela's decision. In the next section we delve into the strategic patterns behind that choice.

5.1.2 Familiar Signals

This section focuses on Daniela's perspective on the problem of suddenly having 110 husbands instead of one. The strategic behavior of the above-categorized non-cooperative Jasons makes it easy to disregard them—after all, they put their family in danger, and the strategic behavior of cooperative Jasons makes it easier to disregard them, too, as they give their consent to it, respecting Daniela's decision to flee into the multiverse with protagonist-Jason.

In practice, in the narrative, these behaviors only reassure Daniela of what she already knows. She had already chosen protagonist-Jason as the one who she considers her husband. How did Daniela come to that conclusion? I study this question by constructing aspects of it in a signaling game. Before introducing the form of the game, I introduce the narrative context where I draw from.

The second game takes place during the narrow window of time, about 48 hours, when Jason manages to convince Daniela to flee with him to the cabin and the other Jasons are not aware of where they are. During those two days, protagonist-Jason convinces his family of the idea that, despite all other Jasons (apart from Jason2) sharing exactly as much history with them as he, he is at least an equally good or better choice than any of the other Jasons. This decision-making process is difficult for Daniela, who fully understands the gravity of her choice:

> She says softly, "These other… Jasons… what are they like?"
> "What are you asking?"
> "Do they all share your history? Are they basically you?"
> "Yes. Up until the moment I stepped into the multiverse. Then we all took different paths, had different experiences."
> "But some are just like you? Versions of my husband who have fought like hell to get back to this world. Who want nothing more than to be with me again. With Charlie."
> "Yeah."
> Her eyes narrow. What must this be like for her? I can see trying to wrap her mind around the impossibility of it all.
> "Dani, look at me."

221

I stare into her shimmering eyes. I say, "I love you."

"I love you too. But so do the others, right? Just as much as you do." (296—297)

She understands that Jason's feelings alone do not set him apart from the other Jasons. After thinking about it for a while, she iterates her criteria more carefully: "How do I know you're *my* Jason? […] I want the man I made a life with. The man I made Charlie with. But I need to know you're that man" (305—307). She understands, of course, that all these other Jasons, strictly speaking, meet these criteria, as all the Jasons fork from each other only after having spent 15 years together with Daniela and Charlie as a family.

Therefore, what she actually means is that she wants to know whether *this* Jason has the qualities of the Jason with whom she has built a life; that the time a Jason spent in the multiverse did not turn him into someone else, one way or another. I interpret this to mean that she wants to recognize his features as familiar—she wants to know that he is both the *husband* and the *father* that she knows. And lo, at the end of the day they spend together, Daniela is convinced. Lying in Jason's arms, Daniela declares: "I don't want some other version of you. I want you" (319). The signaling game constructed in this section examines the events that convinced her during that day. I focus on four situations that test whether Jason conforms to or deviates from the familiar husband and father Daniela knows and is trying to identify. I now proceed to introduce a simplified version of a signaling game[123].

Signaling games are used to assess someone's true intentions. Such situations might include, for example, hiring decisions: An employer would want to hire an industrious rather than a lazy worker (see Harrington 2009: 326—327, 338—339). Yet lazy workers would also like to get paid, so it might be within their interests to fool the employer into believing that they are industrious by acting in a way that gives a deceptive signal.

Signaling games (see Dutta 1999: 383—400, Harrington 2009: 325—353) are sequential (turn-taking) games of incomplete information. The incomplete information concerns namely the *type of the first player.* Therefore, the first player has information of their type that the second wants to find out. In the game, the second player observes the first player's move and takes it as a signal of the first player's type. After observing the first player's move, the second player makes their move according to the type they believe the first player represents. The players' strategies aim at maximizing their utility, and therefore, the second player needs to know the first player's type in order to choose the right action for her. In the simplified version of the game constructed in this section, the game consists of two players (Jason and Daniela) who have two moves (explained soon), and Jason has two types (Jason and Stranger). An extensive form of the signaling game looks like this (Figure 13):

---

[123] Signaling games are solved with *perfect Bayesian equilibria* (also *perfect Bayes-Nash equilibria*), which is quite an advanced and complicated solution concept. While I have no doubts that using the appropriate theorems would serve the literary analysis qualitatively, I here hope to present only the basic structure of a signaling game with simple payoffs. Therefore, I assign the payoffs so that the result of the game is obvious.
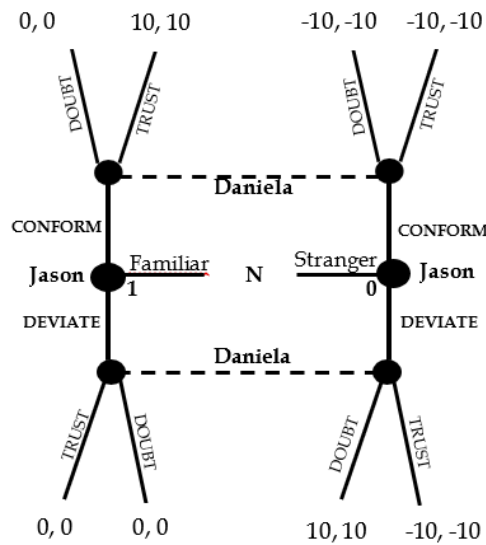
FIGURE 13   Extensive form of Familiar Signals

The N in the middle stands for *Nature,* but in this game, Nature acts differently than normally because of the game's roots in an actual narrative. Normally, the role of Nature is to claim the first player's type according to the probabilities given under the two possible types (see e.g. Harrington 2009: 326); they define whether Player one, in one iteration of the game, is laboring under this or that set of preferences, making different strategies rational for them. Here, the role of nature is simplified by setting the probabilities as follows: There is a 0 percent probability that Jason is Stranger and 1.0 probability that he is Familiar. This is so because in this analysis, N could just as well stand for Narrative, as the probability is adopted from the narrative. We know that Jason's type is invariably Familiar.

The other type exists because Daniela does not know this (as expressed by the information sets); to her it is relevant to look for signals that would betray Jason as Stranger. The Stranger type would act in a way that would not build trust in Daniela. Jason has two actions: *Conform* and *deviate*, to which Daniela responds by either *trust* or *doubt.*

The payoffs reflect Jason's and Daniela's need to keep their family safe, which, in the narrative present, is their main motive. Daniela is already doubtful, or at least not convinced, that Jason is safe, or the real husband and father for their family. Jason, on the other hand, wants to convince Daniela that he is safe, because by failing to do so, Daniela might flee from him with Charlie and end up in the hands of an unsafe Jason (a Stranger). Based on these strategic motives, their family's safety can either increase (10, 10), decrease (- 10, -10), or stay in the same (0, 0):

- When Jason is Familiar and *conforms*, Daniela's *trust* makes both happy because the family is safer (10, 10), whereas if *conforming* would evoke *doubt* instead, the situation would remain as it is (0, 0).
- When Jason is Familiar and *deviates*, the situation in either case of Daniela's actions remains as it is (0, 0).
- When Jason is Stranger and *conforms*, the situation in either case of Daniela's actions would put the family in danger (-10, -10).
- When Jason is Stranger and *deviates*, Daniela's *trust* would put the family in danger (-10, -10), whereas Daniela's *doubt* would keep the family safe (10, 10).

In a signaling game, the second player is equipped with a set of beliefs about what the different actions indicate. Daniela's beliefs can be inferred to be the following: If Jason chooses *conform*, then he is Familiar; if *deviate*, the Stranger. The players' strategies are defined by the principle of maximizing the utility (in this case, simply, payoff). Therefore, the strategies guide to the following paths:

→ Jason's strategy: If Familiar, then *conform*; if Stranger, then *deviate.*
→ Daniela's strategy: If observes *conform*, then *trust*; if *deviate*, then *doubt.*

These strategies lead to what is called a *separating equilibrium.* This means that Daniela can only observe *conform* **if** Jason's type is Familiar; she can only observe *deviate* **if** Jason's type is Stranger. Therefore, the tree can be simplified (Figure 14):
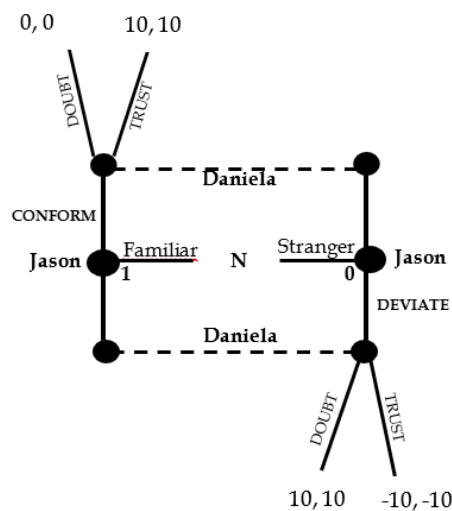
FIGURE 14   Separating equilibria of Familiar Signals

The separating equilibrium of Familiar Signals describes the strategic setting between Jason and Daniela during the day the family spends together, and during which Daniela is convinced that Jason is the husband and father who belongs to their family. I examine four narrative situations where understanding the strategic pattern can help to understand what convinced Daniela. In all of these situations, the separating equilibrium presented in Figure 14 applies.

The premise for the first and the second situation and, simultaneously, the first two iterations of the signaling game are the rules that Jason and Daniela have

set on their marriage. At least one of these rules is stated explicitly: "[O]ur marriage isn't built on keeping secrets. We talk about everything. The hardest things. It's embedded in our identity as a couple." (314) Jason's relationship to this rule is tested during the day when he (1st iteration) chooses whether to talk about his night with Daniela2 in the beginning of his multiverse-adventure, and (2nd iteration) chooses whether to talk about the lottery he suggested to the other Jasons in the chat when Daniela and Charlie were sleeping.

In both iterations of the signaling game, his type is Familiar ($p = 1$), and because it is his best response to *conform* to the rules they have for their marriage, he raises both of these issues, and as in this case it is Daniela's best response to *trust*, these two talks (despite the heavy topics) strengthen their bond (314—315). Daniela can be reassured that despite the about half a year spent apart from each other, Jason, despite his extreme experiences over that period, has not changed into a person who would not be the person she built a life with.

The next two situations concern his fatherhood. The habits and customs that form his relationship with his son and, by extension, his role as a father are implied in the narrative: The mood in the Family Night scene evidences the warmth and ease that the family feels when being together, and in the Walk in the Autumn Night scene he thinks about getting back home to sit by the fire with his family. It can be expected that developing this kind of familiarity again would signal to Daniela that Jason is the man she had Charlie with and with whom she built a family. During the day, Jason gets two chances two prove this.

First, when Jason and Daniela return to the cabin after talking about the difficult topics considered in the first two iterations of the signaling game, they find Charlie in the cabin's kitchen, cooking breakfast. Flipping pancakes into the air, Charlie asks Jason to (3rd iteration) "make your fruit thing" (315), to which Jason agrees and starts slicing apples. This is a choice to *conform* to the family customs which, again, is his best response, and to which Daniela's best response is to trust.

Finally, (4th iteration) they spend a drifting, planless day in a nearby town where they go see a bad romantic comedy, talk nonsense, dance to country music, laugh without knowing why they laugh. All of a sudden, Charlie says to his mother: "Hasn't felt like this in the last months, has it?" (317). Also this scene is Jason's move of *conforming* to the Dessen family customs and rules and therefore evoking trust in Daniela.

At this point in the narrative, Daniela and Charlie have not met other Jasons apart from Jason2, and thus it would be persuasive to think that they are comparing Jason to Jason2. Jason2, with whom the two have been living for only six months, would not have known what *the fruit thing* refers to. Furthermore, he would not have been as amused as Jason was by the drifting day out; having spent the last fifteen years on research, his needs are different. Daniela reflects in the novel on how the dinner conversations with Jason2 center "around ideas, books, and articles Jason is reading, and Charlie's studies, instead of a mundane recounting of the day's events" (182). Viewed through the signaling game, these

moves signal to Daniela that Jason is familiar as a husband and a father, and thus, the man she had made a home and a life with.

The simplified signaling game was able to enrich the understanding of the narrative by providing a framework through which to argue for the importance of these quite separate acts of picking up difficult topics, cooking a fruit sauce, and spending a day out. The game helped in guiding the attention to the Dessen family rules and customs and how they manifested during the day in which the family is welded together again.

5.2 Game-theoretic analysis of two aspects of *The Post-Birthday World*

In the strategic analysis of Irina's dilemma in *The Post-Birthday World*, I examine the unresolved framing effect beyond the conclusion given in the novel, to see if a strategic analysis can shed light on the parts that were left open in the novel's narration. The players of the two games are Irina and Lawrence. While Ramsey is a part of Irina's paths, he cannot be considered a player, because he is not given a choice in the same sense as Irina and Lawrence are. Therefore, it is Irina and Lawrence who are strategically interdependent.

The forking paths, as revealed by the literary analysis, are constructed on the juxtapositions of change and stability, adventure and safety, new and old. It is never explained in the novel whether one path made Irina happier than the other. On the contrary, the novel's disposition explicitly argues for a balance between the paths; the intense indifference that the two different lives resolve into. In the two games, I try to reveal the structures that lay behind the conclusion given in the novel in order to understand it better.

This is an attractive premise, as Irina's final argument for the indifference between her two paths can easily feel unjustified and half-hearted. After all, at the end of Chapter Eleven of *kiss*, she was left counting her blessings, and even though it was by her partner's deathbed, she felt gratitude, whereas at the end of Chapter Eleven of *no kiss,* she was left falling into an uneasy sleep in her own bed, rejected, unhappy, and alone. The situation was reversed in the beginning, namely at the end of Chapter Three, when she counts her blessings at the end of a pleasant night in with her partner in *no kiss* while at the end of Chapter Three in *kiss*, she falls asleep hating herself. Even though one anguish is in the past and one in the present, they might, as Irina argues in *Ivan and the Terribles*, just be a toss-up.

Such a continuous process of comparison is even more central in *The Post-Birthday World* than in *Dark Matter*, perhaps because it remains unresolved in the former. In an attempt to clarify the resulting inverted interplay of Irina's forking paths, I investigate two aspects of them through two games. These aspects are the following:

(1) The paths might have been solved for *no kiss* if Irina and Lawrence could have found a way to talk earlier than they did. Why did they not?

(2) The paths might have been solved for *kiss* if Irina had realized in time that Lawrence was cheating on her. Why did she not?

The games freeze the forking paths into one event and one aspect of the strategic interaction between the couple, in order to clarify how that aspect contributed to the framing effect remaining unresolved. Therefore, the games obviously do not solve which path was better, but they might help understand why neither of them was better than the other.

5.2.1 Nagging Chicken

During the Memories of Lawrence scene in the literary analysis, I argued that the scene reveals a sense of oppressive safety that underlies Irina's and Lawrence's relationship; a sense of anxiety about the obligation of staying happy together. In this section, I examine the strategic role of this oppressive safety in their solution to not express that they are, each in their own way, unhappy in the relationship. They learn to talk to each other only when it is already too late to fix what is broken between them, as Irina laments shortly after the Pronouncing Snooker scene in the frame of *kiss*:

> This was exactly the kind of conversation that the two of them should have been having, and could have been having, and that might have prevented her from closing those fateful few inches over Ramsey's snooker table in July. Now that they'd finally learned to talk to each other, it was too late. (170)

A strategic analysis cannot reliably speculate on whether Irina's speculations are true or not, but it can shed light on *why* they keep choosing the destructive strategy of silence over and over again. A psychologist's perspective might reveal that it is scary to be vulnerable and maybe they do not have the tools or words for dealing with or expressing the problem. A strategic analyst, however, must look at the payoffs: Why does silence yield better utility than opening up? Consequently, the starting point to the analysis is that, for some reason, remaining silent about their problems is preferable to addressing them. To delve into this problem, I proceed to the introduce the game of Chicken[124].

Chicken is a simple game of two players who both have two moves. Their formal goals are tied not only to utility-maximization, but also avoiding a mutual disaster (Binmore 2007: 23, see also Chuah 2011). The Chicken game is often contextualized through the Chicken Run scene in the James Dean film *Rebel without a Cause* (1955), where two drivers speed toward a cliff. The one to swerve first is considered the loser—a chicken—but if neither swerves, they both drive off of the cliff. The tension that precedes the moment of choosing a strategy has

---

[124] Also known as the game of Dove-Hawk. Game-theoretically the games of Chicken and Dove-Hawk are identical. The parallel use of names is a result of similar ideas being developed in different fields.

been compared to the balance of terror familiar from the Cold War[125] (see Russell 1959). Such tension surely resonates with the domestic climate of the home of a couple in a dysfunctional relationship.

From the point of view of the Chicken game, the scene where Irina laments them learning to talk to each other too late takes place when the game of Chicken is already over. At that point, they have already driven off of the cliff, that being the end of their relationship, and the same dynamic and tension that tied them as players no longer applies. Addressing issues becomes possible when hiding them does not yield a tempting payoff. To understand why it did before, I will apply a scene from the novel to the Chicken game.

I investigate an argument that Irina and Lawrence have in the seventh chapter of the frame of *no kiss*. With this couple that rarely fights, the argument is representative of the ones they have. Therefore, if it seems that the two are following the Chicken game's strategy, it can be assumed that the solution concepts for Chicken might explain why this pattern is rational to them.

In this scene, they are first discussing Lawrence's upcoming work-trip to Russia. Irina has known about the trip for months without Lawrence knowing that she knows. She hopes that he will ask her to join, but she suspects that Lawrence does not want her to come along. She is right; Lawrence does not want her to come along. The resulting imbalance of needs is the problem that they can choose to either *talk* about or *evade*. I construct a shortened version of the scene below, marking the strategies used on the left:

TALK	"You just want to have your own special thing!" Irina exploded.
EVADE	"If," he said after a pause, "I would like to have *my own special thing*, what is wrong with that?"
TALK	"Nothing," she said defeatedly, surveying the makings of kung pao chicken with no appetite. "Except that the alternative would be to do something together, and have Russia as something we have in common, instead of a place you've colonized for yourself because you got there first."
EVADE	"Irina," he said with unusual earnestness. "It's important that we both maintain our independence."
TALK	"I don't think that's our problem, maintaining independence."
EVADE	"I wasn't aware we had a problem."
TALK	"No," she said sorrowfully. "You wouldn't be."
EVADE	[Lawrence does not respond.] (294, emphasis in the original)

EVADE / EVADE	The fortnight's lead-up to Lawrence's departure for Moscow was civil but strained. Irina never took back what she said about *his own special thing* or softened her sense of injury over not being invited. When it was time for him to leave for Heathrow, they both agreed it wasn't *sensible* for Irina to accompany him to the airport. (294—295, emphasis in the original)

It is important to make the distinction between talking in general and the specific strategy of *talking* that denotes to speaking up, talking about the issue that Lawrence does not want Irina to come along. Lawrence keeps talking as in saying

---

[125] "The game may be played without misfortune a few times, but sooner or later it will come to be felt that loss of face is more dreadful than nuclear annihilation. The moment will come when neither side can face the derisive cry of 'Chicken!' from the other side. When that moment is come, the statesmen of both sides will plunge the world into destruction." (Russell 1959: 30)

things, but does that to shift the discussion away from the problem at hand, by arguing that the problem does not exist in the first place. Turned into a decision matrix, in which the payoffs conform to the standard Chicken game, the strategic representation of the scene looks as follows (Table 8):

TABLE 8   Strategic form of Nagging Chicken

		Lawrence	
		talk	evade
Irina	talk	3,3	0,4
	evade	4,0	-10,-10

Looking at the payoffs, it is revealed that Lawrence *evades* when Irina *talks* (strategies in the upper-right corner of the matrix), where Irina's payoff is 0 and Lawrence's 4. Toward the end of the scene, they descend into another batch of oppressive safety (or a balance of horror) that can either be broken by one of them *talking* (willing to be the nagging chicken) or the mutual destruction that ends the game (-10, -10). In the narrative, and thus also in the game, the strategies in the lower right corner of the matrix are repeated long enough for them to drive off of the cliff; finding themselves in a situation in which talking about their issues can no longer fix their relationship. It is only after that, after the end of the game that ended in the mutual disaster, that talking becomes possible.

In a healthy relationship, coordinating to *talking* (3, 3) would be preferred, because the game would not be solved with individual utility maximization (to the benefit of 4) but with the *pareto-efficiency*—a view of utility that takes into account the benefit shared *between* the players (in which case 3, 3 = 6 is better than 0, 4 or 4, 0 = 4). However, it is clear that this is not Irina's and Lawrence's strategic pattern and that they, instead, play the classic Chicken that is solved by *anti-coordination*. I explain: Reflected to the frame-story of *Rebel without a Cause* above, the strategy of *evading* is paralleled with *speeding* whereas *talking* is paralleled with *swerving. Evading* is the best response *as long as* it is not also chosen (i.e. coordinated) by the other player. This makes Chicken an anti-coordination game: The pure Nash Equilibria[126] are found in the uncoordinated strategies yielding the payoffs of (0,4) and (4,0).

This is the solution to the game: From the point of view of the individual's utility maximization—rationality—it is always better to maintain the status quo as long as it is likely that the other player will resolve the tension. The danger, obviously, is that neither will, and that the mutually disastrous payoff (-10, -10) will happen.

By analyzing the strategic patterns of Irina's and Lawrence's communication about their happiness in the relationship, we were able to enrich

---

[126] I will not discuss the available mixed Nash Equilibrium, for its complexity.

our understanding of the narrative by demonstrating that the couple did not learn to talk due to the anti-coordination strategy; whenever Irina tried to bring the issues up, Lawrence would evade because that rocked the boat less.

Simultaneously, evading the subject meant that the solution to it was delayed. In effect, Lawrence did not only deteriorate his and Irina's relationship, but also stole time from Irina that she could have spent differently, having her framing effect solved for *kiss* in the event of finding out that *no kiss* was based on a lie. The next game looks into the strategic patterns of this lie.

5.2.2 Cheating Signals

Cheating is a central element of all interaction in *The Post-Birthday World.* Already on the first day of the forking paths, cheating has taken place in both: In *kiss*, Irina has spent the previous night with Ramsey, and in *no kiss*, Lawrence returns from Sarajevo where, it is implied, his affair with Bethany has started. In *kiss*, Irina confesses her affair to Lawrence early on, but in *no kiss*, Lawrence's affair with Bethany is kept secret until the end of the forking path, until the fateful moment where Irina finds a mobile phone in his pocket. When Lawrence's affair is finally revealed, it is because Irina confronts Lawrence about it—not because Lawrence wanted to confess. To preface the signaling game played in this section, I quote a set of excerpts from the discussion at the end of their relationship:

> His face churned. That was the point, before he said a word, that he broke her heart. The contortion of those muscles paraded a *decision* over whether to tell her the truth. Once he finally spoke, Lawrence's opting for the honesty route didn't nearly compensate for the fact that candour had been a choice. For an alternative direction to have beckoned, it was probably well trod. (490, emphasis in the original)

> [Irina:] "Why?" Another obligation, but because the question had to do with the inner workings of a total stranger, she was not sure that she cared. […]
> His face was ploughed into itself. "I don't know."
> "You must have thought about it." […]
> [Lawrence:] "I don't know. […] Sometimes. Others, not at all. I keep things—separate. You know, I—"
> "Oh, God, you're not going to say compartmentalize, are you?"
> "Uh—not anymore!" She didn't smile. (492)

> [Irina:] I'm oblivious to your having an affair for five years. What does that make me but a moron."
> [Lawrence:] "No, it makes me careful. I wasn't dropping clues, hoping to be found out. I've dreaded hurting you. I've gone to lengths not to."
> "I'm supposed to feel flattered? That you cheated well? […]" (492)

This (compressed) scene paints the picture of a multi-branched, repetitious decision tree of betrayal that has only now come to its final round, as a result of getting exposed. None of the signals that Lawrence has sent over the narrative, up until the mobile phone, had exposed him as a cheater. Compared to Irina's lying skills in the beginning of *kiss*, when she is seeing Ramsey behind Lawrence's back, Lawrence lies expertly. Harrington points out that "[t]o lie, one must intend to mislead with the anticipation of success" (2009: 362). Indeed, Irina did not want to be a good liar—"she did not want to become good at this" (91). Lawrence, in contrast, found it important to be good at it. Unlike Irina, who was

ridden with guilt for sneaking out to see Ramsey during the days, Lawrence kept things separate. He did cheat *well* if the praise is taken to denote delaying the inevitable cost of hurting Irina. Lawrence was able to lead a double life for five years. Why was that so?

To shed light on this issue, I construct a *signaling game* of the situation. As I have used and introduced the signaling already in 5.1.2, I do repeat myself here. Like the previous game, Familiar Signals, was about signaling familiarity and strangeness, this game is about signaling devotion and lack of devotion. To establish the conditions of the game, I examine these habits in the narrative context.

For Irina to have had faith in their relationship for these five years, she must have been convinced that, despite their many issues, Lawrence was, at least, loyal to her and loved her. It was shown in the literary analysis that Lawrence's way of showing love was to support Irina; he acted as her "straight-A self" (259). Irina did not expect Lawrence to show his love with impulsive proposals or unremitting physical attention (the actions she learned to expect from Ramsey), but in contrast, she would expect Lawrence to show his love by showing unremitting support of her ambitions. To play the game, I examine four excerpts of the narrative that evidence Lawrence showing love to Irina before he had an affair and during the time that he had an affair. I list them below:

1) Before starting the affair, Lawrence suggests a solution for Irina's health-related condition that hinders her ability to work when the temperature dropped:

> It was a minor malady, and common: Raynaud's disease, which sent the small blood vessels of the extremities into spasm at even moderately cool temperatures. Now that September had kicked in, the problem had returned. When it was diagnosed, Lawrence had suggested, for working in the studio during the day, a pair of fingerless gloves. (116−117)

2) Before starting the affair, Lawrence has a habit of helping Irina find new projects:

> He was a considerate man, ever drawing her attention to up-and-coming publishers, [offering] professional advice. (117)

3) After starting the affair, Lawrence buys Irina a computer and drawing software in order to help her update her expertise as an illustrator:

> The amount of time he dedicated to getting her up to speed in computer graphics was stupendous. As a belated Christmas present […], he bought her a new Apple, better for graphics than a PC, and all the necessary software.(384)

1) After starting the affair, Lawrence "dedicate[s] himself to seeing *Ivan and the Terribles* celebrated in the world of commerce" (389):

> He declared that it was high time she replaced her mousy, small-time agent with heavy-hitting representation, and did exhaustive Internet research on which influential British agents had lucrative sales in the US. He "helped" her design—i.e., put together himself—a professional-looking submission package, including a CD of both the *Ivan* illustrations and digital photos of previous work, a polished CD, and confident cover letter. (389)

231

It can be seen that qualitatively the expressions of love are very much alike, and if anything, their intensity grows stronger. This increase of intensity is not, however, reflected in the analysis. Irina does not pay attention to such developments in the novel in connection with reporting these acts as individual shows of support and partnership; simply, love. Therefore, they are deemed equal also in the signaling game. In the game, these acts are considered as moves Lawrence makes when representing different types. Each act is an iteration of the signaling game.

I now proceed to construct the game, then see how it is played in the narrative in the four excerpts named above, and finally, discuss how the resulting *pooling equilibria* (as opposed to the separating equilibria of 5.1.2) can shed light on the narrative's strategic structures that kept Irina in the dark. The following extended form shows the starting point to Cheating Signals (Figure 15):
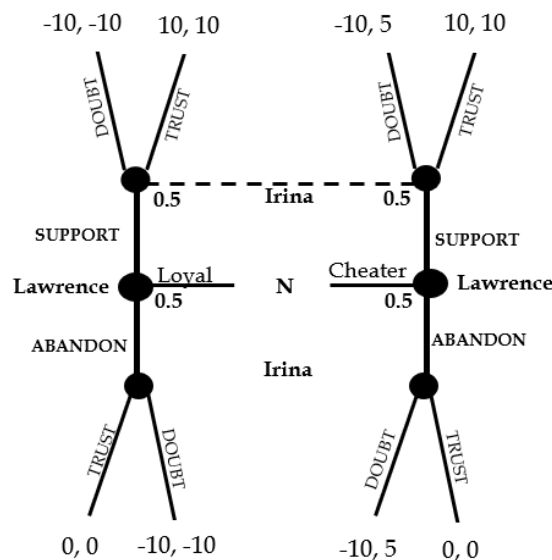

FIGURE 15   Extensive form of Cheating Signals

In this signaling game, as in the previous (in 5.1.2), the N in the middle stands for the Nature/Narrative that defines Lawrence's type. However, the game differs from the previous in three ways. Firstly, the probability of Lawrence's type is different: In the excerpts of the narrative that define Lawrence's way of supporting Irina, he is not always a cheater. Therefore, Nature/Narrative decides his type according to the narrative context of the example, making the probability p divide equally: Cheater $p = 0.5$ and Loyal $p = 0.5$. Secondly, this game has four iterations, between which Irina has a chance to learn about Lawrence's type. This is shown by the two probability values of 0.5 marked at the ends of Irina's information set (the dashed line). These values have the ability to tilt more toward one or the other type, so that Irina can perceive one or the other type as more probable. The third and final formal difference is that Irina does not have an information set between the types of the move *abandon* — if Lawrence *abandons* Irina, she knows whether he is Loyal or Cheater.

232

Lawrence has two actions, *support* and *abandon*, to which Irina responds either by *trust* or *doubt*. Lawrence's goal is to evoke trust by his supportive behavior regardless of his type. Based on what the narrative tells us of Lawrence's preferences (see e.g. the first excerpt of this section), we must assume that he would want to cause as little harm to their happiness as possible.

Irina, then again, investigates Lawrence with the goal of knowing whether he loves her (Loyal) or does not (Cheater). As the second player, Irina is equipped with a set of beliefs about what the different actions of the first player, Lawrence, indicate, and these beliefs together with the numeral value of the payoffs guide Irina's choice[127]. Irina's beliefs can be inferred to be the following: If Lawrence chooses to *support*, then he is Loyal; if *abandon*, he is Cheater. Therefore, the players' happiness can either improve (10), deteriorate (-10), or remain the same (0):

- When Lawrence is Loyal and *supports*, Irina' *doubts* make the relationship deteriorate (-10, -10), but her *trust* makes them both happy (10, 10).

- When Lawrence is Loyal and *abandons*, Irina's unnecessary *doubt* deteriorates both of their happiness (-10, -10), but if Irina *trusts* instead him instead, the relationship stays the same (0, 0).

- When Lawrence is Cheater and *supports*, Irina's *trust* makes both of them happy (10, 10), but Irina's justified *doubt* deteriorates Lawrence's happiness but makes Irina somewhat happy for being right (-10, 5).

- When Lawrence is Cheater and *abandons*, Irina's *trust* keeps the relationship the same (0, 0), whereas if Irina *doubts*, her justified *doubt* deteriorates Lawrence's happiness but makes Irina somewhat happy for being right (-10, 5).

I will examine the four iterations of the game next. As the first player, Lawrence moves first in these scenes. In both iterations 1 and 2, Nature/Narrative dictates that Lawrence's type is Loyal. These were situated in the narrative past, available to the reader through Irina's memories, whereas the affair started only in the narrative present. Playing as the loyal type, he chooses between the left side moves; *support* (yielding either -10 or 10) and *abandon* (yielding either 0 or -10). The payoffs are such as his preferences include showing love to Irina in order to keep building their relationship. Thus, s*upport* is the higher-paying option on average. In examples 3 and 4, Lawrence's type is Cheater. These examples happen within the scope of the narrative present. Thus, he chooses between the right side moves; *support* (yielding either -10 or 10) and *abandon* (yielding either -10 or 0). The payoffs, or his preferences, include not "dropping clues" (492), and avoiding hurting Irina. *Support* is the higher-paying option on average. These reveal his strategies per type:

→ Lawrence's strategy: If Loyal, then *support*; if Cheater, then *support*.

---

[127] Per the solution concept of Perfect Bayesian Equilibrium, which I do not explain here in further detail than what naturally comes clear through the simplified game played in this section.

Then Irina's move. When Irina observes *support*, she does not know Lawrence's type. However, she *believes* that when Lawrence *supports,* he is Loyal. Therefore, she chooses to *trust* (that yields 10 on average) in the case of either type: She takes 1) buying fingerless gloves, 2) giving tips about work, 3) investing in new tools, and 4) marketing her skills as signs of love that tell her that Lawrence's type is constantly and consistently Loyal.

→ Irina's strategy: If observes *support*, then *trust*; if *abandon,* then *doubt.*

These strategies lead to a *pooling equilibrium*: Lawrence's strategies are such that Irina can observe *support* regardless of Lawrence's type. Therefore, the tree can be simplified (Figure 16):
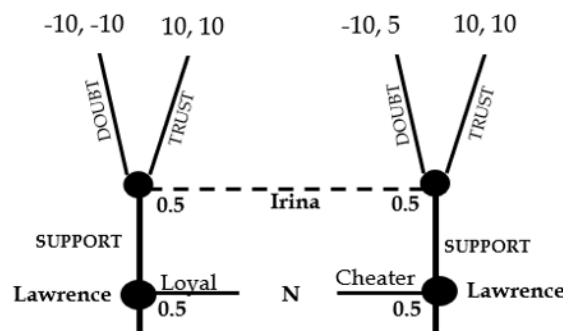

FIGURE 16   Pooling equilibrium of Cheating Signals

The pooling equilibrium is different from the separating equilibrium of Familiar Signals in that the second player (here, Irina) cannot learn anything from the first player's (here, Lawrence's) moves (see Harrington 2009: 326). Indeed, we might speculate what the abandoning acts in this respect are, as they are not represented in the narrative as Lawrence never stops signaling love in his dominant way, regardless of his extra-marital affair. Whereas in *Dark Matter* Daniela was able to infer that Jason was Familiar, Irina cannot distinguish between Cheater-Lawrence and Loyal-Lawrence based on the ways in which he shows devotion. Therefore, it would require something more complex than rational deduction to understand that Lawrence was cheating on her.

The simplified signaling game was able to enrich the understanding of the narrative by providing a framework to examine the reasons for why Lawrence's betrayal in the frame *no kiss* was able to continue for so long. The form of the game guided the attention to Lawrence's way of showing love and devotion to Irina, and helped to realize that his way of signaling this never changed.

5.3 Summary of results

The games constructed and played in this chapter demonstrate consistently that the use of game-theoretic modeling in a literary context is not so much predictive as it is demonstrative. Game-theoretic modeling can draw the attention to the strategies at play in the narrative by offering a structure through which to view a problem, but it is less relevant in its original sense of predicting the best strategy to choose. Instead, game-theoretic modeling can be used to reveal why aspects of the structure are (or are not) consistent.

Game-theoretic modeling provides a systematic framework to address consistencies in the plot from a critical perspective instead of relying solely on interpretation of the narrative. In this way, game-theoretic modeling can enrich literary analysis by helping to strengthen or debunk intuitive *interpretations* arising from the narrative. Therefore, game-theoretic analysis of literature does not target the literary narrative *as it stands* in the literary work, but *as it is interpreted* by the scholar.

This practical division further accentuates the need for a two-fold analysis—details and structure—of the narrative whenever literature is analyzed in rational-choice terms. A two-fold analysis increases the chances that the scholar does not get stuck on superficial questions, such as arguing for the similarities between a passage of literature and an instance of a game as an end in and of itself. While this approach can be worthwhile and interesting when literature is approached as a context for illustrative examples, pointing out such parallels without tying them to the literary narrative as a whole does not add much value to the literary perspective. Analyzing the literary narrative in detail before problematizing aspects of its structure increases the chances of the games being meaningful to the literary scholar's perspective, for example, by being representative of larger themes in the literary narrative.

6   DISCUSSION OF RESULTS

In this study, I set out to find solutions to the coordination problem between literature studies and game theory, the problem of the two "not often benefiting from each others' insights" (Brams 2012: 27), by identifying ways in which systematic study of decisions can be relevant for the study of literature. The premise, then, was to challenge the belief that such interdisciplinary field of study would be problematic rather than promising (see Brams 2012: 4, Chwe 2009: 30, Daston 2004: 361, Lanham 1973: 38). I critically overviewed the composition of this belief (in 2.3) by looking at a set of previous studies and other works that, in one way or another, combined literary analysis and game theory. The overview revealed that a key aspect of the coordination problem was the eschewed conception of the literary narrative that the rationality-of-choice point of view seemed to demand. Indeed, all that was relevant from the game-theoretic rational-choice point of view was considered to be communicated by the plot, whereas aspects like character-development or emotional descriptions were deemed distracting. Based on the conclusions of the overview, I reiterated the dichotomy of *structure* and *details*, originally introduced by Brams (2012; 1994) to denote, respectively, the *plot* and *everything else* in the literary narrative. I approached the task of assessing the possibilities of coordinating this unhelpful dichotomy by exploring the interplay of *structure* and *details* in two literary narratives from a rational point of view. I set the goals of, firstly, mapping out the role of *details* in the construction of a literary decision-making process (thus responding to the game-theoretic view of the coordination problem), and secondly, examining how focusing on the strategic *structure* of the plot can enrich the understanding of the literary narrative (responding to the literary studies view of the coordination problem).

In this final chapter of the present doctoral thesis, I provide an overview of the study and discuss its findings per theme: A suggestion for a (more) coordinated premise for studying literature in rational-choice terms (6.1), the ways in which literary *details* are rationally relevant rather than distracting (6.2), and the ways in which focusing on the *structure* can enlighten the understanding

of the literary narrative (6.3). Finally, I discuss the restrictions of the study as well as some issues and possibilities concerning future research (6.4).

6.1 Guidelines for studying literature in rational-choice terms

The study in which Steven Brams identifies and names the coordination problem (2012; 1994) significantly contributes to the understanding of the structures that define this interdisciplinary cooperation (and the lack of it). However, these considerations were generated as a side-product of the main goal of his overview, which was to establish literary themes that best facilitate game-theoretic scrutiny (2012: 1), and were thus not explored in more detail in the context of his study. Proceeding from where Brams's study left, I examined the reasons behind the problem through nine beliefs (in 2.3).

The nine beliefs were distilled from a body of previous studies and other works that examined literature and rational choices in cooperation. A critical examination of the nine beliefs revealed two vastly different conceptions of the literary narrative as an object of study. I argued that the discrepancy between the conceptions leads to a tug of war between the game theorists restricting the literary material to fit the purposes of game theory, and the literary theorists restricting the game-theoretic conception of rationality to fit the purposes of literary theory.

My contribution in this respect was spelling these implicit beliefs out and suggesting a more coordinated approach from the point of view of making the analysis of literature in rational-choice terms more relevant for literary studies. This, I argued, would require a division of labor between the expertise of the fields that would leverage on the inherent juxtapositions of literary complexity and strategic clarity. To express this in more concrete terms, I constructed a three-fold set of guidelines for studying literature in rational-choice terms more effectively. Each guideline was the result of dissolving two or more beliefs into one guideline by the act of *coordination* as it is understood in game theory: Coordination games are games "in which both players benefit from cooperating" (Peterson 2009: 256, see also Bermúdez 2021: 185, Dutta 1999: 38). I summarize the argumentation for each guideline briefly in the table below (Table 9):

TABLE 9   Nine beliefs and three guidelines

Belief	Guideline
GT studies the plot of a narrative GT studies realistic narratives GT considers the character's actions mimetic	*Details should be considered alongside the plot.*
GT studies characters with consistent preferences GT cannot consider the character's emotions LT cannot reduce a narrative into a matrix LT cannot reduce a literary character into a rational decision-maker	*Strategic analysis should target brief excerpts of the work.*
LT is restricted by rationality LT can use strategic analysis as an evaluative framework	*Literary content and strategic form should be kept apart.*

Firstly, details should be considered alongside the plot because the literary reporting of events happens not only through the plot but through practically everything in the literary work. The game-theoretic tendency to put "plot front and center" (Brams 2012: 25) shuts out entire genres, such as fantasy (Brams 1994: 36), and ignores stylistic context when analyzing the meaning of the characters' actions (Howard 1971: 145). Such a premise is unattainable if the ambition is to make a contribution to literary analysis. Furthermore, as I argued in 2.3.1, a consideration of the details can also shed light on problems on the strategic side. Emphasizing the importance of the plot over other stylistic details seems to suggest that a true, fiction-free version of a story exists underneath it all, and that this version should be the focus of strategic analysis. This is not true, as details such as genre-conventions or characterization guide the plot, and therefore are always an inseparable part of the story's structure.

Secondly, strategic analysis should target brief excerpts of the work, as consistency is a non-negotiable condition of strategic analysis. The reservations held by both literary theorists and game theorists about the incompatibility of rationality and the literary narrative are well-founded, but the conclusion that this discrepancy would prevent cooperation is not. The examination revealed that game-theoretic scrutiny favored literary works and passages in those works in which the characters were consistent—at least seemingly "all cool calculation" (Brams 2012: 9), consistently sticking to elements such as crime-solving or political plotting without engaging in "love affairs, hurried journeys, family history, etc." (Riker 1962). Simultaneously, the requirements of consistency by way of shrinking the narrative "to fix into game theory" (Lanham 1973: 38n2) or reducing its characters to a, "for our purposes crippling […] premise of *rational players*" (Lanham 1973: 43) was deemed impossible. These beliefs seemed to confuse the scope of rationality in terms of content and form: Normative rationality targets "small world" issues (Savage 1954: 13), not entire literary works. Therefore, strategic analysis should target short enough, carefully chosen excerpts from the literary work; such that can be representative of a larger

decision problem but whose strategic representation is consistent within the excerpt.

Thirdly and finally, literary content and strategic form should be kept apart to avoid unnecessary evaluative statements. The examination revealed that, based on what could be found out about the matter, some literary faculties rejected game-theoretic cooperation as inherently evaluative, due to its premise of rationality, and therefore restrictive for the purposes of literary studies. Indeed, literary scholars (see Swirski 1996) and game theorists (Brams 2012, Howard 1971) alike used game theory to evaluate the strategic competence of the author and to draw parallels between the strategic coherence and the quality of the literary work. While such analytic ambitions seem to come very naturally within the interdisciplinary, I problematized this practice as unproductive and also misguided due to its expectation of being aware of the actual author's intention. To remedy this, I suggested instead that the substantive content of the literary narrative and its strategic representation should be kept apart.

My consistent premise behind the attempts at coordination was to make the interdisciplinary field's conception of the literary narrative more *literary*. While I believe this can serve game-theoretic interests as well ("If it doesn't make sense to Shakespeare, perhaps it doesn't make sense!" [Howard, quoted in Brams 2012: 26]), the primary motivation was to shift the attention to literature by implementing a more comprehensive understanding of the literary work. In order to be made more attractive and simply more useful for the literary scholar, the practice of employing game theory must serve literary interests. These guidelines are a starting point in that direction.

I adopted these guidelines in the study design of my research in order to, firstly, perform analysis that would contribute to coordinating the analytic practices of the interdisciplinary field, and secondly, demonstrate that the guidelines work: That focusing on the details can clarify the structure, that strategic analysis does not restrict but enriches the understanding of the literary narrative, and that it is both possible and productive to keep the content and the form apart.

6.2   Literature and rational choice in cooperation

The material of this study included two literary narratives, Blake Crouch's *Dark Matter* (2016) and Lionel Shriver's *The Post-Birthday World* (2007). I identified both novels as *forking paths narratives*; a literary subtype that I argued was inherently connected to the theme of decision-making and whose definition I formulated in this study (3.2). I positioned forking paths narratives in the fuzzy set super category of speculative fiction (Oziewicz 2017, Gill 2013) as a narrative format with a limited, *micro-speculative* scope. Instead of speculating on complex futures on societal, global, or other, if you will, macro-level themes that are usually connected to speculative fiction (Gill 2013: 73), the forking paths narrative is focused on one

character whose life transforms due to a change they alone commence. These novels were analyzed in two steps that I refer to as the 1) literary analysis and the 2) game-theoretic analysis. Here, I discuss the first step.

The literary analyses of the two forking paths narratives were divided into five steps according to Jose Luis Bermúdez's frame-sensitive reasoning model (2021). This model was chosen because of its ability to rationalize emotionally complex decisions; an area which is usually avoided in rational decision theory (see March 1994, Savage 1954). The model provided a rationality-based structure to the analysis of the details of the forking paths narratives. Each step guided the analysis to focus on a specific phase of rational decision-making, and each of these steps was equipped with a detail, an element of the narrative that would not traditionally (that is, in the game-theoretic sense of being more structure than details) be seen as informative of the decision-making process, but which I argued (see 3.4) should be considered such.

Each detail was accompanied by a tool for studying the narrative structure. As the space devoted for each step was restricted, the tools were employed as simplified versions of what they would be in literary analysis proper. This perhaps risky delimitation was motivated by the unestablished and thus exploratory nature of studying literature in rational-choice terms: When the consistency of the narrative structure is lent by the decision-model, the literary analytic tools assume the role of a translator between the literary narrative and the decision model. Next, I reflect on the results of the analysis by compiling a four-fold categorization of themes and elements that participate in constructing the decision-making process in the narrative. After the summarizing figure (17), I discuss each category with examples from the analysis.

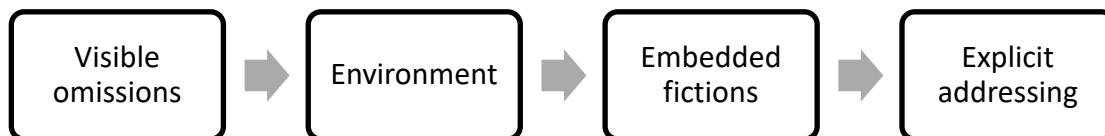| Visible omissions | → | Environment | → | Embedded fictions | → | Explicit addressing |

FIGURE 17   Development of the decision-making process

1) The first category is *visible omissions*: Sections where the character acts evasively, withholding information about the decision-making process, thus highlighting what the character is unwilling to accept or address. This was the result of examining the first step of the frame-sensitive reasoning model. *Reflexive decentering* involves realizing that the decision-problem at hand is frame-sensitive and one that requires complex reflection (Bermúdez 2021: 254). I give two examples of the findings:

> 1a) In *Dark Matter*, Jason avoids confronting the feelings caused by his framing effect in, especially, the Walk in the Autumn Night scene, where the affect of *loss* is evoked by the smells that vaguely remind him of youth and freedom. Not willing to confront the potency of his loss, he distracts himself from them. This is a choice to not confront a decision problem.

1b) In *The Post-Birthday World,* protagonist-Irina mis- and underrepresents the emotions stirred by Ramsey's phone call between the Memories of Ramsey scene and the Memories of Lawrence scene until she fades away entirely as narrator-Irina changes the subject. These are narrative strategies to delay or suppress confronting the decision problem.

The findings suggest that the decision-making process was constructed through situations in which the characters visibly omit something relevant, not assigning (at least true) reasons for acting the way they do. When connected to the decision-making process, the characters' evasiveness contributed to the slowly developing tension of realizing the complexity of their choice and their attempts to distract themselves from facing it.

2) The second category is *environment*: The characters' reflections, reactions, and responses to their environment can yield information about the decision-making process. This was established in the examination of the second step of frame-sensitive reasoning, *imaginative simulation*, which refers to imagining what it would be like to inhabit different consequences of the choice (Bermúdez 2021: 254). Here, the decision-making process was constructed through the interplay of the character and their surroundings. Elements of the surroundings were examined by studying a) symbolism of the objects Jason pays attention to in the one scene that was studied in this step, and b) the characterizational role of the literary dialects used by Irina's lovers throughout the narrative. I provide two examples:

2a) In *Dark Matter*, the House/Home scene was deeply informative of Jason's involvement with the decision problem that his framing effect concerned: It showed him assigning losses and gains to either frame according to the items he saw in the house and how they related to his home.

2b) In *The Post-Birthday World*, the element of literary dialects was present throughout the narrative (through the frequent invitations to fictive orality) rather than restricted to one scene. Irina, by rule, paid attention to phonetic and lexical elements of language in an evaluative manner, being either approving or disapproving of what she heard. Through the characterizational function of literary dialects, this act of evaluation could be translated into assigning preferences to the strategies available for her decision problem.

These elements of the environment (seen and heard) aroused reactions and responses in the characters in a way that made them informative of the character's preferences concerning their decision problem, by covertly assigning reasons for those preferences.

3) The third category was *embedded fictions*: Works of art experienced or created by the characters provided a way to put the decision problem in other words. This category is based on the findings of the third step of frame-sensitive reasoning, *perspectival flexibility*; a phase of stopping to hold the "frames in mind simultaneously" (Bermúdez 2021: 254). This step was characterized by the absence of plot-progression, showing the character frozen in time, reflecting on the contents of the artwork. I offer a summary of each narrative's artworks:

3a) In *Dark Matter*, Jason steps into Daniela2's art installation, in which he experiences his life again, from birth to death. is subjected to criterion after criterion (the looping

imagery on the Plexiglas walls that form the maze), according to which the choices within the life lived between could be defined.

3b) In *The Post-Birthday World*, Irina authors and illustrates a children's book in each forking path. These books work as allegories of her two framings of the decision problem and its possible solutions.

Both embedded fictions were metadiegetic by commenting on the narrative's decision problem extensively. Both also foreshadowed the conclusion of the narrative.

4) The fourth category was *explicit addressing*: This category involves, perhaps more extensively than the previous three, also trivial examples of assigning reasons to choices, for example: "I choose a diner that looks shitty enough to have me" (Crouch 2016: 235) or "[s]ometimes when you make a mistake, you just have to go with it" (Shriver 2007: 34). When explicit addressing was connected to the overarching decision problem of the forking paths narrative, it was connected to its final step and its solution. The fourth step of the frame-sensitive reasoning, *reason-construction and juxtaposition*, involves setting the reasons yielded by the frames into a contrastive dialog and, ideally, forming a hierarchy between them (Bermúdez 2021: 254). This was done by explicitly addressing the reasons in juxtaposition. I give two examples:

4a) In *Dark Matter*, Jason goes through a destructive phase where he is in constant *superposition* for stalking a version of himself being happy with his family while he himself is exhausted and lonely. He is close to losing his mind, when he is suddenly struck by the alignment of his preferences and strategies. He states emphatically: "I don't want this"—"I want the woman […] I chose to make a life with, even though it meant giving up some other things I loved" (243). After this, the distracting tactics of living in the shadow of the lives of other Jasons are replaced by the battle for his own life.

4b) In the closing chapter of *The Post-Birthday World*, Irina talks with Lawrence and addresses the reasons behind the ambivalence that her frame-sensitive reasoning process resulted in: "So what do women prefer? For their men to be *fine*? Or *luuuuvly*?" "Oh, whichever a woman ends up with, she'll wonder if she wouldn't rather have the other." (514)

As the end of the frame-sensitive reasoning process, the fourth category is also the most concrete in its task to *construct reasons*, whereas the previous steps were merely collecting information with which the reasons could be constructed. Observing the frame-sensitive reasoning process through the details and structures that communicated it in the narrative, it makes sense that the decision-making process evolved from abstract evasiveness to being exposed to reasoning in the interaction with the environment, to putting it in different words by the surrogate experience of an artwork, to, finally, expressing the resulting conclusion concretely.

In sum, the results show that the decision-making process is not constructed only in passages where "characters indicate reasons for acting the way they do" (Brams 2012: 5). Instead, the decision-making process is constructed throughout the narrative in various kinds of situations that in one way or another resonate with the central decision problem.

The rational conceptualization of the decision-making process through frame-sensitive reasoning (Bermúdez 2021) was of primary importance in deciphering the construction of the decision-making process. When the decision-making process could be abstracted into a four-fold set of roughly consecutive steps from which the solution emerged, the nuances of storytelling connected to these steps became visible. Even though the decision problem was complicated by the protagonists' inconsistent emotional involvement in it, and regardless of whether they reached a conclusion, both protagonists were rational decision-makers.

Since I analyzed literature in rational-choice terms here exclusively in the context of forking paths narratives, the results of this study are obviously specific to the narrative format of the forking paths narrative. On the one hand, I argued for the specific characteristics of the forking paths narrative as a narrative protocol, emphasizing its explicit connection to solving an extensive decision problem and thus tying the literary narrative and the rational choice together in its very premise. On the other hand, I argued for the ubiquity of choices across literary genres, providing examples of how forking paths narratives appear across genres and periods, varying from early classics to Victorian literature to modern chick lit and crime thrillers. What makes forking paths narratives especially fruit-bearing for rational-choice examination is, namely, their explicit way of intertwining the decision-making process with the plot and leveraging on this union throughout the narrative.

The analysis was divided into two phases: The literary analysis that mapped the construction and contents of the *overarching* literary decision-making process (Chapter Four) and the game-theoretic analysis that elucidated the logic of the narrative through four carefully selected *excerpts* (Chapter Five). By this solution I wanted to keep the analysis of the literary content and the strategic form apart: Analyzing the details and analyzing the structure are *two different activities*. Now I move on to the second and final phase of the analysis.

6.3   Literary value of game-theoretic modeling

This section discusses the results of the second phase of the analysis, referred to as the game-theoretic analysis. The games were constructed from the basis of the results of the literary analysis by targeting aspects that the reader was not explained exhaustively. I constructed four games in order to find out how game-theoretic modeling can enrich the results of the frame-sensitive reasoning analysis of the forking paths narratives.

Adding literariness to the interdisciplinary practice increased our understanding of details and complexity, whereas game-theoretic modeling, I argued, would serve the literary analysis by simplifying aspects that the literary work would leave open. My aim in this thesis emphasized finding ways to make studying literature in rational-choice terms more relevant for literary analysis,

and this aim is reflected in the game-theoretic analysis by making it relatively simple in style and technique. The games that I constructed evidence the mechanism of turning literary data into modeling data, and exemplify how to construct a game from a literarily meaningful premise.

Brams's suggestions for a more coordinated study of literary decisions argued "for a more serious concern with the literary work" (1994: 50). Brams argued that "what makes a literary work is not just its overall structure but its details, including the emotional lives of its characters" (1994: 52). In the previous section, I explained how the details and the emotional lives of the characters were examined in this study. My game-construction was guided by an aim to contribute to the understanding of the *details* and their usability. While my interests lie in connecting the literary and game-theoretic aspects of literary rational-choice analysis in a way that makes the practice more relevant for the literary scholar, I believe that increased understanding of the rational value of literary analysis can be worthwhile for the game theorist as well, at least insofar as their interests lie in benefiting from the insights of the literary author in a more diverse way than using a scene as an example of a game-related mechanism.

In the four games, four unanswered aspects of the plots of the literary narrative were intertwined on the basis of extensive knowledge of the details of the decision-making process. The unanswered aspect, one for each game, was adapted into the standard version of the game chosen for its examination. The first two games concerned *Dark Matter* and the last two games concerned *The Post-Birthday World.* I summarize the games and their findings below.

The first game, Jasons' Dilemma, was constructed as an *n*-player Prisoners' Dilemma. The multiplayer version of the Prisoners' Dilemma illustrates a situation where a set of rational players can choose between common good and personal short term gains (Szilagyi 2003: 155—174). As in the two-player Prisoners' Dilemma, the players always have an incentive to not cooperate even if cooperation would yield a profitable result (see Harrington 2009, Binmore 2007, Dutta 1999, Peterson 2009). The narrative source of the game was drawn from the scenes Door to Door and Blank Canvas. There, Jason finally finds his way back to his native world but realizes that whenever he has made a choice in a parallel reality, another version of him has branched, and now those Jasons have found their way back to this same world with the same intention of being reunited with their family. By considering the race of competing Jasons through the Prisoners' Dilemma, I was able to explain the solution that the narrative took.

Jason is ready to conduct a lottery for his family, even though he is almost certain to lose. When Jason proposes the game in the chat, the *n* Jasons position themselves for or against this solution. Based on the Jasons whose voices are heard in the novel, I divided these Jasons into three types that, based on the information that was available in the narrative about their behavior, corresponded to the most straightforward types of a previous study on *n*-person Prisoners' Dilemma, which I used as a reference (2003: 159): *negatively stubborn* ($p = 0$); *positively stubborn* ($p = 1$); *unpredictable* ($p = 0.5$). These, respectively, Terminator-Jasons, Organizer-Jasons, and Hit-or-Miss-Jasons were divided

evenly among $n = 110$ Jasons (based on the 109 Jason-usernames in addition to the moderator-Jason). Based on this modeling, it made sense that the Terminator-Jasons and the 0.5 of Hit-or-Miss Jasons who would choose to not cooperate would find their ways to the cabin, but, as seen in the novel, get either killed by other Jasons or left behind when Jason and his family flee the cabin. Arriving at the power plant and The Box, only the cooperative Jasons remain, and Jason can flee to the multiverse with his family.

The second game was a signaling game named Familiar Signals. Signaling games are games played from the premise that the second player does not know the first player's type, and tries to decipher it on the basis of the first player's action, in order to choose the most profitable action for himself (see Harrington 2009, Binmore 2007, Dutta 1999). Familiar Signals was drawn from the narrative at the point immediately after Jason outwitted his doppelgängers. After being reunited, Daniela, Charlie, and Jason flee north to get some time to think. Daniela wants to be sure that this Jason is the man she loves. She acknowledges that all the Jasons love her equally, and that she does not have any reason to consider protagonist-Jason any more authentic than any of the other Jasons. What made protagonist-Jason better than any other Jason but the fact that he was the protagonist of the story?

In the narrative, this is solved by having them spend one day together: During this day, they find a dynamic as a family and Jason and Daniela fall in love again. What, exactly, during that day convinced Daniela? Familiar Signals had Daniela observing Jason's moves and assigning probabilities to whether Jason's type was *familiar* or *stranger* – whether what he did showed him to be the man she loves or a version of him who, regardless of the physical resemblance, she does not feel good with. Throughout the narrative excerpt on which the game was based (296−319), Daniela conducts small tests. Those four situations I took as the signaling events.

The two first tests concern his character as a husband, focusing on his conception of the relationship he has with Daniela. Jason reflects on the rules of the contract that their relationship is: "[O]ur marriage isn't built on keeping secrets. We talk about everything. The hardest things. It's embedded in our identity as a couple" (315). Therefore, first, he tells the truth about the night he spent with Daniela2 in Jason2's world even if it risks their marriage. Second, he comes clean about making a pact with the other Jasons to perform a lottery over who gets to live with this family, even though he would prefer not disclosing this information, knowing that it would hurt Daniela.

The final two tests concern his role as a father, focusing on his relationship with his son. First, Charlie asks Jason to "make your fruit thing" (316) to accompany the pancakes that Charlie is making. This is observed by Daniela. At this point in the narrative, they have lived with Jason2 for half a year; a man who loves them but does not share a past with them. In contrast to Jason2, who would not know what Charlie's request refers to, Jason does, and sets to work. Secondly, they spend the day doing silly things, like going to the movies to see a romantic comedy, eat and drink too much, and laugh without a clear reason why. Living

with Jason2, whose need for substance in his spare time was higher than Jason's due to the years spent on research, they had not spent their time on such wasteful things. Charlie addresses the resulting familiarity, which is, again, observed by Daniela. Viewed through the signaling game, these moves signal to Daniela that Jason is familiar as a husband and a father, and thus, the man she had made a home and a life with.

The games were drawn from specific narrative contexts, but the players—Jason, and in the second, also Daniela—were viewed as literary characters in the narrative rather than agents restricted into the scope of the game. At the same time, both games were constructed so that the players' preferences remained consistent. As a result, both games made the story more comprehensible through the analysis of the strategic soundness of the characters' actions, and the details of the narrative as well as the emotional lives of the characters were taken into consideration without compromising their rationality.

The third game was an anti-coordination game that I named Nagging Chicken. Based on the Chicken game, Nagging chicken examined the strategies at play that kept Irina and Lawrence from communicating about their problems in *no kiss*. Chicken is a game in which the goal of avoiding a mutual disaster coexists with the goal of maximizing utility. I studied an argument that takes place right before the Pronouncing Snooker scene. The scene was representative of the couple's (few in total) fights in the novel. The game's payoffs were defined by the unspoken rules of their relationship that were part of the findings of the second step of the literary analysis. Nagging chicken assigned the players, Irina and Lawrence, the strategies of *avoid* and *talk* about the problem at the core of their argument. Similarly to the logic of the Chicken game, Irina and Lawrence kept playing *avoid* until one of them, Irina, broke down to *talk*. However, playing *talk* equals losing face (Chicken!) in the strategic pattern of the game, and gives the other player, Lawrence, an opening for a higher payoff by playing *avoid* again. This pattern, I argued, keeps their relationship in a state of *oppressive safety*, preventing them from ever facing their problems.

The fourth game, Cheating Signals, was a signaling game that aspired to examine and explain why Irina failed to realize that Lawrence was cheating on her. In the narrative, Irina blames herself for being blind and stupid, but Lawrence explains that it was his carefulness that kept her in the dark: He "wasn't dropping clues, hoping to be found out" (492). Hence, he argues that he was not giving signals that would have communicated his deception. In the game, I constructed the strategies of his signals in terms of maintaining the signals that per the traditions of their relationship assured Irina that everything was fine and that he loved her. The examination of language variation in step two of the literary analysis showed that Lawrence would signal his love by supporting Irina in being disciplined and productive. This was the basis of distinguishing between his signals. Lawrence was assigned two types, *cheater* and *loyal*, and as each type, he could choose between *supporting* and *abandoning* Irina. This led to a pooling equilibrium; a situation where Irina would not be able to assign Lawrence's type

correctly by observing his actions in this one decisive respect, as he acted the same way regardless of his type.

Both games constructed from *The Post-Birthday World* concerned the reasons for why the framing effect remained unsolved throughout the narrative. Nagging Chicken examined why it did not solve to the benefit of the *no kiss* frame, and Cheating Signals examined why it did not solve for the frame of *kiss.* Each game revealed a consistent, rational dynamic that prevailed over the interdependent choices of Irina and Lawrence, arguing that while Irina did not really break her quasi-cyclical preferences nor end up in a conclusion on the narrative level, this was not due to irrationality.

Reflected on the aim of emphasizing the literary relevance of game-theoretic examination, the results of the second research question show that game theory can shed light on the interpretation of literary narratives more relevantly than only showing a scene's correspondence with a game. I have shown that while game theory focuses primarily on the plot of the narrative, studying literature in game-theoretic terms does not need to confine itself to the structure of the literary narrative, but can indeed benefit from the in-depth view of the decision-making process gained from the details.

6.4   Concluding words

This study presented an analysis of literature in rational choice terms by examining two literary works with a methodology that combined literary analysis with game-theoretic modeling. The examination was presented as a starting point for more literary-oriented analysis of rational choice in literary narratives. The suggestions made throughout the thesis are, however, based on the examination of only literary narratives whose narrative protocol followed and, simultaneously, helped form the relatively niche subcategory of forking paths narratives. It is clear that more research is needed to strengthen the interdisciplinary guidelines for analytic practice and crystallize the uses that the different fields have for each other's contributions.

The logical next steps for future research would then concern the examination of different novels with different agendas for studying literature in rational-choice terms. The reasons for studying rational choices in literature can be critical; the paradigm of rational choice and the versatility of game theory provide a lucid framework for criticizing the cohesion of a narrative. While I would discourage using rationality of choice as a parameter for literary quality, the practice could well study the cohesion of arguments made in ideological, political, or otherwise argumentative narratives. While the interdisciplinary cannot take a stance on the rightness of arguments, it can provide a neutral starting point to examining consistencies within the work, providing data for the scholar to embed such results into another framework that facilitates substantive content. Furthermore, the reasons to study the rational choices of literature can

be connected to the effects that literature has on its reader. Literature is read to console, to learn, to feel, to explore, to pass time—all the while, the reader reflects, adopts, contrasts, and feels with the characters. (How many times have I delayed a decision saying to myself *I'll think about that tomorrow* and thought about Scarlett O'Hara!) Studies like this would provide more reflection on the specific needs of different research agendas and, through variation, standardize the practice.

I believe that the cooperation between game theory and literary studies has potential, and I hope that the results of my thesis encourage such cooperation. This study was intended as a literary scholar's response to the attempts at communication from the side of game theory. The aim of making the analysis of literature in rational-choice terms more relevant for the literary theorist involved the idea of making it more feasible. This is not an easy issue to fix, as many obstacles in the way of the interdisciplinary are practical rather than theoretical. I illustrate this by way of a personal example.

I was drawn to the interdisciplinary by its close connection to what I was interested in already in my undergraduate years. When I started my post-graduate studies, my original topic was positioned in literary philosophy (e.g. Lamarque 2009; Attridge 2004; New 1999) and philosophical decision theory (e.g. Binmore 2009; Peterson 2009). I had studied philosophy as a part of my undergraduate studies and was familiar with the concept of rationality and its axiomatic role in decision theory. Philosophical decision theory is closely connected to game theory, as the central questions of philosophical decision theory concern rationality; the definition and restrictions of the concept (Weirich 2014; Peterson 2009). With game theory I became acquainted only later. Steven Brams points out that the connection between game theory and literature is difficult to cultivate—"there is no interdisciplinary training for people who might be interested in the combination" (1994: 50). This is obviously true for my part as well.

The lack of formal education forces the project to be very independent and therefore at risk of becoming rather idiosyncratic. In addition to an extensive library of literature about game theory, my most important source of knowledge was a semester-long undergraduate-level course on the practices of game theory[128]. It must be noted, still, that these books or courses are not specific to, nor do they cover, game-theoretic applications in literature. None of the available publications combining game theory and literary theory are introductory, and even if some of them take some time for interdisciplinary explanation of their topic (see e.g. Brams 2012; 1994, Chwe 2013, Swirski 2007), these passages are relatively short and tailored for the publication's topic. It is not only that the process of familiarizing oneself with the interdisciplinary practice is quite time-

---

[128] ECON159 Game Theory available through Yale Open University. The course involved twenty-four recorded sessions, the length of each being approximately 75 minutes, including homework assignments, a list of course literature, blackboard notes, a midterm exam and final exam, and video-footage of real-life classroom interaction between Professor Ben Polack and the class that took the course at the Yale campus in the Fall term of 2007.

consuming, but also that the practices arrived at are bound to differ greatly. This problem is the primary one that requires attention: The interdisciplinary requires standardization in order to develop.

SUMMARY IN FINNISH

Väitöstutkimuksessani pyrin löytämään ratkaisuja kirjallisuudentutkimuksen ja peliteorian väliseen koordinaatio-ongelmaan. Ongelman ydin, kuten peliteoreetikko Steven Brams sen tunnistaa, on, etteivät nämä kaksi "useinkaan hyödy toistensa oivalluksista" (2012: 27). Työni jatkaa koordinaatiotyötä tästä havainnosta eteenpäin kartoittamalla tapoja, joilla rationaalisen päätöksenteon tarkastelu, eli nimenomaan päätösteorian aksioomiin sidottu päätöksenteon tarkastelu, voi tuottaa kirjallisuudentutkimuksen kannalta arvokkaita tuloksia.

Lähtökohtanani oli siis haastaa vallalla oleva uskomus, jonka mukaan tällainen tieteidenvälinen tutkimuskenttä on ongelmallinen ellei liki mahdoton (ks. Brams 2012: 4, Chwe 2009: 30, Daston 2004: 361, Lanham 1973: 38). Erittelin tämän uskomuksen syitä ja syntyjä (osiossa 2.3) tarkastelemalla joukkoa aiempia tutkimuksia ja muita tieteellisiä kirjoituksia, jotka tavalla tai toisella yhdistivät kirjallisuusanalyysia ja peliteoriaa. Katsauksen tuloksena totesin, että koordinointiongelmaa ylläpitävä tekijä oli varsin yksioikoinen käsitys tarinasta ja kerronnasta pelkkänä tapahtumainkuvauksena. Tällaista käsitystä valinnan rationaalisuuden näkökulma näytti vaativan, sillä rationaalisen valinnan näkökulmasta merkityksellisen tiedon katsottiin välittyvän juonesta, kun taas vaikkapa hahmojen kehittymisen tai tunnekuvausten kaltaisia näkökohtia pidettiin johdonmukaisuuden tarkastelua häiritsevinä.

Katsauksen perusteella näin tarpeelliseksi tarttua nimenomaan tähän elementtiin. Näin tehdäkseni otin käyttöön alun perin Bramsin (2012; 1994) esittämän tekstikäsityksen, jossa kaunokirjallinen tarina jaotellaan varsin karskisti *rakenteeseen* (eli juoneen) ja *yksityiskohtiin* (eli kaikkeen muuhun). Koska tähänastinen kirjallisuuden tarkastelu rationaalisen valinnan näkökulmasta oli tehty pitkälti tällaisen tekstikäsityksen varassa, oli minusta tärkeää myös ottaa se lähtökohdaksi sen ilmeisistä puutteista huolimatta. Oli myös ilmeistä, että kirjallisuustieteiden torjuva suhtautuminen (jota selvittelin osiossa 2.3) perustui monella tapaa tekstikäsityksen mukanaan tuomiin rajoituksiin. Niinpä näin koordinoivana liikkeenä tarkastella sekä yksityiskohtien, eli ei suoraan tapahtumainkuvaukseen liitettävien tarinankerronnan piirteiden osuutta kaunokirjalliseen teokseen rakentuvassa päätöksenteon prosessissa (tutkimuskysymys 1), ja tutkailla, millä tavoin (varsin yksinkertaista) peliteoriaa hyödyntävä tarkastelu voisi tuottaa kaunokirjallisen teoksen tulkinnan kannalta kiinnostavia tuloksia (tutkimuskysymys 2).

Tarkasteluni rajautui kahteen englanninkielistä nykykirjallisuutta edustavaan teokseen: Blake Crouchin tieteiskertomukseen *Pimeää Ainetta* (2016) ja Lionel Shriverin parisuhderomaaniin *Syntymäpäivän Jälkeen* (2007). Teokset valikoituivat aineistoksi kahdesta syystä. Ensinnäkin molemmat romaanit edustavat tämän tutkimuksen puitteissa määrittelemääni *haarautuvien polkujen narratiivin* tarinatyyppiä, jonka muotoilin (osiossa 3.2) tarkoittavan mikrospekulatiivista kertomusta päähenkilön tekemän valinnan seurauksista. Sen sijaan, että spekuloitaisiin mahdollisilla tulevaisuuksilla yhteiskunnallisista, globaaleista tai muista lähtökohdista käsin (jotka yleensä liitetään spekulatiiviseen fiktioon, ks. Gill 2013:

73), haarautuvien polkujen narratiivissa keskitytään yhteen hahmoon, jonka elämä muuttuu tämän yksin käynnistämän muutoksen seurauksena. Ensimmäinen syy valikoitumiseen oli siis tällaisen tarinatyypin ilmeinen yhteys päätöksentekoon, ja toinen, juuri näihin kahteen rajoittuva syy oli, että niiden esittämät päätöksenteon prosessit täydensivät toisiaan mielenkiintoisesti: Toisessa päähenkilö saa päätöksenteon prosessille selkeän lopputuleman, kun taas toisessa valinta jää ikään kuin auki.

Näitä romaaneja analysoin kahdessa vaiheessa tutkimuskysymysteni painotusten mukaisesti. Ensimmäisessä vaiheessa tarkastelin *yksityiskohtien* osuutta kaunokirjallisen päätöksenteon prosessin rajautumisessa. Teoskohtaiset kirjallisuusanalyysit jaoin viiteen vaiheeseen José Luis Bermúdezin (2021) kehittämän, kehysvaikutukset huomioon ottavan päätöksenteon mallin mukaisesti. Kehysvaikutukset, eli päätöksentekoa vaikeuttavat, kontekstiriippuvaiset ja keskenään ristiriitaiset arvopäätelmät ovat monimutkaisten ja herkkiä aiheita käsittelevien valintojen lähes väistämätön piirre. Siksipä niitä usein rationaalisessa päätöksentekoteoriassa vältetään (ks. March 1994, Savage 1954). Kirjallisuudessa niiden kuitenkin voidaan olettaa olevan yleisiä, ja haarautuvien polkujen tarinatyypissä ne ovat jopa tarinan rakenteen perusta. Malli tarjosi näin rationaalisen valinnan näkökulmaan perustuvan tarkastelun viitekehyksen haarautuvien polkujen kertomusten yksityiskohtien analyysille. Kukin vaihe, edeten valinnan monimutkaisuuden tunnistamisesta sen reflektointiin eri tavoin ja lopulta ratkaisuyritykseen, ohjasi keskittymään yhteen, tarkoin rajattuun päätöksenteon prosessin vaiheeseen ja sen rakentumiseen kerrallaan. Sovelsin tarkastelussa varsin laajaa narratologista käsitteistöä, joka sisälsi symboliikkaa ja metaforia, upotuksia ja murteita, affektia, sekä erilaisia tilan hahmottamista ohjaavia viitekehyksiä. Käsitteistöä sovelsin analyysiin yksinomaan tapana hahmottaa juonenulkoisten, Bramsin tapaan määriteltyjen *yksityiskohtien* osaa päätöksenteon prosessissa, ja näin ollen käsitteistön käyttö erosi paljon niiden tyypillisestä, paljon laajemman tulkinnan mahdollistamasta potentiaalista. Kussakin päätöksenteon prosessin vaiheessa keskityttiin johonkin käsitteistön suomaan näkökulmaan. Kirjallisuusanalyysin tulokset osoittivat, että nämä perinteisesti päätöksenteon tarkastelulle epäolennaiset piirteet osallistuivat merkittävästi päätöksenteon prosessin rakentamiseen.

Toisessa vaiheessa vein neljä kirjallisuusanalyysissa tavalla tai toisella avoimeksi jäänyttä kysymystä strategisen analyysin piiriin. Strategisessa analyysissa tarkastelin yhteensä neljää tarinan piirrettä, joita tarinassa ei selitetty auki. Rakensin neljä peliä selvittääkseni, miten peliteoreettinen mallintaminen voi rikastuttaa kirjallisuusanalyysin tuloksia ja teosten ymmärtämistä. Teknisesti pelit olivat tietoisesti varsin yksinkertaisia, osoittaen, ettei peliteorian soveltaminen kirjallisuuden tutkimukseen vaadi hienostunutta matemaattista ymmärrystä. Rakentamani pelit ovat esimerkkejä mekanismeista, joilla tarinankerronnan piirteisiin tartutaan peliteorian perusteiden keinoin ja vastataan erilaisiin teosta koskeviin kysymyksiin.

Rakensin yhteensä neljä peliä, jotka keskittyivät tarkastelemaan pääosin juonen ja hahmon rakentumisen piirteitä. Kussakin pelissä pyrittiin selvittämään strategisia syitä sille, miksi tietyn hahmon itsenäinen päätöksenteko,

251

hahmojoukkion päätöksenteko, tai kahden hahmon välinen dynamiikka oli rakennettu niin kuin se tarinassa oli, ja miten tuon piirteen ymmärtäminen auttoi ymmärtämään hahmoja ja tarinaa. Kaksi ensimmäistä peliä koski Blake Crouchin teosta *Pimeää Ainetta* ja kaksi viimeistä peliä Lionel Shriverin teosta *Syntymäpäivän Jälkeen*.

Ensimmäisen pelin rakensin moninpelinä pelattavaksi vangin dilemmaksi. Vangin dilemman moninpeliversio kuvaa tilannetta, jossa joukko rationaalisia pelaajia voi valita yhteisen hyvän ja henkilökohtaisen lyhyen aikavälin hyödyn välillä. Kuten kahden pelaajan vangin dilemmassa, pelaajilla on aina kannustin olla tekemättä yhteistyötä, vaikka yhteistyö tuottaisi kannattavaa tulosta (ks. Harrington 2009, Binmore 2007, Dutta 1999, Peterson 2009). Pelin kautta voitiin argumentoida sitä, miten *Pimeää Ainetta*-romaanin päähenkilön, Jasonin, hahmon karakterisaatio nivoutui tieteistrillerin loppuratkaisuun, jossa osa Jasonin kaksoisolennoista valitsee tehdä yhteistyötä ja osa ei. Myös muut pelit, kaksi signaalipeliä (ks. Dutta 1999: 383—400), joissa yksi pelaaja pyrkii arvaamaan toisen vaikuttimia ja yksi *chicken game* (ks. Chuah 2011), jossa voiton tavoittelun lisäksi pyritään säilyttämään kasvot toisen pelaajan edessä, selvensivät hahmojen itsenäisen ja keskinäisen päätöksenteon vaikuttimia ja antoivat lisää syvyyttä näiden tarinassa tekemille ratkaisuille. Pelien tarkoitus ei ollut osoittaa, että kirjailija olisi selittänyt juonen vaillinaisesti, vaan tarkastella, mitä kirjallisuuden tutkijan kannalta mielenkiintoista strategisella analyysilla voidaan saada selville. Tulokset osoittavat, että peliteorian kautta voidaan tarttua kerronnan strategisiin piirteisiin, niiden vaikutuksiin esimerkiksi hahmon kehityksessä, ja argumentoida järjestelmällisesti niiden tulkinnasta.

Koska analysoin kirjallisuutta rationaalisen valinnan ehdoilla tässä yksinomaan haarautuvien polkujen kertomusten kautta, ovat tämän tutkimuksen tulokset pitkälti sidottu haarautuvien polkujen tarinatyypin tarkasteluun. Tutkimukseni kehittämät menetelmät, käytännöt, ja ehdotukset ovat lähtökohtia, joita toivon muiden tutkijoiden kyseenalaistavan ja parantavan omassa työssään.

REFERENCES

Primary

Crouch, Blake (2016). *Dark Matter*. New York: Random House/Crown Archetype.

Shriver, Lionel (2007). *The Post-Birthday World*. New York: Harper Collins Publishers.

Secondary

Aaltonen, Sirkku (1996). *Acculturation of the Other. Irish Milieux in Finish Drama Translation*. University of Joensuu Publications in the Humanities, No 17. Joensuu: Joensuu University Press.

Abbott, A. Edwin ([1884]1992). *Flatland: A Romance of Many Dimensions.* New York: Dover Publications, Inc.

Abbott, Porter H. (2021). *The Cambridge Introduction to Narrative.* Third edition. Cambridge, New York: Cambridge University Press.

Abrams, Meyer H. (1999). *A Glossary of Literary Terms.* Seventh edition. Thomson Learning. Boston: Heinle & Heinle.

Alber, Jan & Monika Fludernik (2010). Introduction. *Postclassical Narratology: Approaches and Analyses*. Jan Alber and Monika Fludernik (eds.) Columbus: The Ohio State University Press.

Alber, Jan, and Per Krogh Hansen (2014). "Introduction: Transmedial and Unnatural Narratology." *Beyond Classical Narration: Transmedial and Unnatural Challenges*. Jan Alber and Per Krogh Hansen (eds.) Berlin: Walter de Gruyter.

Alsina, Victòria (2012). "The Translation of Social Variation in Narrative Dialogue." In The Translation of Fictive Dialogue. Eds. Jenny Brumme & Anna Espunya. Amsterdam, New York: Rodopi.

Alvarez Igarzábal, Federico (2019). "Chekhov's BFG". *Time and Space in Video Games: A Cognitive-Formalist Approach*, Bielefeld: transcript Verlag.

Anbarci, Nejat (2001). "Divide-the-Dollar Game Revisited" *Theory and Decision*. 50, 295−303.

Aristotle (1961). *Aristotle's poetics*. New York: Hill and Wang.

Arnauld, A. and P. Nicole ([1662]1996). *Logic or the Art of Thinking*. Jill Vance Buroker (ed.). Cambridge: Cambridge University Press.

Asimov, Isaac ([1978]1983). *Asimov on Science Fiction*. London: Granada

Askin, Ridvan (2016). *Narrative and Becoming.* Edinburg: Edinburg University Press.

Attebery, Brian (2009). "Special Section" *Extrapolation* 50: 1, 7−9.

Attebery, Brian ([1992]2004). "Fantasy as Mode, Genre, Formula" *Fantastic Literature: A Critical Reader.* Ed. David Sandner. London: Praeger.

Attridge, Derek (2004). *The Singularity of Literature.* New York: Routledge.

Atwood, Margaret (2005). *Writing with intent: Essays, reviews, personal prose: 1983-2005*. New York: Carroll and Graf Publishers.

Auerbach, Erich (1953). *Mimesis: The Representation of Reality in Western Literature.* Princeton: Princeton University Press.

Austin, J.L. (1962). *How to do things with words.* Oxford: Claredon Press.

Baroni, Raphaël (2017). "The Garden of Forking Paths: Virtualities and Challenges for Contemporary Narratology" *Emerging Vectors of Narratology.* P. K. Hansen, J. Pier, P. Roussin, W. Schmid (eds.), Berlin: Walter de Gruyter.

Barthes, Roland (1982). "Introduction to the Structural Analysis of Narratives." *A Barthes Reader.* Ed. Susan Sontag. New York: Hill & Wang.

Barthes, Roland & Lionel Duisit (1975). "An Introduction to the Structural Analysis of Narrative" *New Literary History.* 6: 2, 237—272.

Baudrillard, Jean ([1981]1983). *Simulacra and Simulation.* Translated by Paul Foss, Paul Batton & Philip Beitchman. Los Angeles: Semiotext(e)

Beach, Lee Roy (2009). "Decision making. Linking narratives and action" *Narrative Inquiry.* 19:2, 393—414.

Beisbart, Claus (2012). "A Rational Approach to Risk? Bayesian Decision Theory" *Handbook of Risk Theory.* Eds. S. Roeser, R. Hillerbrand, P. Sandin, M. Peterson. doi: 10.1007/978-94-007-1433-5_15

Bermúdez, José Luis (2021). *Frame It Again: New Tools for Rational Decision-Making.* Cambridge: Cambridge University Press.

Berne, Eric (1964). *Games People Play.* New York: Grove Press.

Bilgisel, Dilara (2016). "An Antihumanist Reinterpretation of the Philosophy of Singularity" *Uludağ University Faculty of Arts and Sciences Journal of Philosophy.* Issue 27, 245—261.

Binmore, Ken (2009). *Rational Decisions.* Ken Binmore. Princeton University Press.

Binmore, Ken (2007). *Game Theory: A Very Short Introduction.* New York: Oxford University Press.

Bonato, Anthony & Richard J. Nowakowski (2011). *The Game of Cops and Robbers of Graphs.* Student Mathematical Library Volume 61. Rhode Island: American Mathematical Society.

Booth, Wayne C. (1961). The Rhetoric of Fiction. Chicago: University of Chicago Press

Borges, Jorge Luis ([1941]1962). "The Garden Of Forking Paths" *Ficciones.* Translated by Anthony Boucher. New York: Grove Press.

Bowdre, Paul Hull Jr. (1964). *A Study of Eye-Dialect.* Gainesville: University of Florida.

Brams, Steven (2012). *Game Theory and the Humanities. Bridging Two Wolrds.* Cambridge: The MIT Press.

Brams, Steven (1994). "Game Theory and Literature" *Games and Economic Behavior* 6: 1, 32—54.

Braver, Lee (2012). *Groundless Grounds: A Study of Wittgenstein and Heidegger.* Cambridge: MIT Press.

Britannica, T. Editors of Encyclopaedia (2021). "Harold Pinter". *Encyclopedia Britannica.* Withdrawn 20 December 2021.

Britannica, The Editors of Encyclopaedia (1999). "apology". Encyclopedia Britannica, Withdrawn 21 March 2022.

Brooks, Cleanth & Robert Penn Warren (1943). *Understanding Fiction.* New York: Crofts.

Brooks, Landon (2014). "Extrapolation and Speculation" in *The Oxford Handbook of Science Fiction.* Rob Latham (ed.) Oxford: Oxford University Press.

Brumme, Jenny & Anna Espunya (2012). "Background and justification: research into fictional orality and its translation." *The Translation of Fictive Dialogue.* Eds. Jenny Brumme & Anna Espunya. Amsterdam, New York: Rodopi.

Brumme, Jenny (2012). "Translating Phrasemes in Fictive Dialogue." *The Translation of Fictive Dialogue.* Jenny Brumme & Anna Espunya (eds.) Amsterdam, New York: Rodopi.

Cadera, Susanne M. (2012). "Representing Phonetic Features." *The Translation of Fictive Dialogue.* Jenny Brumme & Anna Espunya (eds.) Amsterdam, New York: Rodopi.

Carroll, Lewis ([1865]1996). *Alice in Wonderland.* The Complete Illustrated Lewis Carroll. Ware: Wordsworth.

Chatman, Seymour (1978). *Story and Discourse: Narrative Structure in Fiction and Film.* New York: Cornell University Press.

Chuah, Swee-Hoon (2011). "Escalation Bargaining: Theoretical Analysis and Experimental Test" Nottingham University Business School Researach Paper Series. No. 2011-04.

Chwe, Michael Suk-Young (2013). *Jane Austen, Game Theorist.* Princeton & Oxford: Princeton University Press.

Chwe, Michael Suk-Young (2009). "Rational Choice and the Humanities: Excerpts and Folktales. *Occasion: Interdisciplinary Studies in the Humanities.* 1: 1, 1—15.

Cohn, Dorrit (2000). "Discordant narration" *Style* 34: 2, 307—316.

Courtemanche, Eleanor (2021). "The Fourth and Fifth Waves" *Arcade: Literature, the Humanities, & the World.* Stanford University Division of Cultures and Languages; Stanford Department of English.

Culpeper, Jonathan (2001). Language and Characterization: People in Plays and Other Texts. Textual Explorations 15. Harlow: Longman.

Culpeper, Jonathan and Fernandez-Quintanilla, Carolina (2017). "Fictional characterisation" *Pragmatics of Fiction.* Miriam A. Locher & Andreas H. Jucker (eds.) Berlin, Boston: De Gruyter Mouton.

Currie, Gregory (1995). "Unreliability refigured: Narrative in literature and film." *Journal of Aesthetics and Art Criticism.* 53: 1, 19—29.

Damasio, Antonio R. (1994). *Descartes' Error: Emotion, Reason, and the Human Brain.* New York: Avon Books.

Daston, Lorraine. 2004. "Whither Critical Inquiry?" *Critical Inquiry* 30: 361—364.

Dawes, R. M. (1980). "Social Dilemmas," *Ann. Rev. Psychol.* 31, 169—193.

Dawson, Paul (2017). "Delving into the Narratological "Toolbox": Concepts and Categories in Narrative Theory" *Style*. 51: 2, 228−245.

Delany, Samuel R. (1977) *The Jewel-Hinged Jaw*. Elizabethtown: Dragon.

Den Tandt, Christophe (2005). "Return to Mimesis: Georg Lukács and Erich Auerbach in the Wake of Postmodernity" *Return to Postmodernism: Theory − Travel Writing − Autobiography; A Festschrift in Honour of Ihab Hassan*. Klaus Stierstorfer (ed.) Heidelberg: Universitästverlag Winter.

Derrida, Jacques (1994). *Spectres of Marx*. Original *Spectres de Marx*. Translated by Peggy Kamuf. New York: Routledge.

Dixit, Avinash & Barry Nalebuff (1991). *Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life*. New York: W.W. Norton & Company.

Doležel, Lubomír (1998). *Possible Worlds of Fiction and History*. 29: 4, 785−809.

Dorst, Aletta G. (2011). *Metaphor in Fiction. Language, Thought and Communication.* Oisterwijk: Uitgeverij BOXPress.

Dreyfus, Hubert L. (1991). *Being-in-the-World. A Commentary on Heidegger's Being in Time.* Division I. Cambridge: MIT Press.

Duras, Marguerite (1992). *Practicalities.* New York : Grove Weidenfeld.

Dutta, Prajit K. (1999). *Strategies and Games: Theory and Practice.* Cambridge: The MIT Press.

Ehrmann, Jacques; Lewis, Kathy & Phil Lewis (1968). "*Homo Ludens* Revisited" Yale French Studies 41. New Haven: Yale University Press.

Fagles, Robert (1977). *Aeschylus: The Oresteia.* London : Penguin Classics.

Faulkner, William ([1932]1950). *Light in August.* London: Chatto and Windus.

Ferber, Michael (2007). *A Dictionary of Literary Symbols*. Cambridge: Cambridge University Press.

Finch, Jason (2016). *Deep Locational Criticism: Imaginative place in literary research and teaching*. Amsterdam: John Benjamins Publishing Company.

Fisher, Mark (2014). *Ghosts of My Life: Writings on Depression, Hauntology and Lost Futures*. Winchester: John Hunt Publishing.

Flood, Alison (2016). "Dark Matter review−quantum fiction that's delightfully unserious" *The Guardian*.

Foot, Philippa (1978). "Moral Beliefs". *Virtues and Vices*. Berkeley: University of California Press.

Forster, E.M. (1976). *Aspects of the Novel*. Harmondsworth: Penguin.

Frangipane, Nicholas (2019). *Multiple Narratives, Versions and Truth in the Contemporary Novel*. London: Palgrave.

Frangipane, Nicholas (2017). "Two Sides to the Story: Multiple Versions and Post-Postmodernist Epistemology" *Poetics Today*. 38: 3, 569−587.

Genette, Gérard (1982). *Figures of literary discourse.* Translated by Alan Sheridan. New York : Columbia University Press.

Genette, Gérard (1980). *Narrative Discourse. An Essay in Method.* Translated by Jane E. Lewin. Ithaca: Cornell University Press.

Giannakis, Konstantinos & Georgia Theocharopoulou, Christos Papalitsas, Sofia Fanariotiand Theodore Andronikos (2009). "Quantum Conditional

Strategies and Automata for Prisoners' Dilemmata under the EWL Scheme" *Applied Sciences.* 9: 13, 2635.

Gibbs, Raymond & Lynn Cameron (2008). "The social-cognitive dynamics of metaphor performance" *Cognitive Systems Research.* 9: 1—2, 64—75.

Gill, R. B. (2013). "The Uses of Genre and the Classification of Speculative Fiction" *Mosaic* 46: 2, 71—85.

Goldie, Peter (2012). *The Mess Inside: Narrative, Emotion, and the Mind.* New York: Oxford University Press.

Goodreads (2022). "Sliding Doors Novels" Retrieved 24.6.2022. Available at: https://www.goodreads.com/list/show/124833.Sliding_Doors

Gregory, Michael (1967). "Aspect Of Varieties Differentiation" *Journal of Linguistics.* 3: 2, 177—178.

Guattari, Félix & Gilles Deleuze (1980). *A Thousand Plateaus.* Capitalism and Schizophrenia. Transl. Brian Massumi. Minneapolis: University of Minnesota Press.

Gunn, James & Matthew Candelaria (eds.) (2005). *Speculations on Speculation. Theories of Science Fiction.* Lanham: Scarecrow Press.

Hansen, Per Krogh (2007). "Reconsidering the unreliable narrator" *Semiotica* 165: 1, 227—246.

Harrington, Joseph E. (2009). *Games, Strategies, and Decision Making.* New York: Worth Publishers.

Harsanyi, John C. (1967). "Games with Incomplete Information Played by 'Bayesian' Players, I—III" *Management Science.* 14: 3, 159—182.

Harsin, Jayson (2018). "Post-Truth and Critical Communication Studies". *Oxford Research Encyclopedia of Communication*. [online]. Available at: https://doi.org/10.1093/acrefore/9780190228613.013.757

Hartley, Lodwick (1974). "Review: The Games Tristram Plays" *The Sewanee Review.* 82: 4, 136—140.

Heidegger, Martin ([1927]1962). *Being and Time.* Translated by John Macquarrie & Edward Robinson. Oxford & Cambridge: Blackwell.

Heikes, Deborah K. (2010). *Rationality and Feminist Philosophy*. Continuum Studies in Philosophy. London: Bloomsbury.

Heikes, Deborah K. (2004). "The bias paradox: Why it's not just for feminists anymore" *Synthese.* 138: 3, 315—335.

Heinlein, Robert A. ([1947]1991). "On the Writing of Speculative Fiction" *Writing Science Fiction and Fantasy.* Fardner Dozois, Tina Lee, Stanley Schmidt, Ian Randal Strock, Sheila Williams (eds.) New York: St. Martin's Griffin.

Herman, David (1999). "Introduction: Narratologies" *Narratologies: New Perspectives on Narrative Analysis*. David Herman (ed.) Columbus: Ohio State University Press.

Herodotus (1921—1924). *Histories*. Transl. Alfred Denis Godley. Publ. W. Heinemann & G.P. Putnam's Sons. [online.] Available at: http://www.perseus.tufts.edu/hopper/text.jsp?doc=Perseus:text:1999.01.0126

Hoffman, Banesh ([1950]1992). "Introduction" *Flatland: A Romance of Many Dimensions.* New York: Dover Publications, Inc.

Hogan, Patrick Colm (2016). "Affect Studies" *Oxford Research Encyclopedias.* [online]. Available at: https://doi-org.ezproxy.jyu.fi/10.1093/acrefore/9780190201098.013.105

Howard, Nigel, Bennett, Peter, Bryant, Jim & Morris Bradley (1993). "Manifesto for a theory of drama and irrational choice". *Systems Practice* 6, 429—434.

Howard, Nigel (1994). "Drama theory and its relation to game theory. Part 1: Dramatic resolution vs. Rational solution" *Group Decision and Negotiation.* 3, 187—206.

Howard, Nigel (1992). "A Paradigm Shift,"Cooperation and Conflict 6(1), 1—2 (formerly the CONAN Newsletter, published by Nigel Howard Systems, 10 Bloomfield Rd., Birmingham, B13 9 BY, UK).

Howard, Nigel (1990). "'Soft' Game Theory,"Information and Decision Technologies 16, 215—227.

Howard, Nigel (1971). *Paradoxes of Rationality: Theory of Metagames and Political Behavior.* Cambridge: MIT Press.

Huizinga, J. ([1936]1964). *In the Shadow of Tomorrow.* New York: Norton.

Hume, David ([1737]1955). "An enquiry concerning human understanding". *Hume Selections.* Ed. C. W. Hendel Jr. New York: Charles Scribner's Sons.

Hunter, Lindsey (2008). *Unbreakable: My Life with Paul — a Story of Extraordinary Courage and Love.* New York: Harper-Collins Publishers.

Internet Speculative Fiction Database (1995). "ISFDB Statistics." Internet Speculative Fiction Database. Withdrawn: July 4th 2022.

Iser, Wolfgang (2012). "Interview 1984" *Stepping Forward: Essays, Lectures and Interviews.* Crescent Moon.

Jacke (2018). "Unreliability and Narrator Types. On the Application Area of Unreliable Narration" *Journal of Literary Theory* 12:1, 3—28.

Jackson, Chuck (2011). "American Emergencies: Whiteness, the National Guard, and *Light in August*" *Faulkner and Whiteness.* Ed. Jay Watson. University Press of Mississippi.

Jacobson, Kristin J. (2010). *Neodomestic American Fiction.* Columbus: Ohio State University Press.

Jahn, Manfred (2005). Narratology: A Guide to the heory of Narrative. University of Cologne. [online]. Available at: http://www.uni-koeln.de/~ame02/pppn.pdf

James, Henry (1986). *The Art of Criticism: Henry James on the Theory and Practice of Fiction.* William Weeder and Susan M. Griffin (eds.) Chicago: University of Chicago Press.

Jameson, Fredric (2005). *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions.* London and New York: Verso.

Kafka, Frantz (1972). *The Metamorphosis.* London: Random House Publishing.

Kahneman, Daniel (2013). "A Psychological Perspective on Economics" *American Economic Review.* 93: 2, 162—168.

Kahneman, Daniel and Amos Tversky (2000). *Choices, Values, Frames*. Cambridge: Cambridge University Press.

Kahneman, Daniel & Amos Tversky (1992). "Advances in prospect theory: Cumulative representation of uncertainty". *Journal of Risk and Uncertainty*. 5: 4, 297−323.

Kahneman, Daniel & Amos Tversky (1979). "Prospect Theory: An Analysis of Decision Under Risk" *Econometrica*. 47:2, 263−292.

Kahneman, Daniel & Amos Tversky (1972). "Subjective propability: a judgement of representativeness" *Cognitive Psychology*. 3: 430−454.

Kakutani, Michiko (2007). "Ladies' Choice: Snooker or Security?" *The New York Times.* 9 March 2007.

Kalpokas, Ignas (2019). *A political theory of post-truth*. Cham: Palgrave Macmillan

Karttunen, Laura (2015). *The Hypothetical in Literature: Emotion and Emplotment*. Doctoral dissertation. Comparative Literature, School of Language, Translation and Literary Studies, University of Tampere. Self-published.

Keen, Suzanne (2007). *Empathy and the Novel*. New York: Oxford University Press.

Keen, Suzanne (2006). "A Theory of Narrative Empathy" *Narrative*. 14: 3, 207−236.

Keen, Suzanne (2011). "Readers' Temperaments and Fictional Character." *New Literary History*. 42: 2, 295−314.

Kelly Writers House (2020). "The Significance of Speculative Fiction" [Youtube-video, streamed panel discussion]. Available at: https://www.youtube.com/watch?v=KlT-aeqVOMM&list=PLQWAHcMhcMbjmYcFpG8LOlEu0r1DLjEwb&index=11&t=2174s&ab_channel=KellyWritersHouse

Ketterer, David (1976). "Science Fiction and Allied Literature" *Science Fiction Studies* 3: 1, 65−75.

Kierkegaard, Søren ([1844]1980). *The Concept of Anxiety: A Simple Psychologically Orienting Deliberation on the Dogmatic Issue of Hereditary Sin*. Kierkegaards Writings VIII. Reidar Thomte & Albert B. Anderson (eds.) Princeton: Princeton University Press.

Kirkus reviews (2022). "The Masters by C. P. Snow" *Kirkus Reviews*. Accessed on 4th March 2022. [online]. Available at: https://www.kirkusreviews.com/book-reviews/a/cp-snow/the-masters-2/

Komorita, S. S. & C. D. Parks (1994). *Social Dilemmas*. Madison: Brown and Benchmark.

Konstantinidis, Georgios (2014). "A Game-Theoretic Analysis of the Cops and Robber Game" *Journal of Dynamics and Games.* American Institute of Mathematical Sciences. 1: 4, 599−619.

Kövecses, Zoltan (2010). *Metaphor: A Practical Introduction*. 2nd edition. New York: Oxford University Press.

Kruglanski, Arie W. & Edward Orehek (2009). "Toward a Relativity Theory of Rationality". *Social Cognition*. 27: 639−660.

Kruglanski, Arie W. (2004). "The Quest for the Gist: On Challenges of Going Abstract in Social-Personality Psychology." *Personality and Social Psychology Review* 8: 156—163.

Kuhn, Elizabeth (2009). *Anti-Humanist Modernism: Thinking Beyond the Human in Early Twentieth-Century Literature.* [online]. The Pennsylvania State University. Available at: https://etda.libraries.psu.edu/catalog/10350

Lalu, Iolanda (1977). "Balance and game in the study of theatre" *Poetics.* 6: 3—4, 339—350.

Lamarque, Peter (2009). *The Philosphy of Literature.* Oxford: Blackwell Publishing.

Langford, Nathaniel Pitt (2009). "Discovering Yellowstone—1870" *Adventures in Yellowstone: Early Travelers Tell Their Tales*. M. Mark Miller (ed.) Guilford: TwoDot.

Lanham, Richard (1973) "Games, Play, Seriousness" *Tristam Shandy, Games of Pleasure.* Berkeley and Los Angeles: University of California Press

Lehtimäki, Maria (forthcoming October 2023). "The Horror of Choices: Aspects of Peter Wessel Zapffe's Existential Pessimism in Blake Crouch's *Dark Matter*" *Hororo Cogitare: Critical Essays on the Intersection of Horror and Philosophy.* Subashish Bhattacharjee & Fernando Gabriel Pagnoni Berns (eds.) Jefferson: McFarland.

Levý, Deborah (2013). *Things I don't want to know. A Response to George Orwell's 1946 essay 'Why I Write'.* London: Penguin.

Lewis, David ([1973]2001). *Counterfactuals.* Maiden & Oxford: Blackwell.

Lyotard, Jean-François ([1979]1984). *The Postmodern Condition: A Report on Knowledge.* Translated by Geoffrey Bennington & Brian Massumi. Minneapolis: University of Minnesota Press.

Määttä, Simo K. (2004). "Dialect and Point of View. *The Ideology of Translation in The Sound and the Fury in French.*" *Target* 16: 2, 319—339.

Mann, Adam (2020). "Schrödinger's cat: The favorite, misunderstood pet of quantum mechanics" Live Science. [online] Available at: https://www.livescience.com/schrodingers-cat.html

March, James (1994). *A Primer on Decision Making*. New York: Free Press.

Martin, Graham Dustan (2003). *An Inquiry into the Purposes of Speculative Fiction—Fantasy and Truth*. Studies in Comparative Literature 58. Lewiston, Queenston, Lampeter: Edwin Mellen Press.

Massumi, Brian (1996). "The Bleed: where body meets image" *Rethinking Borders.* John C. Welchman (ed.) University of Minnesota Press.

Massumi, Brian (1995). "The Autonomy of Affect" *Cultural Critique* (31): 83—109.

Maura, Soledad Fox (2021). "What's Behind the Label 'Domestic Fiction'?" *Literary Hub.* 25 January 2021. [online]. Available at: https://lithub.com/whats-behind-the-label-domestic-fiction/

Meretoja, Hanna (2014). *The Narrative Turn in Fiction and Theory: The Crisis and Return of Storytelling from Robbe-Grillet to Tournier.* Palgrave Studies in Modern European Literature. New York: Palgrave Macmillan.

Messer, Jane 2013. Reconceptualizing maternal work: Dejours, Ruddick and Lionel Shriver's *We Need to Talk About Kevin*. *Women's Studies International Forum*. Volume 38, 11−20.

Mikkonen, Jukka (2013). *The Cognitive Value of Philosophical Fiction*. London & New York: Bloomsbury.

Mikkonen, Jukka (2011). *Philosophy Through Literature: The Cognitive Value of Philospphical Fiction*. Acta Universitas Tamperensis 1662. Tampere: Tampereen Yliopistopaino Oy, Juvenesprint.

Mimbang, Jean Blaise (2016). *Game Theory, the Art of Thinking Strategically*. Business 50 minutes. Stevenage: Primento.

Morgenstern, Oskar ([1935]1978). "Perfect Foresight and Economic Equilibrium" *Selected Economic Writings of Oskar Morgenstern*. New York: New York University Press.

Muller, Vivienne (2008). Good and bad mothering: Lionel Shriver's 'We need to talk about Kevin'. *Theorising and Representing Maternal Realities*. Kelso, J & Porter, M (eds.) Cambridge Scholars Publishing, United Kingdom.

Munro, Alice (1985). "Miles City, Montana" *New Yorker*. 14, 30−40.

navypier.org (2021). Navy Pier Inc. website. available at: https://navypier.org/

Neumann, Birgit & Ansgar Nünning (2014). "Metanarration and Metafiction" *Handbook of Narratology*. Peter Hühn (ed.) Berlin: De Gruyter.

New, Christopher (1999). *Philosophy of Literature. An Introduction*. New York: Routledge.

Nicholls, Peter, and David Langford (2017). "Speculative Fiction" *The Encyclopedia of Science Fiction*. John Clute and David Langford (eds.) SFE Ltd/Ansible Editions.

Nikolajeva, Maria (1996). *Children's Literature Comes of Age: Toward a New Aesthetic*. Abingdon: Routledge.

Nunning, Ansgar (2003). "Narratology or Narratologies? Taking stock of recent developments, critique and modest proposals for future usages of the term" *What is narratology?: Questions and answers regrding the status of a theory*. Tom Kindt & Hans-Harald Muller (eds.) Berlin: Walter de Grayter.

O'Grady, Carrie (2007). "The Flip Side of Life" *Guardian* Sat 12th May 2007.

O'Neill, Barry (1991). "The Strategy of Challenges: Two Beheading Games in Medieval Literature. In *Game Equilibrium Models IV: Social and Political Interaction*. Edited by Reinhard Selter. Berlin: Springer-Verlag.

Ottum, Lisa (2019). "Feeling Nature, Reconsidered: Ecocriticism, Affect, and the Case of H Is for Hawk" *Affect Theory and Literary Critical Practice*. Ahern, S. (ed.) Palgrave Studies in Affect Theory and Literary Criticism. London: Palgrave Macmillan.

Oziewicz, Marek (2017). "Speculative Fiction" *Oxford Research Encyclopedia*. Available at: https://doi-org.ezproxy.jyu.fi/10.1093/acrefore/9780190201098.013.78

Paulos, John A. (1998). *Once Upon a Number: The Hidden Mathematical Logic of Stories*. London: Penguin Books, Allen Lane.

Peterson, Martin (2009). *An Introduction to Decision Theory*. Cambridge: Cambridge University Press.

Ramsey, Frank (1931). "Truth and Probability" *Foundations of Mathematics and other Logical Essays*. R.B. Braithwaite (ed.) London: Kegan, Paul, Trench, Trubner & Co. Ltd.

Rapoport, Anatol (1966). *Two-Person Game Theory: The Essential Ideas*. Ann Arbor Books. Dover Books on Mathematics.

Rapoport, Anatol (1962). "The Use and Misuse of Game Theory. *Scientific American*. 207: 6, 108—118.

Rapoport, Anatol (1960). *Fights, Games, and Debates*. Ann Arbor: University of Michigan Press.

Reddy, William (2001). *The Navigation of Feeling: A Framework for the History of Emotions*. New York: Cambridge University Press.

Reilly, Cole (2016). "An Encouraging Evolution Among the Disney Princesses? A Critical Feminist Analysis" *Counterpoints*. 477: 51—63.

Reynolds, Kimberley (2011). "Introduction" *Children's Literature: From the Fin de Siecle to the New Millennium*. Liverpool: Liverpool University Press.

Riker, William H. (1962). *The Theory of Political Coalitions*. New Haven: Yale University Press.

Riker, William H. (1986). *The Art of Political Manipulation*. New Haven: Yale University Press.

Rimmon-Kenan, Shlomith (2002). *Narrative fiction: Contemporary poetics*. 2nd edition. New York: Routledge.

Robinson, Jenefer (2005). *Deeper than Reason, Emotion and its Role in Literature, Music and Art*. Oxford: Clarendon Press.

Ronen, Ruth (1994). *Possible Worlds in Literary Theory*. Cambridge: Cambridge University Press.

Rovelli, Carlo (2021). *Helgoland*. Translated by Erica Segre and Simon Carnell from *Helgoland*, 2020. New York: Riverhead Books.

Rubinstein (2007). "Afterword" *Theory of Games and Economic Behavior : 60th Anniversary Commemorative Edition*. John Von Neumann & Oskar Morgenstern. Princeton & Oxford: Princeton University Press.

Russell, Bertrand (1959). *Common Sense and Nuclear Warfare*. London: George Allen and Unwin.

Ryan, Marie-Laure (2017). "Ontological Rules" *Routledge Companion to Imaginary Worlds*. Mark J.P. Wolf (ed.) New York: Routledge.

Ryan, Marie-Laure (2013). "Possible Worlds". *The living handbook of narratology*. Hamburg: Hühn, Peter et al. (eds.) Hamburg University. URL = http://www.lhn.uni-hamburg.de/article/possible-worlds

Ryan, Marie-Laure (2006b). "Semantics, Pragmatics, and Narrativity: A Response to David Rudrum. *Narrative*. 14: 2, 188—196.

Ryan, Marie-Laure (2006a). "From Parallel Universes to Possible Worlds: Ontological Pluralism in Physics, Narratology, and Narrative" *Poetics Today* 27: 4, 633—674.

Ryan, Marie-Laure (1992). "Possible Worlds in Recent Literary Theory" *Style*. 26: 4, 528-553.

Ryan, Marie-Laure (1991). *Possible Worlds, Artificial Intelligence, and Narrative Theory.* Bloomington: Indiana University Press.

Ryman, Geoff (2017). "21 today: The rise of speculative fiction, year by year" *The Manchester Review.* 18. [online]. Available at: http://www.themanchesterreview.co.uk/?p=8006

Sartre, Jean-Paul ([1946]2007). "Existentialism is a Humanism." John Kulka (ed.) New Haven: Yale University Press.

Savage, Leonard J. (1954). *The foundations of statistics.* New York: Dover Publications Inc.

Schäfer, Katarina (2019). *Connecting Sounds: Private Music Listening as Symbolic Social Behaviour.* JYU Dissertations 145.

Schrödinger, Erwin (1935). "The Current Situation in Quantum Mechanics" Translated by John D. Trimmer.

Searle, John L. (1975). "Speech acts and recent linguistics" *Developmental Psycholinguistics and Communication Disorders.* 263: 1, 27−38.

Sedgwick, Eve (2003). *Touching Feeling: Affect, Pedagogy, Performativity.* Durham: Duke University Press.

Seidel, Markus (2014). *Epistemic Relativism: A Constructive Critique.* Hampshire & New York: Palgrave MacMillan.

Sharma, Ramen & Preety Chaudhary (2011). "Common Themes and Techniques of Postmodern Literature of Shakespeare" *International Journal of Educational Planning & Administration.* 1: 2, 189−198.

Shen, Dan (2013). "Unreliability" *Living Handbook of Narratology.* Created: 27. June 2011 Revised: 31. December 2013. Available at: https://www-archiv.fdm.uni-hamburg.de/lhn/node/66.html

Snow, C. P. ([1959]1961). *The Two Cultures and the Scientific Revolution (The Rede Lecture).* New York: Cambridge University Press.

Sternberg, Meir (1990). Telling in Time (I): Chronology and Narrative Theory. *Poetics Today.* Narratology Revisited II. 11: 4, 901−948.

Sternberg, Meir & Tamar Yacobi (2015). "(Un)Reliability in Narrative Context. A Comprehensive Overview" *Poetics Today.* 36: 4, 327−498.

Suvin, Darko (1972). "On the Poetics of the Science Fiction Genre" *College English.* 34: 3, 372−382.

Swirski, Peter (2007). *Of Literature and Knowledge. Explorations in Narrative Thought Experiments, Evolution and Game Theory.* New York: Routledge.

Swirski, Peter (2000). "In the Blink of an Eye: Games of Power in Y2K." *Dialogue and Universalism* 7: 17−38.

Swirski, Peter (1996). "Literary Studies and Literary Pragmatics: The Case of 'The Purloined Letter'" *SubStance.* 25: 81, 69−89.

Swirski, Peter (1995). "The Role of Game Theory in Literary Studies." *Empirical Approaches to Literature.* Proceedings of the Fourth Biannual Conference of the International Society for the Empirical Study of Literature−IGEL. Gebhard Rusch (ed.) Siegen: LUMIS−Publications.

Szilagyi, Miklos N. and Z. C. Szilagyi (2002). "Nontrivial Solutions to the *N*-Person Prisoners' Dilemma" Systems Research and Behavioral Science, 19: 3, 281—290.

Szilagyi, Miklos N. (2003). "An Investigation of *N*-Person Prisoners' Dilemmas" *Complex Systems*. 14, 155—174.

Szilagyi, Miklos N. (2001). "Solutions to Realistic Prisoners' Dilemma Games," *Proceedings of the 2001 IEEE Systems, Man, and Cybernetics Conference.* TA12/2, 841—846.

Szilagyi M. N. & Z. C. Szilagyi (2000). "A Tool for Simulated Social Experiments" *Simulation*. 74:1, 4—10.

Taliaferro Charles (2013). "Rationality (Philosophical)". *Encyclopedia of Sciences and Religions*. Runehov A.L.C., Oviedo L. (eds) Dordrecht: Springer. Available at: https://doi-org.ezproxy.jyu.fi/10.1007/978-1-4020-8265-8_1549

Thomas, P.L. (2013). "Science Fiction and Speculative Fiction: Challenging Genres". *Critical Literacy Teaching Series: Challenging Authors and Genre*, vol. 3. Series ed. P.L. Thomas. Rotterdam: Sense Publishers.

Thorndike, E.L. (1911). *Animal Intelligence*. Darien: Hafner.

Townsend, Allie (2011). "Etch A Sketch" *Time.* All-TIME Greatest Toys.

Tversky, Amos and Daniel Kahneman (1981). "The framing of decisions and the psychology of choice" *Science.* 30: 211, 453—458.

Tversky, Amos and Daniel Kahneman (1986). "Rational choice and the framing of decisions" *The Journal of Business* 59: 4, 251—278.

Twain, Mark ([1916]2017). *The Mysterious Stranger.* The Complete Works of Mark Twain, volume 12 of 34. Parts edition, version 9. Hastings: Delphi Classics.

Vandermeer, Jeff & Ann Vandermeer (2016). *The Big Book of Science Fiction.* New York: Vintage Books.

Vandermeer, Jeff (2016). "The Rise of Science Fiction from Pulp Mags to Cyberpunk" *Electric Literature.* Created: 22 September 2016. Available at: https://electricliterature.com/the-rise-of-science-fiction-from-pulp-mags-to-cyberpunk/

Varotsis, George (2019b). "Forking-path routines for plot advancement and problem solving in narrative composition and dramatic writing" [online]. *New Voices.* doi: 10.1080/14790726.2019.1694952

Varotsis, George (2019a). "The Role of Plotting and Action Schemata in the Consolidation of Narrative Information." [online]. *New Writing*. doi:10.1080/14790726.2019.1601231.

Varotsis, George (2018). "Complex Narrative Systems and the Minimisation of Logical Inconsistencies in Narrative and Dramatic Writing." [online]. *New Writing*. doi:10.1080/14790726.2018.1510971.

Vesala, Meeria (2018). *Urban Archaeology in Michael Redhill's Toronto Novel* Consolation. Master's thesis. Available at: https://trepo.tuni.fi/bitstream/handle/10024/103964/1530612073.pdf?sequence=1&isAllowed=y

Von Neumann, John & Oskar Morgenstern (1944). *Theory of Games and Economic Behavior*. Princeton: Princeton University Press.

Walpole, Jane Raymond (1974). "Eye Dialect in Fictional Dialogue." College Composition and Communication 25: 2, 191–196.Wilber, Ken (2007). *The Integral Vision. A Very Short Introduction to the Revolutionary Integral Appraoch to Life, God, the Universe, and Everything*. Shambhala.

Weed, Ethan (2004). "A Labyrith of Symbols. Exploring 'The Garden of Forking Paths'". *Variaciones Borges* 18, 161–189.

Weirich, Paul (2015). *Models of Decision-Making. Simplifying Choices.* Cambridge: Cambridge University Press.

Wisconsin Dells Visitors & Convention Bureau (2020). Wisconsin Dells Waterparks website. Available at: https://www.wisdells.com/wisconsin-dells-waterparks

Wolf, Werner (2010). "Mise en cadre—A Neglected Counterpart to Mise en abyme: A Frame-Theoretical and Intermedial Complement to Classical Narratology". *Postclassical Narratology: Approaches and Analyses*. J. Alber & M. Fludernik (eds.) Ohio State University Press.

Wolfe, Gary K. (1986). *Critical terms for science fiction and fantasy: a glossary and guide to scholarship.* New York: Greenwood Press.

WPBSA (2019). Official Rules of the Games of Snooker and English Billiards. The World Professional Billiards and Snooker Association Limited 2019.

Wright, Frederick A. (2012). "The Short Story Just Got Shorter: Hemingway, Narrative, and the Six-Word Urban Legend" *The Journal of Popular Culture.* 47: 2, 327–340.

Wylie, Clarence R. (1946). "Mathematical allusions in Poe" *The Scientific Monthly.* 63: 3, 227–235.

Ylä-Kapee, Annika (2014). *Telling Madness. Narrative, Diagnosis, Power, and Literary Theory.* Academic dissertation. Tampere: Tampere University Press.

Zohrabi, M. & Layegh, N. (2020). "Bidirectionality of metaphor in fiction: A study of English novels." *Applied Linguisics Research Journal*, 4(4): 88–99.

Zoran, Gabriel (1984). "Toward a Theory of Space in Narrative" *Poetics Today.* 5: 2, 309–335.