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Abstract

The aim of the study is to investigate possible therapeutic effects of Interactive Digital Storytelling (IDS). The underlying idea of the study is to explore how storytelling can be used to manipulate mental states of individuals. More specifically, it seeks to answer the question of how storytelling can be utilized in dealing with trauma that the idea of our own mortality provokes. The question was approached qualitatively by using the method of textual analysis of narratives and storyboarding. The result of the study is not the development of a specific tool (e.g. a story), but the development of a storyboard that can be later used for an implementation using IDS techniques.

Consideration of death is undoubtedly one of the foremost sources of anxiety for people because of the ongoing struggle between the will to live and the knowledge that they die. According to an existential psychologist Rollo May, humans fear death because they cannot comprehend their own lack of existence. Death is fearful, however, culture provides the means and strategies to reduce this fear. Current studies suggest that the modern Western society is less and less accepting of death and that it perceives it as something that needs to be avoided or hidden. Since people cannot live indefinitely in a psychologically and culturally induced state of denial it is a challenge for psychologists and other researchers to discover the pathways to death acceptance.

IDS is an emerging field which aims at development systems that allow for the generation of branching narratives shaped by the user. It is most commonly used for educational or entertainment purposes, however, research suggests that storytelling can be used as a tool to help people cope with difficult or traumatic situations.

Zusammenfassung

Der Zweck dieser Studie ist die Erforschung der möglichen therapeutischen Effekte von Interactive Digital Storytelling (IDS). Ihr liegt die Frage zugrunde, inwiefern IDS-basierte Technologien eingesetzt werden können, um mentale Zustände von Individuen zu beeinflussen. Der Fokus liegt dabei auf ihre Tauglichkeit als therapeutisches Mittel zur Behandlung von Traumata, welche durch die Vorstellung unserer eigenen Sterblichkeit hervorgerufen werden. Die Frage wird qualitativ mittels Textanalyse von Narrativen und Storyboarding behandelt. Das Ziel der Studie liegt dabei nicht in der Entwicklung eines spezifischen Werkzeugs (etwa einer Geschichte), sondern in der Ausarbeitung eines Storyboards, welches sich für den Einsatz im Rahmen künftiger Implementierungen mittels IDS-Techniken eignen soll.

Die Besinnung auf den Tod ist zweifelsohne eine der größten Quellen menschlicher Angst, welche aus dem stetigen Konflikt zwischen dem Willen zum Leben und dem Wissen um die eigene Endlichkeit resultiert. Dem existentiellen Psychologen Rollo May zufolge ist die Furcht vor dem Tod im Unvermögen, die Begrenztheit der eigenen Existenz zu begreifen, begründet. Kultur stellt dabei Mittel und Strategien zur Linderung dieser Angst bereit. Aktuelle Studien deuten darauf hin, daß moderne westliche Gesellschaften von einer stetigen Verminderung der Akzeptanz gegenüber dem Tod geprägt sind. Dieser würde stattdessen vermehrt als etwas wahrgenommen, das es zu vermeiden oder zu verbergen gilt. Da der kulturell und psychologisch induzierte Zustand der Verweigerung vom Individuum jedoch nicht aufrechterhalten werden kann, sind PsychologInnen und andere Forschende vor die Herausforderung gestellt, mögliche Wege zur Todesakzeptanz aufzudecken.

IDS ist ein aufstrebendes Feld mit dem Ziel der Entwicklung von Systemen, in denen der Ablauf einer Geschichte nicht von vornherein festgelegt ist, sondern

durch die Interaktionen der BenutzerInnen mit dem System in Echtzeit beeinflußt werden kann. Solche Technologien finden hauptsächlich in pädagogischen Zusammenhängen sowie für Unterhaltungszwecke Einsatz. Es gibt jedoch Indizien dafür, daß sich Storytelling darüber hinaus als therapeutische Maßnahme für Menschen in traumatischen Situationen eignet. Da der Einsatz solcher Technologien in Bezug auf Todesakzeptanz noch unerforscht ist, soll innerhalb dieser Studie ein innovativer Ansatz zur Integration von interaktiven Systemen mit diesem Schwerpunkt entwickelt werden.

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Chapter 1

Introduction

This thesis aims at investigating therapeutic concepts of storytelling in integration with the topic of human mortality, more precisely with strategies leading to the acceptance of one's own death. The underlying idea of the study is to explore how storytelling can be used to manipulate mental states of individuals, in this case how storytelling and narratives can be used to help people cope with trauma that the idea of our own mortality provokes. The specific type of storytelling that is targeted in the study is called Interactive Digital Storytelling (IDS), an emerging field which aims at developing systems in which story lines are not predetermined and can be influenced in real-time by the actions of the users.

According to an existential psychologist Rollo May, humans fear death because they cannot comprehend their own lack of existence [4]. Death is fearful, however, culture provides the means and strategies to reduce this fear. Current studies suggest that the modern Western society is less and less accepting of death and that it perceives it as something that needs to be avoided or hidden [5]. Since people cannot live indefinitely in a psychologically and culturally induced state of denial, it is a challenge for psychologists and other researchers to discover the pathways to death acceptance [6]

I chose this topic as a continuation of my bachelor thesis research in which I studied the relationship between death, family, and visual representation. During this time, I came across various studies claiming that modern Western society is less and less accepting when it comes to the idea of death [7]–[9]. Death has become a

kind of a “taboo” topic that people try to hide or avoid. However, since we cannot conquer death, the fact that everyone has to die at some point made me thinking: *How can people accept the inevitability of death without denying, hiding, or avoiding the topic?* I ended my bachelor thesis by proposing possible applications of my research, especially in the field of psychology and therapy.

My master thesis elaborates on the previous research by trying to integrate theoretical concepts of death acceptance and therapeutic concepts of storytelling. The final result of the thesis is the development of storytelling strategies for coping with death that can be later used for an implementation of an actual tool by using IDS techniques. My proposal is very speculative and there has not been anything quite similar done before, therefore, there are many open questions that my research will not be able to answer. But apart from the previous reasons, I have chosen the topic of Interactive Digital Storytelling because of my own curiosity. I have never conducted research in neither applied artificial intelligence, nor a similar research in psychology of death, so I saw it as a challenge for myself to not only learn something new, but to propose something that has not been done so far.

The presented thesis is thematically divided into several chapters. In Chapter 2 I focus on the theoretical background of the research on death from several perspectives: anthropological, psychological, and therapeutic. In this part, I am trying to answer the question of what does death mean for a society and an individual and what kind of strategies people use to accept their own mortality. The main focus is on theoretical models of death acceptance as presented by existential psychology and psychology of death. Chapter 3 is devoted to storytelling and narratives. In this part, I am attempting to describe not only the general structure and function of storytelling, but also empirical research in the field of Interactive Narratives. This chapter is concluded with a rationale of why I have chosen Interactive forms of storytelling instead of more traditional ones. In Chapter 4, I will explain the methodology used in this research, including the research question, hypothesis, and methods used for the development of the strategies. The last and most important Chapter 5 includes the final product of the whole thesis — synthesis of the theoretical and empirical findings in a form of development of storytelling strategies that

can be further used for implementation of a specific tool. This chapter is concluded with discussion and ideas for future research.

At the end, I would like to devote a few lines to the explanation of what is the contribution of my thesis. In the last fifty years, psychology of death has been dominated by research on death anxiety and *Terror Management Theory* [6]. The latter posits that the idea of our mortality creates terror for which culture is a solution to. Mortality salience is the most common way in TMT research to examine the impact of death awareness by priming people with the idea of death. The primary body of evidence supports this theory by demonstrating that priming people with the idea of their own death leads them to respond more favourably or less favourably to certain groups of people [10], [11].

However, my thesis provides a novel way how to tackle this problem. The innovative approach is based on the idea that storytelling and narratives can have strong therapeutic effects when coping with trauma or difficult situations [12]. The trauma that the study will target is the trauma caused by the idea of the inevitability of death. I would like to explain at this point that the term “trauma” for the purpose of my investigation should not be understood in strict psychological terms as some kind of a diagnose (e.g. post-traumatic stress disorder), but in more general sense as used by philosophers or sociologists. I borrowed the word trauma in context of death from a sociologist Zygmunt Bauman who in his book writes about death as being traumatic [31]).

There has been attempts to discuss therapeutic effects of storytelling [12] or applications of writing and talking about ones death for psychotherapists [13], [14], however, the idea of integrating theoretical concepts of death acceptance with therapeutic concepts of storytelling as proposed by this thesis has not been investigated so far. In this sense, the thesis is both speculative and innovative and it can have implications in various fields of study, including research on death, psychotherapy, counselling, applied artificial intelligence, or computer science.

Chapter 2

From Death Anxiety to Death Acceptance

The purpose of this thesis is to investigate possible therapeutic effects of storytelling in context of human mortality. I would like to start this investigation by introducing a reader to the theoretical foundations of the research on death. The concept of death is very complex and it is not possible to fully explore it without taking into consideration several disciplines and viewpoints. Each of the presented disciplines with its own theories, methods, and findings has contributed to the exploration of different facets of death. In this section, I will one by one introduce anthropological, psychological, and therapeutic perspective on death. The main purpose of this chapter is to give the reader a solid theoretical background on the topic that has been considered “taboo” in the scientific community for many years, but which has started to get more attention in the last decades.

Initially, in Section [2.1](#) I present the current societal attitudes toward death and dying with emphasis on the modern Western societies. The goal of this section is to place death in a specific sociocultural context by presenting what death means for our society and how does society treat death and dying. Subsequently, in Section [2.2](#) I follow the investigation with analysing psychological theories focusing on the question of what death means to an individual and how does he or she cope with the fact of human mortality. Here, I concentrate mostly on theoretical models of death acceptance and death anxiety. Eventually, in Section [2.3](#) I present one of

the branches of psychology that specifically studies and deals with the issues of life, death, and existence — existential psychology and I elaborate on their therapeutic concepts of coping with death. The idea is to integrate both the management of death anxiety and death acceptance and not to treat them necessarily as opposing attitudes. All the relevant terms are explained and defined in the respective sections of this thesis.

2.1 On Death

“The old attitude in which death was both familiar and near, evoking no great fear or awe, offers too marked a contrast to ours, where death is so frightful that we dare not utter its name.”

– Philippe Ariès [2, p.13]

Death and dying do not occur in a social vacuum, therefore, to develop an adequate understanding of these phenomena we need to incorporate a sociological perspective into our analysis [15]. I would like to start this theoretical part with theories and findings from anthropological research that will give an insight into how does the modern western society treat death and dying and what kind of position does death and dying hold in the society. First of all, I want to stress that it is evident that different cultures perceive and treat death differently, but the focus of this thesis is only on presenting theories that concern what we can call the modern western world. This thesis is not meant to be neither an anthropological, nor a psychological study on death, but the idea is to approach death by combining both of these disciplines.

2.1.1 Death Attitudes Throughout History

In 1974, a French historian Philippe Ariès wrote a book called *Western Attitudes Toward Death From The Middle Ages To The Present* in which he tried to capture how people’s attitudes toward death has changed since the early Middle Ages until the present time. I am mentioning this book now because it served me as a useful source for placing death into a specific social, cultural, and historical context. Furthermore, it made me realize that the way people are feeling about death now has

not always been the case and that even such a universality like death fear is to a certain extent culturally and socially constructed. What he observed and investigated was how mental states of people have changed throughout history and what are some particularities about these changes in relation to death attitudes.

In his work, Ariès [2] proposed to divide death attitudes into four distinctive categories which he examined one by one: *Tamed Death*, *One's Own Death*, *Thy Death*, and *Forbidden Death*. Ariès' goal was to trace back how mental states have been changing in specific historical periods and more specifically how these changes reflected people's general attitudes and treatment of death and dying. For the lack of space, I will briefly address all of them, but I will put more emphasis on the last one since it is the present time that is under my investigation.

The first one, *Tamed Death*, describes the historical period when the common attitude toward death can be characterized as a familiar resignation to the collective destiny of the species. What this means is that people in general were familiar with death. To quote the author himself: "*They were as familiar with the dead as they were familiarized with the idea of their own death*" [2, p. 25].

The most important observations that illustrate this familiarity are the following:

1. death in bed had already been sufficiently set forth,
2. death was a ritual organized by the dying person himself,
3. death was a public ceremony,
4. it was essential that parents, friends, and neighbours were present
5. rituals of dying were carried out simple

The reason why the author called it the "tamed death" is not because death had once been wild and had ceased to be so, but because death nowadays has become wild.

What came next was a period that carried subtle modifications that gradually gave a personal meaning to man's traditional familiarity with death. An important change occurred in this time which influenced the way people felt about death. Ariès

writes: “*Beginning with the eleventh century a formerly unknown relationship developed between the death of an individual and his awareness of being an individual*” [2, p. 51]. This period introduced a previously unknown concern for the self and individuality of each person. Ariès sums up this death attitude as following:

With little difficulty the man of traditional societies, the man of the first Middle Ages which we studied in the preceding lecture, became resigned to the idea that we are all mortal. Since the Early Middle Ages Western man has come to see himself in his own death: he has discovered *la mort de soi*, one’s own death [2, p. 52].

So far, we have seen two types of death attitudes. The first, the oldest, the longest held, and the most common one that can be summarized by the phrase *Et moriemur*, we shall all die and the second that appeared in the twelfth century which can be summarized as *la mort de soi*, one’s own death. The next period, which began in the eighteenth century, gave death a new meaning. People started to be less concerned with their own death than they were concerned with the death of another person, *la mort de toi*. Kastenbaum [16] has also noticed this distinction, however, his observations concern not the overall attitudes of a society, but the process of how an individual constructs death: “*One of most fundamental distinctions occurs between our conceptions of the death of the other and the death of the self*” [16, p. 30]. The first of these constructions can be expressed as “You are dead” and the second as “I will die”. For these reasons, I consider there is a difference between the concept of one’s own mortality and the concept of someone else’s mortality and the first one is the topic of my investigation.

Death in that time period had become neither frightening nor obsessive; it remained familiar and tamed, however, from now on it would be thought of as a break. Death in the past was a solemn, but banal event; people expected it and followed certain rituals when it happened. However, in the nineteenth century an important change occurred: emotions entered into this event. It was the era of “*hysterical mourning*” [2].

2.1.2 Current Attitudes Toward Death

Human attitudes toward death have undergone subtle transitions from being familiar with the inevitability of death, through realizing the personal meanings of death to discovering the emotional side of mourning over someone else's death. However, the fourth and the last investigated period is characteristic because of a major and notable change that occurred in that time:

In our day, in approximately a third of a century, we have witnessed a brutal revolution in traditional ideas and feelings, a revolution so brutal that social observers have not failed to be struck by it. It is really an absolutely unheard-of phenomenon. Death, so omnipresent in the past that it was familiar, would be effaced, would disappear. It would become shameful and forbidden [2, p. 85].

Current ethnographic studies on death (*death studies*) support this observation and claim that the modern western society is less and less accepting when it comes to death [7]–[9]. This observable denial of death is closely connected to the rapid technical development in the last century. It is the goal of medical technology to prolong and support life in cases where it would not be possible without it [8]. While people in the past used to die in their homes surrounded by their family members, people nowadays are dying in hospitals and medical centres surrounded by doctors or nurses. One dies in the hospital because the doctor did not succeed in healing. People no longer go to the hospital to heal, they rather go there to die. “*Death is a technical phenomenon obtained by a cessation of care*” [2, p. 88]. This physical displacement of the site of death is a recent phenomenon that demonstrates the attempt of the society to hide death and dying from the eyes of the living [2].

What is also specific for this time period is that accent is put on “acceptable”; acceptable death is the one that the survivors can accept or tolerate. Ariès observed that people no longer openly express their sorrow over a death of a loved one or a person close to them. One mourns and cries silently and alone. Public manifestations of grief are somehow forbidden and people are obliged to suffer alone and secretly even in a family circle. This is in great contrast with the previous periods when death

was a public event, when the dying person was surrounded not only by family, but also neighbours and children. We can hardly see adults talking openly about death to their children nowadays and children are often excluded when an event of death happens in a family. Adults tend to avoid or understate the topic of death in front of children. It seems that what characterizes today's attitude is the interdiction of death in order to preserve happiness: "*What was once required is henceforth forbidden*" [2, p. 92].

2.1.3 Research on Death and Dying

Elisabeth Kübler-Ross, a leading figure in the research on death and dying made a similar observation. In 1969, she wrote a book called *On Death and Dying* that was one of the first that directly addressed the topic of death and dying. She conducted her research mostly in hospitals with old and/or terminally ill patients and she summarized her findings in a book that she devoted primarily to people dealing with death and dying, namely doctors, nurses, clergy, and family members. For the lack of space, I will not go into detail, but I will mention that in the book she introduced her famous five stage model of coping with death: denial, anger, bargaining, depression, acceptance. Kübler-Ross described how difficult it was in the beginning to conduct a research with terminally ill patients since the general feeling of the doctors and nurses was that talking openly about death with terminally ill patients would be too traumatic for them and they would not let her or her colleagues approach them. Here again we can see that in today's society it is not proper to talk about death. Furthermore, it is not proper to talk about it neither with children who can be viewed as too young to understand nor with ill and dying who can be viewed as already traumatized with the approaching death.

One of the key ideas of Kübler-Ross I would like to mention here is the one on the fear of death: "...*man has not basically changed. Death is still a fearful, frightening happening, and the fear of death is a universal fear...*" [5, p. 4]. However, according to Kübler-Ross [5], what has changed are our ways of coping with death and dying. The more we advance in science, the more we seem to fear and deny death. Why is it the case that our modern Western society seems to be so denying of death?

According to Kübler-Ross, one of the reasons is that dying nowadays has become more lonely, gruesome, mechanical.

Looking at the current anthropological and ethnographic research on death reveals some interesting topics:

- realization of one's own mortality [17]
- material culture and grieving practices [18]
- memory in public and private sphere [19]
- influence of technology in grieving and commemoration [20]
- sense-making and grief [21]
- suicide [22]
- commemoration of children [23]
- or perception of death among children [24].

2.1.4 Avoiding the Study of Death

In the end, I would like to turn my attention to the scientific community. I want to point out that the denial or avoidance of death that is so evident in today's society does not concern only the general public, but also the scientific as well. Psychology has given little attention to the topic of death in the twentieth century. There have not been many studies conducted, students rarely came across this topic during their studies and journals did not publish papers on death. Death was irrelevant to the systematic study of psychology before and the topic became of interest only in cases when social norms have been violated, such as a suicide [16].

One of the first to break this taboo was Herman Feifel, the pioneer and the father of the modern death movement [25]. In 1956, he organised and led a symposium called *The Concept of Death and its Relation to Behaviour* that attracted attention of researchers not only from psychology, but also anthropology, psychiatry,

art, literature, religion, philosophy. Despite its success, the American Psychological Association refused to review the proceedings which Feifel saw as a proof that psychology avoided dealing with death and related topics.

However, the atmosphere has started to change since Feifel published *The Meaning of Death* in 1959. Since then, death as a topic has gained a lot more attention in the scientific community. Feifel's book opened a formerly closed discussion on death and dying; it was provocative, multidisciplinary, authoritative, and it stimulated research. Literature concerning death soon started to emerge and now there are at least three journals publishing scientific papers only on death (*Death Studies*, *Omega Journal of Death and Dying*, and *Mortality*) with most frequent topics being: bereavement/grief, attitudes toward death and dying, suicide, dying/end of life, traumatic death and so on. Still the weakest thematic emphasis is put on topics like death education, ethical and legal issues, or the development of the concept of death among children [26].

Universities and colleges started to offer courses on death and dying and people started to participate in hospice programs and peer support groups for bereaved. In conclusion, there has been an evident progress over the past twenty years, when society in general and the caring professionals in particular, have begun to culturally acknowledge and integrate an acceptance of life's end [27].

To sum up, in this section I wanted to introduce a reader to the topic of death from an anthropological and historical point of view. I wanted to point out that the way a society treats death and dying can be understood through changes that occur in that society. Current societal trends include the increase in longevity, the development of new technologies for prolonging life, domination of youth culture and glorification of beauty and strength, and the medicalization of originally natural processes (e.g. pregnancy, dying etc.) [26]. All of these characterize the society we are living in and all of these shape the attitudes toward death as we can observe them nowadays: death is for our society traumatic and it responds to it in a contradictory manner with both approach and avoidance. In order to understand how people cognitively and psychologically deal with death, we will now change our focus from a society to an individual.

2.2 Psychology of Death

“Though the physicality of death destroys us, the idea of death may save us.”

– Irvin D. Yalom [41, p. 33]

Previously, I have looked at what death means for a society. In this section, I would like to pose another question: *What is happening when one is confronted with the awareness of death and how does an individual come about death acceptance?* In the last fifty years, psychology of death has been dominated by research on death anxiety and *Terror Management Theory*, but my aim is to explore the topic that has not been investigated that widely. The subject of my interest is death acceptance which according to Wong, Reker, and Gesser [29] is understood as being psychologically prepared for the final exit.

2.2.1 Beyond Anxiety, Fear, and Denial

Consideration of death is undoubtedly one of the foremost sources of anxiety to people [30]. It is assumed that humans are unique creatures since they not only *know*, but they *know that they know* [31]. What this means is that humans are considered to be the only beings that are aware of their own mortality. This knowledge poses cognitive burden onto them because of the constant struggle between a will to live and knowledge that they die. The awareness of death is active at all age levels and is not confined to the sick, aged, suicidal, or combat soldiers [30]. Philosophers have described it as *bitter-sweet* since it is not only associated with anxiety, avoidance, and fear, but also innovation, inspiration, and desire to contribute to something bigger than oneself [32].

The meaning of death is multidimensional and varies not only between individuals, but also within an individual [30]. Research suggests that when it comes to death awareness, Western societies respond to dying and death in a contradictory fashion with both approach and avoidance. On the one hand, there is an extensive portrayal of death and dying in media, on the other hand, personal encounters with death and dying have diminished [26]. There are two different views on death: either it is the end of one’s existence or it is a doorway to another life. People who

view death as the ultimate end of existence are likely to live for the here and now. On the contrary, people who view it as a passageway must live with the next life in their mind [29].

Death awareness is a natural sequel to the development of self-awareness which is an intrinsic attribute of humankind [33]. People start to develop attitudes and beliefs about death at an early age and these attitudes and beliefs may affect many areas of their lives, including attitudes toward life [29]. Developmental theorists have addressed the question of the development of the concept of death and Nagy [34] broke this process into three stages:

- universality
- irreversibility
- inevitability

Piagetian-oriented studies conclude that children have acquired the adult conception of death when they realize that death is universal, personal, inevitable, final, and irreversible [16]. Studies suggest that children begin to think and worry about death between the age of three to five [35], they understand death as a cessation of the ability to act by the age of four [36], and they fully comprehend the universality and inevitability of death by the age of eleven [37].

Wong, Reker, and Gesser [29] suggested that the relationship between individual's attitudes toward life and death go both directions: attitudes toward death may shape attitudes toward life and attitudes toward life may influence how people perceive death. This means that people who are unable to find meaning in their lives as well as death may experience a heightened fear of death and vice versa, people with sense of purpose and meaning in their lives may report death acceptance and lower fear of death.

Although there have been identified several death attitudes (e.g. death anxiety, acceptance, denial, fear), most of the early research focused on exploring death anxiety and death fear among the elderly and their caregivers [38]. While it is true that research on death attitudes has advanced since the late 1970s, it is still somewhat constrained to focusing on negative attitudes, such as death fear, threat,

and anxiety [39]. At a personal level, death attitudes do matter, however, our relationship with death cannot be reduced to only terror. According to Kastenbaum [16], an ordinary life in today's society is marked by heavy repression of death-related anxiety, but this repression is a process that requires too much effort and energy. Kastenbaum advocates against denial by saying that we cannot be mature adults unless we live with the full realization of our mortality. It is inevitable that psychology of death moves beyond terror and denial and starts to explore also positive attitudes toward death, such as death acceptance [40].

2.2.2 Death Acceptance and Its Dimensions

There are several reasons why denying death is problematic. First of all, no matter how hard we try to suppress the awareness of death, it can manifest itself in a variety of symptoms, such as depression or stress [41]. Secondly, it is doomed to fail because sooner or later the reality of death will strike back (someone we know dies or is severely ill). Third problem is that it is time and energy consuming. And fourth, an obsession with death fear can prevent us from living a vital and fulfilling life [40]. Yalom pointed out this fact by saying that: *“some refuse the loan of life to avoid the debt of death”* [41, p. 119]. I will elaborate on the fourth point more in the Section 2.3 of this thesis.

Kübler-Ross was largely responsible for making death a legitimate topic for research. In her work, she introduced a five stage model of coping with death which ends with acceptance. However, the acceptance that Kübler-Ross had in mind is different from the one I am working with because she understood it as a resignation to the inevitability of death [29]. For the purpose of this thesis, death acceptance is viewed as a psychological preparedness for the final exit which consists of two components:

1. **confrontation of death** — cognitive awareness of one's own finitude
2. **integration of death** — positive (or at least neutral) emotional reaction to this cognizance [42]

According to Wong [43], acceptance is not meant to be giving up or passivity; it

requires that people honestly recognize and confront their limitations and the dark side of human condition.

Gesser, Wong, and Reker [44] conceptualized death acceptance as involving three dimensions: neutral, approach, and escape acceptance. For people holding neutral acceptance death is an integral part of life; they neither fear it nor look forward to it. Neutral acceptance means facing death rationally as an inevitable part of life. Approach acceptant people view death as a passageway to an eternal existence or happy afterlife. It is rooted in religious/spiritual beliefs in a desirable afterlife. Escape acceptance supposes that when life is full of pain and suffering, death is a better alternative; death offers a relief in a miserable life. Typically people exhibit escape acceptance because they can no longer effectively cope with their problems of existence.

To sum up, both logical and empirical evidence suggests that there are three routes through which people come into terms of their death:

1. **approach acceptance** — those who view death as a passageway to an eternal existence
2. **neutral acceptance** — those who rationally accept the inevitability of death
3. **escape acceptance** — those who view death as a relief from a painful existence

2.2.3 Death Acceptance and Other Death Attitudes

There have been identified several death attitudes. Moreover, Feifel [30] indicated the coexistence of contradictory attitudes toward death (e.g. a realistic acceptance and its rejection in terminally ill patients). Because of the interconnectedness of various death attitudes, I would like to devote a few lines to the relationship between death acceptance and seemingly opposing death attitudes: fear and anxiety.

Death anxiety and death acceptance are intimately related. Becker [45] was an advocate of the idea that all anxiety is rooted in the awareness of our mortality. According to Tomer and Eliason [46], death anxiety is understood as a negative emotional reaction provoked by the anticipation of a state in which the self does not

exist. In their research, they proposed a model of death anxiety, in which the three determinants of death anxiety are: past-related regret, future-related regret, and meaningfulness of death. Past-related regret refers to the perception of not having fulfilled life's aspirations while future-related refers to the perception of not being able to fulfill them in the future. Meaningfulness of death refers to an individual's conceptualisation of death as either positive or negative, meaningful or meaningless. According to their model, a person will experience high death anxiety when he or she feels much past and future-related regret and he or she perceives death as meaningless. Tomer and Eliason [46] explain that the perception of death as meaningful or meaningless may increase or decrease death anxiety; death perceived as meaningful may reduce death anxiety while death perceived as meaningless may increase death anxiety.

It is important to note that there is an extensive literature on death anxiety, death acceptance, death fear, and death denial, however, definitions of the investigated phenomena are not always consistent with each other or clear enough. This concerns the terms death anxiety and death fear in particular. The issue is that researchers use these terms interchangeably and they seldom differentiate between them [16], but it would be helpful to regard them as different phenomena. According to May [47], fear is understood as more specific, conscious, and identifiable, while anxiety is more global state of apprehension and perhaps inaccessible to our awareness. Anxiety is a state in which danger can come in any shape from any source in any time. And to add to this discussion, denial in psychiatry is defined as a rejection to accept a significant facet of reality [16].

Ray and Najman [48] posed an interesting question: *What is the opposite of being anxious about death? Is it an absence of anxiety or positive coming to terms with death?* They proposed that death acceptance is not necessarily an opposite of death anxiety and that the two could in fact correlate positively:

There would after all, appear to be some differences between those who simply shut out all thought of death, those who fear death and know it, and those who have devoted some thought and effort to coming to terms with death and have succeeded in accepting it without anxiety [48, p.

1].

We can even consider them as being three categories of attitudes of one continuum that goes from rejection to acceptance. The result of their research proved that death acceptance is not a categorical opposite of death anxiety; people may accept death and still be anxious about it. However, if we want to know what can be an opposite of death acceptance, we might find the answer if we turn our attention from death anxiety to other death attitudes, such as death denial. I would conclude this part with a quote of Kastenbaum who sums up this question in a following manner:

The apparently “non-anxious” orientation toward death might reflect, then: (a) *denial*, in which a critical zone of reality has been screened off; (b) *unreadiness*, in which psychological preparations have not yet reached the point of confronting an acknowledged but unattractive aspect of reality; and (c) *acceptance*, in which death has been integrated within a mature life perspective [16, p. 128].

2.2.4 Determinants of Death Acceptance

What are the factors influencing how people feel about death? More specifically, why is it the case that some people seem to be so at ease when confronted with their mortality while others tremble with fear? Objectively speaking, death is the irreversible cessation of all bodily and mental functions. Apart from the objective meanings of death, there are also subjective meanings at an individual level which are of interest for my exploration. Cicirelli [49] writes that personal meanings of death are constructed by the individual and they are the cognitive interpretations of objects or events related to death. They are unique to an individual and they serve as stimuli for emotional reactions. In the next few paragraphs, I would elaborate on the idea of personal meanings of death by analysing some of the studies that attempted to investigate the factors that influence peoples’ attitudes toward death, namely age, gender, and religiosity.

Let’s start with age differences. Life-span psychologists have postulated that different age groups vary in their attitudes toward death partly because of their

differential proximity and exposure to death [29]. In the study of Gesser, Wong, and Reker [44], the fear of death and dying is described as a curvilinear function of age: the fear should be relatively high among young adults, should peak during middle age, and fall to its minimum among the elderly.

Young adulthood is characterized as a stage of growth of intellectual and philosophical maturity. Moreover, the adolescent and young adult has a more vivid awareness of the dialectic between being and non-being which is intensified by interest in futurity [16]. For these reasons, young adults find it hard to believe in immortality; they cannot deny the fact of their mortality, but the perception of death is remote.

The perception of middle-aged people is characterized by decline: gradual loss of health, vitality, and career opportunities, friends have aged, children are almost adults and parents have grown old [44]. Neugarten [50] pointed out that the fear of growing old is closely associated with the fear of death and the perception of time. Middle age is a peak point when people stop to count time-since-birth, but rather time-left-to-live.

According to Kastenbaum [16], older people in general do not report higher levels of death anxiety as someone might assume. On the contrary, their most frequent strategies are acceptance or acquiescence. An important developmental task of the elderly is the need to accept one's past life and future death. Kalish and Reynolds [51] and Klug and Boss [52] suggest that while they may think about death more than younger people, they no longer fear its occurrence. At this point I will again mention the book of Kübler-Ross [5] who made a similar observation during her research with hospital patients. She noted that despite the general notion of death avoidance in today's society, most of the patients seemed comfortable when thinking and talking about their death. The decrease of death fear among the elderly can be associated with an increase in all three types of death acceptance. Results of Gesser, Wong, and Reker [44] have supported these assumptions about age differences: fear of death/dying was relatively high among the young, peaked during middle age, and fell to its minimum among the elderly. Moreover, all types of death acceptance (approach, neutral, and escape) were high among the elderly.

When it comes to empirical studies, the focus has been put on examining death attitudes among young adults rather than older adults, for example Noppe and Noppe [53] found age differences in the meaning of death between children, adolescents, and young adults. However, Cicirelli [49] in his study examined how age and gender influenced both personal meanings of death and fears of death as well as their mutual relationship focusing on comparison between young and older adults.

Existing studies support the claim that the fear of death seems to be higher at younger adults and declines with age [44] [54] [55] . On the other hand, a study of Mullins and Lopez [56] found that there is higher fear of death among the older group than the younger group of nursing home patients. As Cicirelli [49] points, results of the studies concerning the relationship between the fear of death and age seem quite controversial and inconsistent.

Research suggests that there are also gender differences in the perception of death. According to Cicirelli [49], a frequent conclusion of these studies is that women have higher fear of death than men. Holcomb, Neimeyer, and Moore [39] found that women were more likely to write about death as a form of continued existence while men were more likely to view it in a more general way as something that happens to everyone. The study of Harding, Flannelly, Weaver, *et al.* [57] have indicated that women in their sample exhibited a significantly higher death anxiety than men which is consistent with previous studies of Thorson and Powell [58], Rasmussen and Johnson [59], and Dattel and Neimeyer [60].

In the end, I would point out some of the research findings concerning the relationship between death anxiety/acceptance and religiosity. As Harding, Flannelly, Weaver, *et al.* [57] wrote, several studies have found that people who are more religious have lower death anxiety, but the findings about the relationship between religiosity and death anxiety have been inconsistent. In their study, they hypothesized that higher levels of religiosity, especially belief in afterlife, would be associated with decreased death anxiety and increased death acceptance. Their results showed that death anxiety and death acceptance exhibited a moderate negative correlation between one another. This means that people who consciously accept the inevitability of death are less afraid of it and vice versa which is consistent with the research

of Ray and Najman [48]. Moreover, their second hypothesis was also confirmed — theological religiosity was negatively correlated with death anxiety and positively with death acceptance. Belief in God and belief in afterlife had statistically significant effect on death anxiety and death acceptance which replicates the study of Templer [61]. However, given the complexity of religion as a concept, one has to be thoughtful while interpreting these findings. The overall pattern of their results is consistent with the studies of Thorson and Powell [62] and Roff, Butkeviciene, and Klemmack [63].

In the end, I would like to agree with Kastenbaum [16] who said that by knowing someone's age we cannot predict one's perception of and attitude toward death and that accounts for gender and religious beliefs as well. We have to stay critical regarding these findings since many of them are inconsistent with each other and they still do not provide sufficient explanation for why there are these differences in the perception of death regarding age, gender, and religiosity.

The focus of my research is on death acceptance as a positive attitude toward death. In this part, I introduced a reader to this topic by analysing some of the key findings from the psychology of death. The main message of this part is that death acceptance or other death attitudes are not stand-alone phenomena and while focusing on and investigating one of them, we have to account for the others as well. Secondly, the process of coming to terms with one's own mortality is very individual and can be influenced by various factors. Researchers have identified at least three different paths that can lead a person to death acceptance. People accept death either as a passageway to a better life, as an inevitable part of the human life, or they regard their lives as full of suffering and death can free them from that suffering. This theoretical background helped me to identify the “problem” and in the last section of this chapter I would like to dive into the therapeutic solutions to that “problem”.

2.3 Managing Death Anxiety and Death Acceptance

“Whether one fears or accepts death depends to a large extent on whether one has learned to accept one’s only life cycle.”

–Wong et al. [29, p. 123]

What is the meaning in life? This is a question that many have been seeking an answer to, from the ancient philosophers to the modern people, from scientists to the general public. I will not be able to answer this question here, but I will aim to investigate what the proponents and advocates of existential psychology and psychotherapy can tell us about the relationship between the meaning of life and the meaning of death and how can we therapeutically cope with our own mortality. An opening question for a reader follows: *Is it really death that people fear the most?*

2.3.1 Meaning Management

Death is the only certainty in life; all organisms die. However, humans are the only organisms that have to live with the cognitive burden of being aware of their inevitable finitude. Biologically speaking, death can be defined in quite straightforward manner as the cessation of all vital functions, but as Wong [3] writes humans are meaning-makers and because of this capacity, the concept of death becomes very complex and broad. This concept of humans as meaning-makers has been used by psychologists and psychotherapists who have devoted their work to positive and humanistic approaches toward coping with issues of existence in general and death in particular. Their line of arguments can be traced back to Feifel [30] who suggested that one’s philosophy of life and death lies at the nexus of meaning, value, and personality and Frankl [64] who suggested that awareness and acceptance of death gives meaning to human life.

Why is death fearful? Wong [3] summarized the following reasons that may lie behind our fear of death:

1. the finality of death
2. the uncertainty of what follows
3. annihilation anxiety or fear of non-existence
4. the ultimate loss
5. the disruption of the flow of life
6. fear of leaving the loved ones behind
7. fear of the pain and loneliness in dying
8. fear of ultimate and violent death
9. fear of failing to complete life work
10. fear of judgement and retributions

According to Gesser, Wong, and Reker [44], fear of death stems from the failure to find meaning for one's life and death. They go even further with this argument when they question what is it that people fear more: is it the inevitability of death or is it a meaningless existence? Butler [65],[66] is an advocate of the idea that people are more afraid of a meaningless existence rather than death, therefore, individuals who see their lives as fulfilling should show less death anxiety and more death acceptance.

According to Tomer and Eliason [46], death is feared when people have too many regrets either by not having lived a fulfilling life or by not having time to accomplish their future goals. In ideal case, death acceptance should set us free from anxiety and encourage us to live vitally and vice versa, when we have lived a meaningful life, we are ready to face death. However, the idea of being completely free of death anxiety is not possible because death awareness will always find its way to our consciousness. This is where the idea of integrating both death anxiety and death acceptance comes in. Following Wong [3], people are confronted with two fundamental psychological tasks:

- **managing death anxiety** — to protect themselves against the terrors of loss and death
- **managing death acceptance** — to pursue the good life of living meaningfully and authentically

Wong further argues that the most promising way to achieve these two goals is through managing the meanings of life and death as proposed by the *Meaning-Management Theory* (MMT).

MMT is based on the central role of meaning in human adaptation and it is rooted in existential-humanistic theory and constructivist perspectives [43]. It is a comprehensive psychological theory about how to manage meaning-related processes to meet our basic needs for happiness and survival. To put it simply, MMT is about how people manage and regulate their lives. MMT predicts that if one wants to live a vital and meaningful life, it is better to focus on the positive tendency of personal growth rather than on defensive mechanisms against death fear [3]. It is assumed that the best way to reduce death anxiety is to facilitate death acceptance and positive tendencies.

Wong [6] argues that all adaptive endeavours can be reduced to two fundamental biological and psychological systems (approach and avoidance) that interact between each other. This is what he calls the *dual-system model* and it provides a useful framework to manage the co-existence of death acceptance and death fear. It posits that it is more effective to employ both of them rather than only one. According to the *dual-system model*, the best defence is offence which means that the most effective way to protect oneself against death anxiety is to focus on the immediate task and live a meaningful life [43].

2.3.2 Existential Psychotherapy

Yalom [67] proposes that death anxiety is a fear that can erupt terror depriving an individual of happy and fulfilling life. The basic tenet of humanistic/existential psychology is that self-actualization is only possible when an individual has come to terms with his or her own mortality [44]. As I already wrote in Section 2.2, to

suppress the idea of death is problematic and to confront it is inevitable. Existential psychology as a new branch of psychology has been established with the help of an influential psychologist and major proponent of existential psychotherapy Rollo May. May influenced a number of psychologists and psychotherapists, including Irvin Yalom whose work I will briefly present.

Existential psychotherapy emphasizes a conflict that flows from the individual's confrontation with the givens of existence [14]. Yalom in his clinical work uses the word "existential" when simply referring to existence. Existential thinkers agree on that humans are the only creatures for whom their own existence is a problem, therefore existence is a key concept in existential psychology. The main proposition of existential therapeutic approach is that apart from other sources of despair, humans suffer also from the inevitable confrontation with the human condition [67]. In Yalom's view, existential therapy is not a freestanding ideological school, rather it is a belief that a well-trained psychotherapist should also be trained in being sensitive to existential issues.

The key to understanding existential psychotherapy lies in distinguishing between content and meaning; existential content may be salient to some (but not all) clients at some (but not all) stages of therapy. This basically means that there are times when the therapy sessions revolve around topics with existential content, but also sessions when they are completely free of this content and both are equally important [67].

The purpose of existential therapy is to understand human beings in their world and the capacities they bring to therapy [68]. What is more important, existential therapy is relationship-driven and it is based on creating connections between the therapist and the client [67]. Moreover, freedom lies at the heart of May's existential principle; freedom is crucial for the therapeutic process because it is the goal of the therapy to free people from barriers that may hinder their choices and thus prevent them from living a meaningful life [4]. For the lack of space, I tried to pick the most important ideas from existential therapeutic approach. For more deeper understanding, I would refer a reader to the whole works of existentially thinking psychologists like Rollo May or Irvin Yalom.

2.3.3 Memento Mori

It is at the core of existential psychology that people have to face death in order to live a meaningful life. We have already seen what researchers and professionals have said about the process of being confronted with someone else's death, but it would be interesting what they have to say when confronted with their own death.

Bennett-Carpenter [13] suggests that a psychotherapist talking and writing about their own mortality is crucial for themselves and their patients. He calls this injunction "*memento mori*" — "remember that thou art mortal" and it should lie at the basis of therapeutic practice. The idea behind is that both talking and writing about one's own death can open new perspectives on life. Although this type of literature is not prevalent in the scientific writing, there have been examples when therapists opened up about their own encounters with death, including Yalom [41], Yalom [67], Feinsilver [69], Sussman [70], and Sussman [71].

Yalom [41] is an exceptional example of such a work which can be of benefit for psychotherapists, health care professionals, and other people in healing professions. He opens up about his first encounters with death, he contemplates about his personal coping with death, and he reflects on the issues concerning writing a book about death. All of these are very useful insights, especially regarding psychotherapists who can be confronted with the thoughts of death on a daily basis. Furthermore, Stella [72] recognized the importance of self-awareness and for the purpose of her study she outlined a practical learning activity on the topic of death. This activity entails a guided meditation during which subjects are asked to image both the worst-case and best-case scenario of their death and it can be used to promote greater self-awareness in master's level counselling students.

2.3.4 Narrating as a Form of Therapy

The main argument of my thesis comes from Ingemark [12] who suggested that storytelling can be used as a tool to help people cope with difficult or traumatic situations. The basic proposition is that verbalisation of experience is in itself therapeutic, however, there are some particular ways that are more therapeutic than

others. For example, Pennebaker [73] observed that only writing about a trauma in a purely descriptive manner will not suffice; it is necessary to express one's deepest emotions to reflect on how one feels and why. The notion of some narratives being more therapeutic than others is at the core of the narrative therapy introduced in late 1980s and early 1990s by Michael White and David Epston. Ingemark [12] further elaborates on benefits of storytelling in therapy by proposing that narrating opens a space for reflection. Moreover, it is suggested that repeated narration of the same event is particularly effective in promoting self-reflection and it facilitates the creation of distance between the individual and the issue.

The idea of using narratives as a form of therapy has also been used by Neimeyer [74] in his work on grief. He proposed that the reconstruction of a world of meaning is the central process in grieving. Although my research interest is not grieving and bereavement, it is useful to mention some of his applications for narratives in therapy. What is even more beneficial is the fact that these applications are not only theories, but they come from his practice as a clinical psychologist. The examples he pointed out include epitaphs, journals, life imprint, linking objects, metaphoric images, and poetry of loss. For illustration, a good epitaph can focus and affirm the meaning of a relationship between the bereaved and the deceased or life imprint can be a powerful way of honouring a person's contribution to our live.

Concerning scientific research, the idea of using a narrative approach for the study of death has been proposed also by anthropologists Buck and Pipyrrou [75]. Their case studies illustrate that death can be continuously re-enacted, re-created and caught in relations between the living and the dead that unfold in story.

To conclude, the main goal of this chapter was to find a theoretical background for my research question and apply this knowledge for the exploration of the ways in which Interactive Digital Storytelling can be used to lead people to death acceptance. I tried to tackle this issue from various viewpoints, starting from anthropological, through psychological to therapeutic. Since this chapter was devoted to one side of the story: theoretical concepts of death acceptance, in the following chapter, I will analyse the other side: narrative theories and Interactive Digital Storytelling projects.

Chapter 3

New Trends in Storytelling

In this chapter, I would like to move from the theoretical concepts of death acceptance to empirical research in the domain of Interactive Storytelling (IS) systems. The topic of my research is the development of storytelling strategies for coping with death, therefore I proceed with introducing a reader to the topic of IS systems.

Initially, in Section 3.1, I sum up relevant evolutionary and psychological theories concerning functions of narratives. Subsequently, in Section 3.2, I point out some of the most important and the most used narrative theories that serve as a basis for creation of most of the IS systems. Eventually, in Section 3.3, I focus on analysing specific research projects that have been conducted in the field of IS. I conclude this part by indicating what kind of issues have emerged in the field so far and how these challenges have been approached.

3.1 The Power of Storytelling

Before I jump to new kinds of media through which stories are being presented or told nowadays, I want to go back to the origins of storytelling and narratives to illustrate the importance of stories for humanity. As it was the case with the topic of death, fiction literature has been also largely ignored by psychologists in the past, assuming that its only function is entertainment [1]. However, I would like to explain how narratives are important social and cognitive phenomena and how they function not only as a mere entertainment, but as a powerful tool that has

significant effects on our mind.

Why do people seem to enjoy telling stories so much? [76]. Regarding narratives, scholars disagree on whether or not narratives may have an evolutionary function and if so what the function is [77]. According to Sugiyama [78], the integration of storytelling into the study of evolution is important for two reasons. Firstly, practice of storytelling is ancient, pre-dating not only the advent of writing, but also the agricultural and permanent settlement. Secondly, narratives are important for the study of human evolution because they are the ultimate product of the human mind which is in turn the product of evolution. It is not possible to say precisely when storytelling emerged in human history, but it is most certainly known that language as a prerequisite for storytelling emerged at least 50 000 years ago, the earliest found written narrative, *The Epic of Gilgamesh*, dates back to 5 000 years ago, and most importantly that oral narrative as a product of our hunting-and-gathering past is likely to have emerged between 30 000 and 100 000 years ago [78]. The goal of my thesis does not permit me to go into detail, so I will focus only on answering the question of what are the functions of narratives and what kind of effects can storytelling have on a human mind.

Narrative is an ancient cognitive phenomenon that is universal for cultures (past or present) all over the world which takes the same form as “a chain of events in cause-effect relationship occurring in time” [78]. Stories are often said to be a form of narrative or text that put chaotic events into an orderly form [77] and which include intentional agents and their interactions [79]. Despite their diversity, narratives tend to have a common structure: a beginning, a middle, and an end, in which problems or goals are posed that the characters attempt to solve or achieve [77]. However, I will go into more detail regarding the narrative forms in the Section 3.2.

From an evolutionary perspective, the cognitive capacities we refer to as the human mind are solutions to the problems of day-to-day Pleistocene life [78]. But what kind of a problem can possibly storytelling solve? First of all, information-gathering is essential to human survival. However, there are several constraints concerning the task of acquiring information at first hand: it is costly, inefficient, and risky. Moreover, it is improbable that a single person can acquire all the necessary

information concerning a certain environment. One way around these constraints is to take advantage of others' experience and acquire the information at second hand. Sugiyama writes about the probable link between the practice of narrating and the pursuit of fitness:

Indeed, a growing number of evolution-minded anthropologists and psychologists have reached the conclusion that many patterned cultural phenomena, such as ritual, art, narrative, may be conceptualized as means of exchanging information relevant to the pursuit of fitness in local habitats [78, p. 238].

Sugiyama is a proponent of the hypothesis that narratives function as a medium of information transmission because [78]:

1. narrative processing requires no physical exertion
2. narratives compress time
3. narrative is a representation of experience
4. narratives can be easily tailored to meet the specific information needs of local habitats

Evidence suggests that information is most commonly acquired from others [78] and probably the most familiar example is Dunbar's theory on gossiping [80]. Apart from the knowledge on one's immediate social environment, through storytelling one can acquire important information on his or her physical environment as well (e.g. animal knowledge). The information transmission hypothesis can be summarized in a following manner:

Narrative can thus be seen as a means of simulating certain goals and obstacles of day-to-day human existence and providing local information necessary to pursue and/or surmount them [78, p. 239].

If narratives evolved as a means for information transmission, one might ask what is the benefit of such a communication for the storyteller and the listener.

Sugiyama answers this question by pointing out that storytelling is a transaction in which the benefit for the listener is the information about his or her environment and the benefit for the storyteller is the elicitation of behaviour that serves storyteller's purposes [81]. By making such a claim we are slowly approaching another hypothesis about the function of narratives concerning the social environment.

The main claim is that stories not only reflect the physical environment, but also the social one and these representations are used to influence behaviour of others [81]. According to Sugiyama [81], both historical and ethnographic evidence provides examples of individuals who deliberately attempted to manipulate behaviour of the audience through storytelling:

Narrative, which is of course a specialized use of human language, communicates the same kind of messages that Pinker describes: stories essentially consist of temporally and/or causally linked representations of the phenomenological world, mental states, and abstract concepts. These representations can be used to influence the perceptions and, thereby, the behaviour, of others (e.g. rumour, propaganda, advertising, public relations) [81, p. 405].

On a societal level, by broadcasting the standards of acceptable and unacceptable behaviour and its consequences, storytelling can enhance social control, cohesion, or achieve power [78]. Folklore research and ethnographic studies support this assumption by showing that:

1. different narrators tell the same story differently
2. the same narrator will tell the same story differently depending upon audience composition
3. stories are deployed as a means of persuading individuals to pursue certain courses of action

I have previously written that the practice of storytelling is a cultural universal which takes the same form, but we have to understand that humans are not a single group living in one type of habitat. While it is true that adaptive problems are

constant, specific solutions to these problems vary across cultures which is reflected in variation of the narrative content [81]. For this reason thematic universality can be anticipated on a macro-level (survival and reproduction) and variation on a micro-level (local solutions to adaptive problems).

Let us now turn our attention to other hypotheses concerning the function of storytelling. One group of researchers, so called psychologists of fiction, have developed a hypothesis that fiction is a kind of a simulation that runs on minds [79]. They propose that narrative fiction can facilitate communication and understanding of social information and others who are different from us and augment our capacity for empathy and social inference by simulating the social world [1]. Their hypothesis can be traced back to Collingwood [82] who suggested that that literary fiction can be a way of exploring and recognizing emotions in ourselves and others. According to Mar and Oatley [1], there are two functions of a simulation:

1. to provide information by offering a model when access cannot be direct
2. to understand, and to some extent predict, the behaviour of systems made up of many processes in interaction

In this sense, fiction can serve as a simulation in two ways:

1. it enables us to understand minds which we would not be able to access otherwise
2. it aids us to comprehend social complexes

Oatley [83] explains this argument by making a reference to computer simulation: “fiction is to understanding social interactions as computer simulation is to understanding perception, reasoning etc.”. Authors in stories attempt to write simulations of plans and goals and to create characters with recognizable psychology. Thus, stories offer us laboratory space that is relative to real life, safe and makes relations between goals, emotions, and actions more understandable [84].

The idea of fiction as a simulation to abstract social information so that it can be better understood, generalized, and acted upon in a way supports the hypoth-

esis that fiction can have implications in transmission of social knowledge because through the characters we access the social information embedded in a story [1].

But why should this apply only to fiction? In what ways is fiction different from non-fiction that people seem to enjoy it more? Zunshine [85] explains that the principal superiority of fiction over non-fiction lies in the *Theory of Mind* (ToM). ToM as a cluster of cognitive adaptations that allows us to navigate our social world and also structure that world is a typical subject of fiction. Stories are about the *Theory of Mind* and therefore, they are so powerful for our minds. They offer cues to our ToM which we can use for fictional characters [86].

Emotions are central to the experience of fiction. According to their hypothesis, what is being simulated in fiction are goals of the characters, not emotions. Emotions are understood as mediators between goals and the world and a simulation makes this relation easier to understand [87]. Others recognize the importance of storytelling because of its ability to attract and engage us through psychological realism — recognizable emotions and believable interactions among characters [76].

Proponents of this theory have not finished only on the theoretical level. They have conducted several studies to confirm whether narrative fiction can actually make us better at navigating in the social world or provide opportunity for empathic growth. In one such study they found that people who read fiction were more socially skilled than those reading non-fiction which goes against the general “myth” that bookworms are socially isolated people [79]. Another type of experiment concluded that art can cause significant changes in the experience of ones own personality traits [88]. Furthermore, another study uncovered possible cognitive effects of narratives by showing that reading fiction can reduce need for cognitive closure [89]. Lastly, a study of Djikic, Oatley, Zoeterman, *et al.* [90] tested the hypothesis that literature can subvert habitual emotional disengagement of avoidantly attached individuals. Their study showed that individuals who scored above the median on avoidant attachment experienced significantly greater Emotion Change in the Art condition in which they were assigned to read a short story than those in control condition.

Riedl and Bulitko [91] argue for the prevalence of storytelling in human culture because it may be used as a cognitive tool for situated understanding. Storytelling

PSYCHOLOGICAL FUNCTIONS	SOCIAL FUNCTIONS
need for “cognitive order”	information transmission
shape beliefs	self-advertisement
change minds	knowledge sharing
empathy	social cohesion
	social control
	relationships
	learning

Table 3.1: Functions of Storytelling: In this table, I have summarized theories of the function of storytelling that I came across during the literature research. I divided them into two categories: (1) psychological functions and (2) social functions, depending on whether the function concerns primarily an individual or a society.

gives us an event-based way of not only thinking about, but also within time [92]. It allows us to automatically construct a story in our mind in its proper chronological order of events. This is called the *narrative intelligence* and it refers to the ability to organize experience into narrative form which is central to the cognitive processes employed across a range of experiences [91]. Furthermore, another evolutionary theory concerning the origins of narratives called the Narrative Intelligence Hypothesis suggests that the evolutionary origin of communicating in a narrative format co-evolved with increasingly complex social dynamics among our ancestors [93]. Riedl and Bulitko [91] state that interactive narratives are one of the most compelling applications of this narrative intelligence.

To conclude, in this part, I pointed out some of the most convincing hypotheses regarding the function of narratives and I have summarized them in Table 3.1. In the following part, I will analyse the structure of narratives by describing one of the most well-known models.

3.2 Narrative Theories

There has been proposed a variety of theories about the structure of a narrative so far and a number of them has been used as a basis for respective IDS projects, such as Aristotle's Poetics, Freytag's five-act model, Field's three-act paradigm, Barthes' five codes, Propp's morphology of a folk tale, or Bremond's roles and processes. For the limited amount of space, I am not able to focus on all of them, so I would mention only the one that I consider the most relevant for the structure of my storyboard — Freytag's five-act model (also referred to as dramatic arc), which is based on his analysis of ancient Greek and Shakespearean drama. I chose this model because it is quite well-known, simple, clear, adequate, and because it has already been used for various IDS research projects, including Gadin or IDtension.

The main idea of Freytag's model is that drama, or in our case a short story, is generally structured into five parts or five acts [94]:

Exposition is the introduction to the story in which the main characters and setting are introduced, the context is described and the basic conflict is presented.

Rising action follows after the exposition in which the protagonist follows their dramatic needs and encounters the basic conflict. Secondary conflict or obstacles may be presented disturbing that goal and complications arise.

Climax or also called the turning point is the third act that marks a change in the evolution of the story. It is characterized as a point in the story from which there is no return. It is also characterized by the highest amount of suspense. Each of the parts can be composed of a single or multiple scenes, however, climax is usually composed of one chief scene.

Falling action is the fourth part of the story in which the conflict between the protagonist and antagonist unravels with either one winning or losing. It is also the opposite of the rising action in which any unknown details or plot twists are revealed and wrapped up.

Resolution or catastrophe represents a conclusion of the story or drama in which the moral or lesson of the story is usually uncovered.

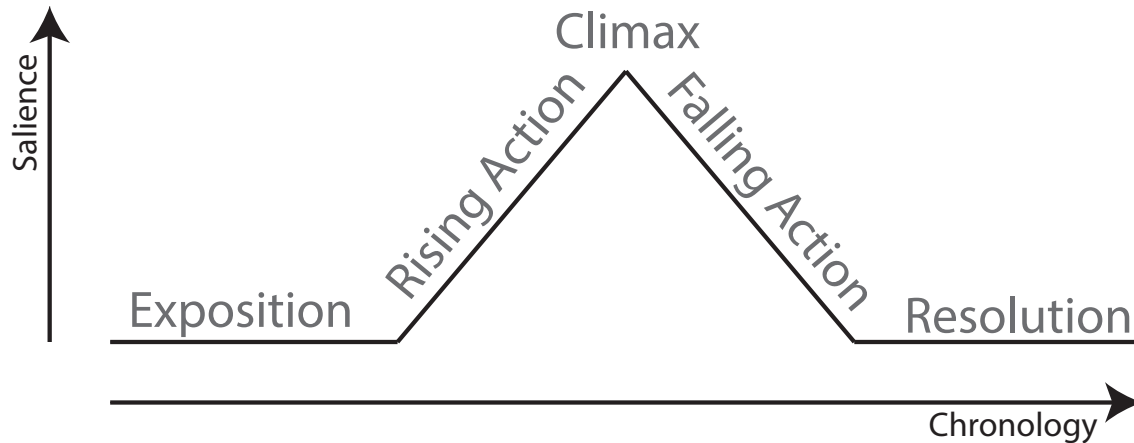


Figure 3.1: Five-Act Model: This figure depicts my reconstruction of Freytag’s five-act model. The horizontal line “Chronology” represents the chronological order of events in a story, while the vertical line “Salience” represents the rising importance of events in a story. The five-act model is arranged in a pyramidal structure: the story rises from exposition, through rising action to climax and falls with falling action to resolution.

To connect the theory with practice, this is dramatic arc applied to a simplified version of a classical story *Pride and Prejudice* [95]: (1) exposition — Elisabeth Bennet is a young, intelligent and attractive daughter of a country gentleman and Mr. Darcy is intelligent, handsome, and wealthy young man (2) rising action — Elisabeth and Mr. Darcy meet for the first time, afterwards their relationship oscillates between attraction and dislike (3) climax — Elisabeth learns that Mr. Darcy was behind the break-up between her sister and Mr. Bingley (4) falling action — Mr. Darcy finds and helps with Elisabeth’s under-aged sister (5) resolution — Mr. Darcy and Elisabeth resolve their issues and Mr. Darcy asks her father for a permission to marry her.

3.3 Interactive Digital Storytelling

3.3.1 Overview

Interactive Digital Storytelling (IDS) is an emerging field with an interdisciplinary nature that borrows from Narrative Theories, Computer Science, Psychology, Drama, and its concrete realizations has been influenced by Artificial Intelligence. The main goal of IS systems is to create self-generated narrative in which the storyline is not predetermined, but can be influenced in real-time by actions of the users. The aim of interactive narrative systems is to immerse a user in a virtual world such that he or she believes that they are an integral part of the story and that their actions can alter the direction or outcome of the story. Moreover, the user should feel that their actions have meaningful consequences [91]. Most common ways to achieve this effect are by issuing commands to the story's protagonist or by acting as a general director. The difference between conventional narrative forms, such as novels, and IDS is that Interactive Storytelling systems try to create a story world in which the user is an active participant instead of a passive observer. Because of the fact that the user does not choose the order of predetermined events nor choose from a pre-existing range of possibilities, IS relies on software that is capable of intelligent behaviour.

Computer games in recent years have tried to develop progressive story lines to increase the immersive experience of the user and their enjoyment of the game. However, according to Barber and Kudenko [96], such stories are often linear and pre-defined which reduces the replay value of the game. Research on interactive narratives attempts to overcome this weakness. According to Cavazza, Charles, and Mead [97], Interactive Storytelling promises to be an important evolution of computer games entertainment that introduces better narrative content to the game and potentially supports the convergence between traditional and interactive media. Furthermore, according to Spierling and Müller [98], IDS provides opportunities for future creation of educational and entertainment applications by combining features of story, simulation, and games.

3.3.2 Interactive Digital Storytelling Projects

To begin with, IDS systems vary immensely amongst themselves, from the audience they are targeted at, to the stories they create or the ways users are able to interact within them. As we will see, each one of them is very different from the others because each one of them tries to tackle different challenges within IDS research and they do so in a unique manner. Therefore, it is not quite possible to come up with a single definition or a description of a typical IDS system. For the purpose of my thesis, IS or IDS system is a system that allows a user to actively participate in a story generation to a certain extent. This is accomplished either by allowing a user to take on the role of the protagonist or as a disembodied observer who is capable of interfering with the story generation [91].

When it comes to the difference between Interactive Storytelling and Interactive Digital Storytelling, literature does not differentiate them and I am also using both terms as referring to the same category. In this section, I have decided to describe some of the projects that I have picked from the whole range of systems that have been created and published so far. This will enable a reader to get a clear picture of what IDS really is and what kind of interactivity it allows. For a better visualization, I have summarized the main points in Table 3.2 at the end of this chapter.

Façade

Façade is considered to be the first and only published, complete interactive drama and a reference point for research in this domain. It is a twenty minute re-playable drama in which the user enters a scene as a long time friend of a couple in the middle of a marital breakdown. *Façade* is set in a simulated world with real-time 3D animation and sound which offers the user a first-person, continuous, direct-interaction interface, with unconstrained navigation and the ability to pick up and use objects. Moreover, it uses natural language and emotional gesture as a primary mode for expression of all characters, including the user [99]. The user can interact with the players via character manipulation and free text dialogue in order to act as kind of a peacemaker between the couple. The design goal of this system is to provide the player with local and global agency over the evolution of the dramatic

experience [99]. Players' interactions within the story consist of abstract social games, the first is called affinity, the second hot button and the third is therapy game. The downside of the system is that because the story is centred around a huge topic (marital breakdown), users have overtly high expectations concerning characters' intelligence, psychological complexity, and language competence.

Bovary

According to Pizzi and Cavazza [100], most IS systems fail to incorporate characters' psychology into the system and for this reason they developed a system which aims at reconciling narrative actions with the characters' psychology and which allows to investigate IS for genres that are not based solely on actions of the characters, but rather on their psychology. *Bovary* is a prototype system equipped with 3D animations that operates in various modes depending on the level of interactivity, from an autonomous narrative generator to various forms of interactive narrative in which the user controls one of the characters or influences them from a spectator's position [100]. The story is based on Flaubert's *Madame Bovary* because it includes a detailed description of characters' goals, desires, and feelings. The authors assert that their approach makes a clear connection between narrative feelings and narrative actions and it falls under the distinction between the cognitive and the narrative.

Death Kitchen

Death Kitchen is also a research prototype, but with different design goal. The proponents of this system do not see limitations in ways IS systems incorporate characters' psychology into the narrative, but they assert that current IS systems dedicate little attention to the physical behaviour of the environment in which the actions take place [101]. The main idea is that in *Death Kitchen* the kitchen is acting as a feature character that is plotting against the player character to generate domestic accidents. The creators of this 3D interactive narrative have been freely inspired by films, such as "Final Destination" that are based on a similar plot. The overall plot consists of reactive environment which maximizes the level of danger for

the player. AI module is responsible for transforming any action of the player into a potentially dangerous one and the system maintains a constant awareness of the situation [101].

Gadin

Gadin is a system that automatically generates interactive stories that are based on dilemmas to create dramatic tension [96]. The role of the user is to interact in the story by making decisions on relevant dilemmas and by freely choosing own actions. *Gadin* is a story world populated by characters, locations, and objects. The system is provided with knowledge of generic story actions and dilemmas that are based on clichés encountered in many contemporary soap operas [96]. The idea is to propose a system that is able to generate interactive stories which are long and adapt to the user. The system does not consist of an overall story arc, but rather of possibly infinite mini-stories. It follows the idea of Field [102] who said that "drama is conflict" which means that dramatic interest centralises around conflicts. Dilemmas and story actions are instantiated for the given story world and a story planner creates sequences of actions that lead to a dilemma for a character and the user has to decide how to resolve this dilemma [96]. Although the system is designed as a soap narrative, it is applicable to any story world.

I-Storytelling

The project of Cavazza, Charles, and Mead [97] targets a different kind of application of IDS: they developed a system to let users interfere, at any time, with a predefined story line's progression. *I-Storytelling* is inspired by a famous American TV series FRIENDS and it is centred around the two main characters Rachel and Ross. The story starts with Ross wanting to invite Rachel to a date and ends with Rachel either rejecting or accepting his invitation depending on the chosen story lines. The user watches the story as a spectator and he or she can follow the story from any characters' perspective (apart from Rachel and Ross, there are also Phoebe and Monica as secondary characters) [103]. Depending on the situation, the user can decide whether to interfere with the characters' goals. He or she can do so by either

acting on physical objects or by advising the character using speech recognition [97]. However, to ensure that the user's role does not shift from a spectator to a director, spoken input should not take a form of direct commands. To conclude, *I-Storytelling* has been able to generate complex stories up to three minutes in length.

TEATRIX

Last IDS system that I would like to introduce to a reader is the project of Prada, Machado, and Paiva [104] called *TEATRIX*. To begin with, the purpose of this system is education rather than entertainment. *TEATRIX* is a learning environment designed to help children and their teachers to collaborate in the process of story creation. It is an environment that merges drama with story creation into one medium. *TEATRIX* is 3D virtual environment targeted at children between the age of 8-10 to develop their literacy skills. The idea of the system is to create an environment in which children can interact with each other by means of their chosen characters [104]. Children create a story using a set of predefined scenes and a set of predefined characters. The system allows for six possible roles for characters: villain, hero, helper, magician, beloved one and beloved relatives. Strong point of the system is that it has been tested with children in classroom environment and the final result was usable and understandable by them [104].

Other Projects

Some other IDS systems that I can briefly mention are *ActAffAct*, *Scenejo*, *Mimesis*, and *Rencontre*. *ActAffAct* is a system for on-line generation of simple plot pieces [105]. This simple story world is inhabited by four agents, taking on the roles of narrative archetypes: a hero, a mentor, a villain, a victim. It uses an approach that views emotions as the links between actions that render a plot plausible. *Scenejo* is an experimental platform for IDS that focuses on authoring process as initial view-point for its development [98] [106]. It is a system designed for novices in dialogue programming following an approach that is author-centred; authors should be able to define the way a conversation develops at any given time [98]. *Mimesis* presents an approach for managing interaction of human users with computer controlled

agents in an interactive narrative-oriented virtual environment [107]. This system tackles the question of balancing freedom of the user with the preservation of the story line by using *narrative mediation* — a technique for detecting and responding to unanticipated user activity. *Rencontre* project is an experimental tool based on a dynamic link engine, managed by structural entities called hyper-sections [108]. It aims at providing authors with intuitive and simple tools for interactive narrative.

3.3.3 Limitations

One of the biggest challenges of creating interactive and engaging systems is how to find balance between *control* and *coherence*. The understandability of any narrative is determined partly by its coherence [107]. Plots simplify experience by selecting only those elements fundamental to the goals of characters in relation to the whole narrative. Narrative processing is based on the idea that everything included in the story is relevant and that all the elements of the story are coherent [1]. When an author mentions a certain detail, he or she usually does so to guide the attention of the reader towards the detail because it will play a role further in the story. Moreover, when the author describes environmental details, he or she does so with an aim of communicating a certain mood that is relevant for the story. Coherence is the ability of the user to comprehend the relationships between the events in the story, both within the story world and in the story's telling [107]. Therefore, systems that construct actions for telling a story have to respect story's coherence by clearly linking each action in the story world to the overall structure.

In conventional narrative forms, there is not this conflict between control and coherence because they resolved the issue by completely eliminating control. On the other hand, in IDS systems the degree of engagement lies in the perceived degree of control: the greater the user's sense of control, the greater the sense of presence, that is the greater the sense that the user is part of the world and able to pursue own goals. The issue with Interactive Storytelling systems is that in order to present a coherent narrative, the actions within a story are carefully structured so that actions at one point clearly lead to state changes in another point. For that reason, creators of IDS systems have to keep in mind that freedom of the user to perform whatever he

or she wants must be balanced with the preservation of the storyline [107]. Rank and Petta [105] characterize the notion of *narrative paradox* as a compromise between authorial control over the story flow and the freedom of interaction for the user and depending on the approach being chosen to address this issue, the systems vary from plot-driven to character-based.

Most of the IS systems to date have followed a task-based approach to story representation. According to Pizzi and Cavazza [100], the limitation of this approach is that it fails to incorporate character’s psychology. Furthermore, they state that one of the biggest challenges of IDS systems is to determine the real-time behaviour of virtual characters in a way that is consistent with narrative phenomena. As mentioned in the previous section, in order to solve this problem, they introduced a new approach that attempts to reconcile narrative actions with characters’ attributed psychology and explore IDS for those genres that are based on characters’ psychology. Their approach falls somewhere between the cognitive and the narrative with the emphasis on the use of narrative description of characters’ psychology rather than cognitive models. They see a certain paradox in IDS projects (with exception of simulation and educational storytelling) that tend to focus on narrative actions rather than characters’ psychology, feelings, and motivations.

According to Lugin and Cavazza [101], current research in Interactive Narrative has developed new approaches to manage behaviour of virtual actors, but they have paid little attention to the physical behaviour of the environment in which actions take place. To solve this issue, they designed and described an emergent storytelling prototype, *Death Kitchen*, in which the environment itself plays a role of a feature character. Another group of researchers pointed out in their research that most interactive drama systems are focused on generating short story lines that do not adapt to the user [96]. Therefore, they proposed a system that generates interactive stories which are long and adapt to the user’s behaviour with a goal of keeping the story designer’s input to a minimum and the user involvement as high as possible.

Current IDS research and applications have revealed many open issues and unsolved problems. According to Spierling and Müller [98], it is especially the case with applications that support conversational interaction styles with digital agents

providing text input in natural language instead of using artificial game vocabulary. Other open research questions include:

- authoring (how do authors access tools and methods for creating dialogues without programming)
- emergence (how do authors get a grip on the course of agent-based conversations while allowing emergent behaviour that will result from an interaction)
- visualisation (how can variations of verbal conversations be represented visually for creators of the dialogue).

To sum up, these are the most common open issues and unsolved problems of the current IDS research:

1. control versus coherence; freedom versus preservation of story lines
2. incorporation of characters' psychology
3. physical behaviour of environment
4. no adaptation to the user
5. short story lines
6. authoring
7. emergence
8. visualization

PROJECT	MAIN GOALS	STRONG POINTS	LIMITATIONS
<i>Bovary</i>	to reconcile narrative actions with the characters attributed psychology	dramatisation of narrative situations	control of the quality of the narrative generated
<i>Death Kitchen</i>	to integrate a physical environment as a feature character	causal chaining of events based on objects behaviours	authoring of objects behaviours can be complex
<i>Façade</i>	to provide the player with local and global agency	the only/first complete IS system published	drama overtly raises players' expectations
<i>Gadin</i>	to create dramatic tension by focusing on dilemmas	allows for endless story generation and applicable to any story world	none mentioned
<i>I-Storytelling</i>	to let the user interfere at any time with a predefined story lines' progression	user interactions' influences on the unfolding of the narrative in real-time	generation of complex stories up to three minutes
<i>Teatrix</i>	to help children and teachers in the process of collaborative story creation	tested in a classroom, result was usable (and understandable) by children	none mentioned

Table 3.2: IDS Projects: This table provides a reader with the summary of the chosen IDS projects (in an alphabetical order) concerning their design goals, strong points, and limitations.

3.4 Why Interactive Narratives?

I have still not addressed one crucial question concerning my research: *Why Interactive Digital Storytelling?* Is IDS different from classical storytelling and what is the added value of exploring Interactive Narratives with respect to the topic of my thesis?

To begin with, my motivation is based on previous research of Zak and Casebeer [109] who found that narratives are able to change people's behaviour by changing their brain chemistry. In their study, they presented participants with two short videos of one hundred seconds. One is about a boy named Ben and his father. Ben is around two years old and he has brain cancer. The video depicts Ben and his father playing together, however, only his father knows and recognizes the severity of his illness and this realization makes him contemplate about his own life as well. This story is following Freytag's five-act model. The other video is about Ben and his father, however they are not doing anything except for walking in a ZOO. The story does not have any kind of a structure.

The result of the study showed that people watching the first video released certain hormones that the others did not: oxytocin and cortisol. Their explanation lies in the narrative theory that I have already presented: the five-act model. Researchers assume that stories have to have this kind of a structure in order to catch our attention; when they lack it, nothing happens and people get bored. Following the video experiment, they have conducted several other experiments in order to see how the release of these specific chemicals can alter people's behaviour (e.g. to increase empathy). Their research proved that dramatic stories and more specifically for my case — stories presented through a digital medium — can have strong effects on our brain and this can change our behaviour.

Stories are generally considered powerful because they transport us into other people's world. However, I picked the topic of storytelling to see whether they can transport us into our own world, to see how storytelling can make us learn something new about ourselves and to see how it can change our mental state.

Now, I would like to answer the other half of the question — what does interac-

	Traditional	Interactive
<i>Structure</i>	linear	branching
<i>Modality</i>	mono-modal	multi-modal
<i>Control</i>	no	yes

Table 3.3: Traditional/Interactive Narratives Comparison: This table provides a reader with a quick overview of the main differences between traditional and interactive narratives.

tive narrative offer that traditional one lacks? To begin with, research in storytelling is more general while IDS is more specific which offers adequate scope for a master thesis project. Subsequently, research in IDS is interdisciplinary and can have implications for various fields of study, ranging from more theoretical ones like psychology of death to more practical or empirical ones like computer science. Finally, IDS is an emerging field and for this reason it offers a great space for novel research.

When it comes to the differences between the traditional and interactive storytelling, there are several that can be of interest for a research project. The first and a key difference is the sense of agency or control. The traditional narratives suppose their audience are passive observers of the actions happening, while the idea of interactive narratives is to give their users a certain sense of control over the actions that are unfolding in the story. Another interesting difference is that traditional narratives are usually mono-modal: one either reads a story or hears someone narrate a story. However, interactive systems are multi-modal, in a sense that they intend to engage various modalities of their users (e.g. one sees and at the same time hears a story being unravelled in front of your eyes). The third interesting difference that I want to mention concerns the structure of the narrative. While in the traditional storytelling techniques, the narrative is following a linear structure, the interactive storytelling systems are designed to generate branching stories, meaning that the story unfolds depending on the choice of the user which enables him or her to experience different story sequences. To conclude, an overview of the main differences is available in Table 3.3.

Chapter 4

Methodology

The following chapter is devoted to the methodological part of my research. The goal of my thesis is to find an intersection between the theoretical models of death acceptance and empirical research on Interactive Digital Storytelling. The final result of my research is the development of a storyboard that can be later used for an implementation and I devote this chapter to the explanation of the methods used to achieve the goal.

Initially, in Section [4.1](#) I describe the nature of and the methodology used in this research. Subsequently, in Section [4.2](#) I summarize the line of arguments that laid the foundation of this research and I presented the main hypothesis of my research. Eventually, Section [4.3](#) is devoted to the description of storyboarding as a main method used for the development of the storytelling strategies.

4.1 Methods

The approach that I am using is primarily interdisciplinary and it requires a cooperation of various disciplines:

- Psychology — Psychology of Death, Existential Psychotherapy, Meaning Management
- Social Anthropology — Death Studies
- Storytelling Research — Narrative Theories, Interactive Digital Storytelling

This thesis targets the topic of death which has been neglected by researchers until the 1950s, but which gained its attention in the last couple of decades. Although death gained its attention as a research topic, in the last fifty years, the investigation of death has been dominated by research on death anxiety and *Terror Management Theory* (TMT). The latter posits that the idea of our mortality creates terror for which culture is a solution to. Mortality salience is the most common way in TMT research to examine the impact of death awareness by priming people with the idea of death. The primary body of evidence supports this theory by demonstrating that priming people with the idea of their own death leads them to respond more favourably or less favourably to certain groups of people [10].

I have decided to approach this topic differently, therefore, my goal is to investigate more positive attitudes toward death, namely death acceptance. The nature of my research is innovative and quite speculative since the idea of integrating theoretical concepts of death acceptance with therapeutic concepts of storytelling as proposed by this thesis has not been investigated so far. For this reason, in the methodological part I am following principles of qualitative analysis which focuses on exploration and observation. For the purpose of comprehension of death and conceptualization of theoretical models of death acceptance, I used the method of literature research and analysis. This gave me a solid theoretical background which I could apply during the development of the strategies for death acceptance. In the process of developing the storytelling strategies I used the method of storyboarding that is explained in more detail in Section 4.3.

4.2 Research Question and Hypothesis

The aim of the thesis is to investigate possible therapeutic effects of Interactive Digital Storytelling (IDS). More specifically, it seeks to answer the question of how storytelling can be used in dealing with trauma that the idea of our own mortality provokes.

The research hypothesis is based on the following line of arguments:

1. Storytelling can be used as a tool to help people cope with difficult traumatic situations [12].
2. Consideration of death is undoubtedly one of the foremost sources of anxiety for people [30].
3. People cannot live indefinitely in a culturally and psychologically induced state of denial [3].
4. There is a path from rejection to acceptance of our own mortality that needs to be investigated [3].

In accordance with the theories that have been presented in the previous chapters, I have formulated the following hypothesis:

It is possible to use Interactive Digital Storytelling as a tool or a technique to lead people to accept the inevitability of death.

4.3 Storyboarding

Apart from literature and textual analysis, my work is also based on the method of storyboarding that I will explain in the next few lines. Storyboarding as a method can be used by a variety of areas, ranging from scientific research to interaction design. The main idea of this method is the development of a sketch or a structure of how to organize a story and its content. It is a very useful method in case when the actual result is not determined yet or when one does not have enough resources to fully visualize or implement one's idea. Storyboarding is frequently used in design when developing a prototype because a storyboard can easily communicate and evaluate a research task and a goal. Moreover, storyboarding can help to define the parameters of a story within available resources and time, to organize and focus a story, and to propose what kind of a medium is best for this type of a story.

Chapter 5

Storytelling Strategies

In this final chapter, I intend to combine the theoretical knowledge on death acceptance with empirical evidence from Interactive Narratives that I have analysed in the preceding chapters. As a result of my work, I present strategies for the therapeutic use of Interactive Digital Storytelling by offering a reader some ideas about how should such a story look or what should such a story include. However, it is important to note that since I am not implementing the story, I will not be able to fully evaluate the real impact of the story on people. Furthermore, since nothing of this sort has been investigated before, it is recommended to consider these strategies as a beginning of a research that can be later elaborated on.

Initially, in Section [5.1](#) I propose my idea on the storyboard that should aim at helping people to accept the inevitability of death. Subsequently, Section [5.2](#) is devoted to a discussion regarding the proposed storyboard including some ideas about its implementation or realization. Eventually, in Section [5.3](#) I conclude my thesis with final remarks about possibilities for a future research.

5.1 Developing Storytelling Strategies

*“Hope springs eternal in the human breast;
Man never Is, but always To be blest.
The soul, uneasy, and confin’d from home,
Rests and expatiates in a life to come.”*

– Alexander Pope [110]

I have intentionally started this section with a quote of Alexander Pope because its meaning is related to the storyboard that I propose. It is assumed that Pope in these verses refers to the human belief in life after death. In a more general sense, it means that people will always keep their hopes no matter what the odds in a situation are. In the context of my thesis, it can also mean that people will always hope that there is a “way out”; even though we know we are going to die, we may believe that it’s not the ultimate end and there has to come something after that. In a more extreme sense, people may not accept or admit to themselves that they are mortal, even when they have all the evidence that they are. As I have already analysed, people are follow various strategies when it comes to death: some try to hide and avoid the fact; some try to deny it; and finally some try to live despite their knowledge of their finitude. In the next paragraphs, I will present a story in which I attempt to capture the main protagonist stuck in the middle of these different attitudes, his choice of action, and consequences of these choices. The whole storyboard in it textual form is available in Appendix A.

Development

From a literary point of view, the idea of developing a single story that will convey only the one intended message to the audience is challenging and from the scientific point of view even impossible. The purpose of my project was to develop a storyboard that would lead people to death acceptance, however, I have to point out that there certainly is not only one correct way to do that and at this state of the art what I am presenting is still very speculative. I want to encourage a reader to take my storyboard as a proposal of how such a story should or could look and not as a

complete work ready to be implemented and tested.

In the next few lines, I would like to address some of the issues that were revealed during the literature research and the development of the storyboard. In Chapter 2, I have analysed some of the determinants of death acceptance, namely religiosity, gender, and age, and even though the results are not always concise or consistent with other studies, it is evident that the way people view death can be influenced by various factors and we cannot persuasively proclaim what will be a result of this effect. From the theoretical point of view, I have concluded that there is not enough convincing arguments or results that would account for these differences and as a result I have not been able to apply these findings into my storyboard.

Furthermore, since during my literature research I have not come across any studies that would investigate possible correlations between personality traits and death attitudes, I have not been able to develop a storyboard that would be sensitive to this relationship. What I have tried to do instead was to incorporate ideas mostly from existential psychology and meaning management that both put a strong emphasis on the role of meaning, relationships, personal growth, and positive tendencies when dealing with existential issues. I have taken the tenets from these theories in an attempt to create a storyboard that would convey a similar message.

Based on the current ethnographic observations that the modern Western society responds to death with both approach and avoidance, the main challenge during the development of the storyboard was to do it in a way that would not have the opposite effect, for example of making people even more anxious about death. This is challenging not only from the scientific, but also literary point of view because writing such a story requires not only incorporating the scientific and theoretical component, but also the artistic or creative one. As already mentioned, humans are meaning-makers living in a world full of meanings which means that when developing this storyboard or when writing a story in general, the author cannot always account for all the different meanings that the story can have or emotions that it can evoke in people. As researchers, we can try to apply the knowledge we have, but there is always a possibility that someone's interpretation of the specific story will be different than intended. When it comes to my storyboard, I cannot really address

this question because the research task was approached on a theoretical level.

Having said that, throughout the whole development I had to keep in mind that in order to achieve the expected result, the story had to be about death without explicitly saying or presenting that, at least in the very beginning of the plot. But realistically speaking, we have to consider that even people who are more anxious about death, are capable of being confronted or faced with the topic of death without it having negative consequences in their lives and well-being. I would like to explain this argument by reminding the reader the words of Kastenbaum [16] who maintains that in order to be mature adults, it is inevitable to realize and confront our own mortality and Yalom [67] who argues that denying death can have worse consequences than facing it.

Based on the theories and ideas that I presented in Chapter 2, I assume that because of the general attitude of today’s society which “interdicts” death in order to preserve happiness [2], we assume that the same attitude will be hold also by individuals. What I mean to say by that is that researchers interested in the topic of death, like Kübler-Ross, Feifel, or Kastenbaum have brought convincing arguments to question whether our general assumptions about people’s perception and attitudes toward death mirror the reality. They did that by focusing on groups that are in general “excluded” from the conversations on death, like terminally ill patients or very old people.

Concerning the structure of the storyboard, I have decided to follow Freytag’s five-act model that I described in detail in Section 3.2 because it is well-known, simple, clear, and it has been already used by various successful IDS projects. Moreover, it has been proposed that dramatic stories structured in this way can have strong effects on our brain which consequently can alter our behaviour [109].

I have already explained why it is recommended to make death less salient in the beginning. However, as the story progresses death should start to reveal itself. The main idea of existential and humanistic oriented psychologists is not to eliminate death anxiety because that is impossible. In reality, most of the people live in between these two, but the goal is to tip the scales towards death acceptance.

Description of the Storyboard

People in real life can most of the time see consequences of decisions they have made, however, they cannot see possible consequences of decisions they have not made. The advantage of interactive narratives is that they allow people to do so and the storyboard I am proposing makes use of this feature.

In my project, I have developed a storyboard about a man who is in respective points of his life facing a decision that can have two possible directions. In real life, one would not be able to see “what would happen if”— what would happen if I decided differently since one is able to see only consequences of real actions, not the hypothetical ones. However, the main idea of my proposal is to create a story that will enable the user to decide which direction should the protagonist take and as a result, to see what will be the outcome of such an action. Since an interactive story can be replayed multiple times, such a structure allows the user to try different directions that would lead to different outcomes.

Throughout the whole thesis I referring to a “user” when talking about the storyboard because I consider it the most appropriate term for two reasons: (1) it has been used by the researchers when referring to the target group of their respective IDS projects already and (2) because I consider them neither as “players”, nor as “patients”. Although there is na open debate about the true character of Interactive Narratives, they are not meant to be “games with stories”. And concerning the second argument, while it is true that I am trying to investigate possible therapeutic effects of IDS, the project is theoretical and has not yet reached such a state that we can talk about its specific realization among patients attending psychotherapeutic sessions who could benefit from it.

The story that I developed is reflecting a life of the main protagonist who is stuck in between different death attitudes. This man is faced with various situations in which he has to incline to one or the other option and these options represent different strategies how people deal with death. The story is based on the dichotomy between negative and positive attitudes toward death — while one route is meant to represent the person facing and accepting death, the other is meant to show the person inclining to denial, avoidance, or suppression. The two routes are leading

to very similar situations, but what changes is the context and circumstances. In the storyboard, I have decided not to mention too many unnecessary details that can distract or confuse the reader, therefore I decided to mention only the most inevitable information for the comprehension of the story as a whole.

Following Freytag’s model, the story begins with a basic description of the protagonist and the setting. The main character is an ordinary young man who does not have a specific name in the story which should make an impression that it can be about anyone just like knowledge about one’s own mortality concerns everyone. On the one hand, the man is described as being full of plans, on the other as having many doubts concerning these plans. This represents one of the struggles of (not only) young people who realize they are mortal and their time on the earth is limited, however, death is remote to them and they cannot really imagine it.

The general idea of the story is to show life choices of one person who feels anxious about death and who tries to deal with this anxiety by choosing to accept it — which represents the positive attitude, or by choosing to avoid it or suppress it (e.g. by alcohol) — which represents the negative attitude. This man is throughout his life facing what Yalom [41] calls “awakening experiences”, which are events or situations in life of every person when he or she is faced with the knowledge of their own mortality and which make them mindful about their own existence. It can range from an ordinary to a very rare event and the best examples of such awakening experiences are: birthdays, reunions, grief, death of someone close, major decisions, anniversaries, or even dreams. For my storyboard, I have chosen to depict five such awakening experiences: church sermon, unexpected visit, school reunion, death of a close person, and a major decision.

I would illustrate the general idea of the storyboard on one example — rising action. The first awakening experience is during a church sermon, which I find quite plausible scenario. The man is listening to the priest when he gets struck by his openness towards the topic of death and life and his words make him question his own attitude towards life and death. Because of his fear of death, this makes him even more anxious and he wants to suppress these thoughts. At this point, the reader can choose which direction should the man take; whether he should go home

and concentrate on his school duties (to accept the reality) or whether he should go to the pub alone and have a drink (to suppress the reality). This decision point is based on the proposition of the *Meaning-Management Theory* that says that the best way to reduce death anxiety is to concentrate on the present tasks and personal growth. For that reason, I propose that the first decision (go home) leads the man to an opportunity (meets new people and have a nice evening), while the latter (go to the pub) leads him to loneliness.

The scene then ends and continues by transporting the reader to the next awakening experience in the man's life — the unexpected visit which evokes some painful memories. Here, again the man is faced with deciding whether to accept the reality and enjoy time with his friend and wife, or whether he decides to shut him down. At this point, I introduced another tenet of the humanistic-oriented psychology which is the importance of relationships, especially when dealing with existential issues. Yalom [41] in his psychotherapeutic approach illustrates on various examples how the relationship itself can be enough to lead people to accepting their life as well as death and I wanted to convey the same message in the storyboard. For that reason, the general structure of the decision points is that one would lead the person to being in a company (family, friends), thus strengthening the relationships and the other to loneliness (and alcohol), thus weakening the relationships.

It is important to point out that these awakening moments are meant to intensify throughout the plot. While the first depicted the man going to the pub and drinking alone (latent alcoholism), the second leads the man to rejecting the visit and fighting with his wife (disruption of a relationship), and the third illustrates the man getting angry and aggressive (violence). For the story's climax I have chosen to finally depict death as an awakening experience in which the man learns upsetting news about the death of his sister. This event can lead the man to reacting by combining already experienced strategies — alcohol with a combination of pills, verbal assaults, and loneliness.

Making the decision, the plot leads to the ultimate question of all humans — how to live a meaningful life and how to live to leave a trace after one is ultimately gone? Being death avoidant, the man inclines to materialism through which he

tries to suppress the idea of his finitude. Being death acceptant, he wants to find a way to meaningfully contribute to the society so that he can once he remembered by the next generations. According to the *Terror Management Theory*, symbolic immortality is actually one of the best strategies how culture helps people to cope with death. This idea is closely connected to the concept of memory as proposed by Bauman [31] who assumes that the best human strategy to be immortal is to live so that there will be someone who will remember us after we die. And we can fail as humans, only when we live so that no one will remember us after our death.

Now we are approaching the resolution of the story which can go also two directions depending on the strategy for coping with death. In both scenarios the story ends with the man's death, however, what changes are the circumstances. The morale of the story is that death will come for us anyway; no matter what we do, we cannot conquer it. However, what changes is our approach towards death and life. If we tend to live in denial and try to suppress the idea of death, we may lose the true meaning of life and relationships. We may miss some important opportunities and we may not find peace when death approaches. On the other hand, when we accept our human condition, we may see more options or opportunities for personal growth and for strengthening our relationships. We will die, but we will die in peace knowing that we lived according to our values and principles.

To sum up, I propose to approach the development of storytelling strategies by consulting the key ideas of existential-humanistic psychology. To avoid the story being counter-productive, it should reveal the topic of death gradually. Moreover, it should follow the basic tenets of *Meaning-Management Theory* according to which a sense of purpose and meaning offers the best protection against the terrors of life and death and that human primary motivations are to survive and to find meaning in this survival. The main idea is to focus on the positive tendency, to show what can make life meaningful and worth living despite knowing that it will once all come to an end. I would like to conclude with the motto of Meaning Therapy that best expresses my interpretation of the storyboard:

“Meaning is all we need and relationship is all we have”

5.2 Implementation and Discussion

As I have already stressed couples of times, my proposal is theoretical and therefore, does not allow for the specific realization of the story. The reason why I chose to approach the topic this way is because the integration of these two domains in one research was a novel task, and therefore, it would be too challenging to also include the practical part into the project. The analysis of theoretical models of death acceptance together with empirical research on IDS offered me a solid theoretical foundation in order to be able to develop a storyboard even on a theoretical level.

In order to take this project into the next level, at least three steps need to be taken afterwards. The first is its specific implementation. As I mentioned in Section 3.3, there are various ways to implement an Interactive Narrative and I would suggest to start with the simpler ones which can already work for this type of a task. One such an example is Klynt ¹, a web tool for Interactive Storytelling. Klynt is an editing and publishing tool that allows for creation of non-linear and interactive stories easily and without any assistance of a programmer. It enables to add visual material like photographs and pictures, audio, and text and I have already tried to edit the storyboard using the trial version to see how would such a story look. The disadvantage of this specific software is the price. However, this is only one idea of how to approach the design of the storyboard and one can find other authoring tools available just by searching the Internet that are also free of charge.

The storyboard that I presented offers an idea of possible strategies if IDS is to be used for therapeutic purposes. If such a story will be wholly implemented, the next step is to test its functionality with real people. The way I see it is to start by targeting otherwise healthy adults who are suffering from increased death anxiety. This can be approached for example by consulting psychotherapists who are working with such patients and who can professionally assess whether they would be suitable candidates. The other option is to use standardized questionnaires measuring death anxiety and choose people whose responses would be above a certain predefined

¹Klynt home page, <http://www.klynt.net/>.

value representing their death anxiety.

Lastly, if the story would prove to be efficient and functioning, one area of application I am proposing is psychotherapy by which I mean that the story could be used as a tool for psychotherapists as an addition to their psychotherapeutic approach. This concerns especially existentially-oriented psychotherapists who recognize the importance of life and death issues when dealing with patients and whose work I have primarily based my research on. Based on their experience and knowledge of their patients, they can assess which one is suffering from intense death anxiety and which one could benefit from such a novel approach.

To sum up, there is still a long way before we can say whether Interactive Digital Storytelling is an efficient and meaningful tool for therapeutic purposes. At least three steps need to be taken in order to answer this question, including the implementation of the storyboard, the testing of the prototype, and the real-life application in psychotherapy or counselling.

5.3 Future Research

Since there has not been a similar research conducted before, there is a lot of space for future research that can take various directions depending on the questions that will be addressed. The main goal of my project was to develop a storyboard that can be later implemented using IDS techniques. For this reason, what I consider the first and most important continuation of my project is the question of its concrete design or implementation. This would allow us to really test whether the story can achieve the effect for which it has been designed and discover its strong points as well as weaknesses and limitations. The story can be then altered and revised to eliminate these weaknesses or even be applied or used for a different goal.

As I have already mentioned, during my literature research I have not come across studies that would try to investigate possible correlation between personality traits and death attitudes. Researchers whose interest is following this direction can take this as a possibility for their future research because the answer to the question whether certain personality traits are connected to certain death attitudes

would not only be beneficial for theoretical purposes (psychology of death), but also practical ones (psychotherapy). Such a discovery might help psychotherapists to better evaluate their therapeutic approach depending on the specificity of their patients' needs or even to sooner recognize "symptoms" that might be connected to deep-rooted existential issues.

Specific limitations of IDS research I have addressed elsewhere and here, I would only point out that these limitations should be addressed by researchers in their future endeavours, if IDS as a research discipline wants to deliver to its promises.

Another domain that offers space for investigation is the topic of death in general and the topic of death acceptance in particular. It has been proposed by various researchers that our current society can be characterized as death avoidant in comparison with previous periods and this concerns also the scientific community. This tendency has started to change during the last decades when death as a research topic gained a lot more attention and I would recommend that more researchers follow this direction.

I find it appropriate to stress at this point again what I have observed is the fact that although death has been investigated from various perspectives and researchers have addressed various questions, this domain is dominated by the research on negative attitudes, like denial, fear, and avoidance and the research on positive ones, like death acceptance has been ignored or omitted which is evident from the amount of material there is available on these topics. The most concise theory about how people come into terms with their own mortality has been proposed by Gesser, Wong, and Reker [44] who conceptualize death acceptance as involving three dimensions.

To conclude, apart from the aforementioned proposals, I have come across other interesting questions that are open for discussion. One such question is how to appropriately assess death anxiety or death acceptance. Where lies the border between "being not anxious enough", "being adequately anxious", or "being anxious too much"? And more importantly, when does death anxiety become a "problem" for an individual and when is it just a normal reaction to a certain condition?

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Appendix A

Storyboard

Exposition

A There once was a man who was young, intelligent, handsome, and full of plans. However, he was also full of doubt. He was afraid that he will not have enough time to achieve all of his goals and plans; he was afraid that he will not be able to change his choices once they are made; he was afraid he will not make a difference in this world.

This man was living in quite an ordinary family in quite an ordinary city. He wanted to become an actor, however, he decided to study dentistry. Because of his studies he had to move to another city, away from his family, but he was looking forward to starting his new life. He packed up his clothes and some of his most personal belongings and said goodbye to his mother, father, and an older sister.

Rising Action

B After some time of living in a new city, the young man started to feel like home. He was missing his family, but he made new friends, most of whom were his classmates. Apart from school duties, he had a part-time job in order to pay his bills, he played in an amateur theatre in a basement of one old house in the city centre, and coming from a religious family, he attended sermons every Sunday.

One such Sunday morning he also decided to go to church. He was walking through a park that leads to the church not thinking about anything in particular. He passed a near-by pub that was ironically called “FUNUS” (which is Latin for burial, funeral or death), he entered a church, and sat into his usual place.

His mind was wandering when suddenly something caught his attention. The priest was talking about Christian philosophy on life and death issues and that surprised him a little bit because he had never heard anyone to talk about death so openly before. He started to wonder about his own life which made him uneasy. He had a lot to worry about- his school, his future job, money, his family. When he was leaving the church after the sermon, he was shaking a little. He wanted to go straight to his flat, where he would be alone and probably vulnerable to all these thoughts, but then he saw the pub.

C1 He decided to go home and make himself some lunch. He walked through the park, but right at the exit he bumped into his friend. They engaged in a small chat during which the friend mentioned there is going to be some concert in the city and he invited him to join him and his friends later in the evening. The young man agreed, he quickly went home, ate lunch, finished some school duties, and headed to the city.

It turned out that the concert meant four people playing at the corner of the city hall until being sent away by the police for playing without permission, but that made the evening even more interesting than expected. He came home late at night and because he was so exhausted he went straight to bed.

C2 He decided to enter the pub even though he was alone, it was noon, and he had some stuff to do for school. But he was afraid that if he stays alone at home, he will just think too much and he didn't want that. He sat at a bar and ordered one beer. He was watching the very few people that were in the pub. Sitting alone, the time was passing very slowly and nothing could distract him enough from the priests' words. So he ordered another one. When he came home the clock was showing it was past midnight. He lied in bed and because

of the alcohol he fell into disturbing sleep.

5 years later

D The regime in the country changed and all the people who were against were prosecuted, including the young man who was now finishing his studies and looking for a job. The young man thought he had friends he can trust and once when he was talking with such a “friend” he mentioned his opinion about current events. A week later he was sent to prison for being “unreliable” and opposed to the regime.

When in prison, he was once beaten by a guard for no apparent reason, but that’s how things used to work in that place and time. After the beating, he was sent to the doctor who examined him. While waiting, a man asked him what happened. The young man didn’t know whether to lie or say the truth, but the stranger was older and wiser. He said he knows what happened because they did that to him once as well. Both seemed wary at first, but after some time they knew they can trust each other.

The young man was released after six years, the stranger had two more to go. He left the prison as a changed man, but he survived even though he sometimes had nightmares. He met a girl and after some time they got married.

Once in their flat, someone knocked on the door. The young man, now in his thirties opened the door and remained silent for a few moments. There was a stranger from the prison standing right in front of him.

E1 He hugged him and welcomed him to his home. His wife offered that he joined them for dinner and he stayed. The two men then sat down in a living room and talked together for a long time. His wife brought a bottle they had reserved for special occasions and they drank it together. The stranger left late at night and the young man then fell asleep along with his wife in a bed.

E2 He told him to go away and never to come back because he too much reminded him of the time he wanted to forget. He reminded him how miserable he felt there and how afraid he was when he almost died. The stranger left, however

this encounter shook with the man so much that he closed himself in a room and opened a bottle they had reserved for special occasions. His wife was worried, but he did not care. He just wanted to stop his thoughts. He drank half of the bottle alone and got into a fight with his wife. He fell asleep alone in a living room.

20 years later

F The young man who is now in his fifties wakes up in the middle of a bad dream shaking and trembling with fear. He did not remember what the dream was about, but he knew it made him feel uneasy and worrying. He decided to go back to bed, but the sleep could no longer come. Later in the evening he was supposed to go to a school reunion that he and his wife were invited to. However, the whole day he kept thinking about the dream he had.

He realized that the dream was frightening because it was about nothing. However, what frightened him more than this nothingness, was the feeling it had left him with. His wife finally convinced him to go to the party even though he didn't want to. The evening was going fine, nothing extraordinary was happening until one of his friends entered the room. It was the "friend" he suspected of betraying him and sending him to prison. Suddenly, the uneasy feeling hit him again. He turned around to get a glass of water, but instead he drank one shot. His wife saw it and told him to stop it because she knew what would happen.

G1 The man decided to listen to her. After all, he didn't even want to come and he certainly didn't want to stay here longer. He grabbed their coats, said goodbye to his friends and exited to the street. They were walking down the street when the man realized it looked very familiar. It was the street where the house with the basement was located- the basement in which they used to play in this amateur theatre a long time ago. He never had a chance to tell his wife, so now he started to describe how he joined the theatre and how it all used to look. They came home later in the night, drank some wine, and then went to bed together.

G2 The man decided not to listen to her. He ordered one more shot, drank it all at once and then another one. His wife told him to either leave with her right now or never to come back. She angrily left and the man stayed. Sitting alone, he drank four more shots until the uneasy feeling was replaced with dizziness and anger. He got into a fight with the “friend” and both had to leave with shame. While walking home, he saw the house where he used to play in the amateur theatre which made him feel even more empty, nostalgic, and scared. He walked into the closest shop to buy a bottle of cheap wine he drank himself and went home. He didn’t remember how he got there, but he fell asleep alone on a coach.

Climax

10 years later

H One morning the young man who was now in his sixties, so he was not that young any more, was woken up by a call. His parents from the village who were both in their eighties were calling to tell him that his sister had died of a heart attack. It was very sudden. He neither expected that this day would come, nor that it would come so soon. He had to go to his family immediately to arrange things around the funeral and to help his parents. The whole journey was a nightmare. He kept thinking how things have changed so suddenly and without any warning. He had to admit to himself that he didn’t really want to go there. He didn’t want to see his parents, he didn’t want to go to the funeral, he didn’t want to arrive home with a memory of this event. But he had to.

He somehow survived the week, however, when they came home he was different and he felt different. He couldn’t sleep so he visited a doctor who prescribed him some pills. One night, he had a fight with his wife because she was angry for how he quarrelled with their adult children. He closed himself in his room, picked up a bottle of wine and the pills. He wanted to sleep, but the memory of his sister and parents haunted him.

- I1** He put the bottle and the pills back to the drawer and took out a piece of paper and a pen instead. He started to write. He wrote down as much of memories he had with his family as he could until it was dark and late. Finally, he tried to write down how he felt when his sister died and how he imagines he would feel when his parents will no longer be here. He opened the door to find his wife going through the stuff that belonged to his sister. He knelt down and helped her sort it out until they knew what to keep and what to throw away.
- I2** He swallowed two pills and drank them down with a cup of wine. However, one cup was not enough to shut down memory so he drank the whole bottle and two more pills. He opened the door to see his wife sorting out the things that belonged to his sister. He started to shout at her and insulted her couple of times. He told her not to touch them or throw anything away. He took all the things and left them in an empty room that was reserved for guests. He never touched the things again.

Falling Action

Few years later

- J1** The old man was no longer working and he was enjoying retirement. He saved some amount of money with his wife who was very responsible and careful with their savings. They were always saving money, however, they never liked to use them for anything that was not really needed. Once they were walking down the street close to the house with the basement, they saw a sign that someone is looking for a sponsor for re-opening the theatre. That night the old man and his wife had a long talk. Finally, they decided to donate some of their savings to the theatre that the old man liked so much. He wanted to leave something behind him that will last even after he will be gone.
- J2** The old man was saving money his whole life. However, he didn't really know why. At first, He was afraid, they would not have enough, but now when he was retired, they had even more than enough. But he was still afraid. He was afraid that one day everything will be gone; even worse, he will be gone. Once

he got into a quarrel with his children about it. He drank too much wine and he shouted that the house and everything in it is his and they have no right to criticize him. They called him materialistic, greedy, and despotic and they left. He locked himself alone in a room feeling empty. He left a need to drink so he took the bottle he opened earlier in the afternoon and finished it.

Resolution

K There once was a very old man who was living with his wife. It was his birthday so they prepared a little party and invited their children with grandchildren to their house. It was also Sunday so the man went to church as usual. He was walking through the park feeling quite happy that he has a chance to see another day and that he could spend it with his family even though he could not imagine when it will all come to an end.

He sat at his usual place and listened to the sermon. The priest was talking about the meaning of life and death and the words sounded familiar. He started to worry. What would happen with his wife when he will no longer be here? And what about his children? Will he see his grandson graduate or granddaughter marry? When he left the church, he noticed the pub “FUNUS” in front of him. Suddenly, he felt even more uneasy and in need of a drink.

L1 He let it pass. He decided that he would rather spend this day with his family than with some strangers or alone. He walked through the park back home where his grandchildren and children had already been waiting.

Some time later, his days really came to an end, however, he was no longer afraid or worried. He knew he left nothing unfinished and so he greeted death as an old friend.

L2 He entered the pub, just for one drink, he told himself. However, he knew it was a lie. It will never be just one drink. His family just arrived when he was starting second shot. They were eating lunch, when he was finishing fourth shot. They were cutting the cake, when he ordered his seventh and they were leaving, when he no longer remembered which one he was drinking now.

Some time later, his days really came to an end and everyone was left full of regret because of all the unsaid words and unfinished quarrels between him and his family. He knew he should have done things differently and so he feared when death finally took him.

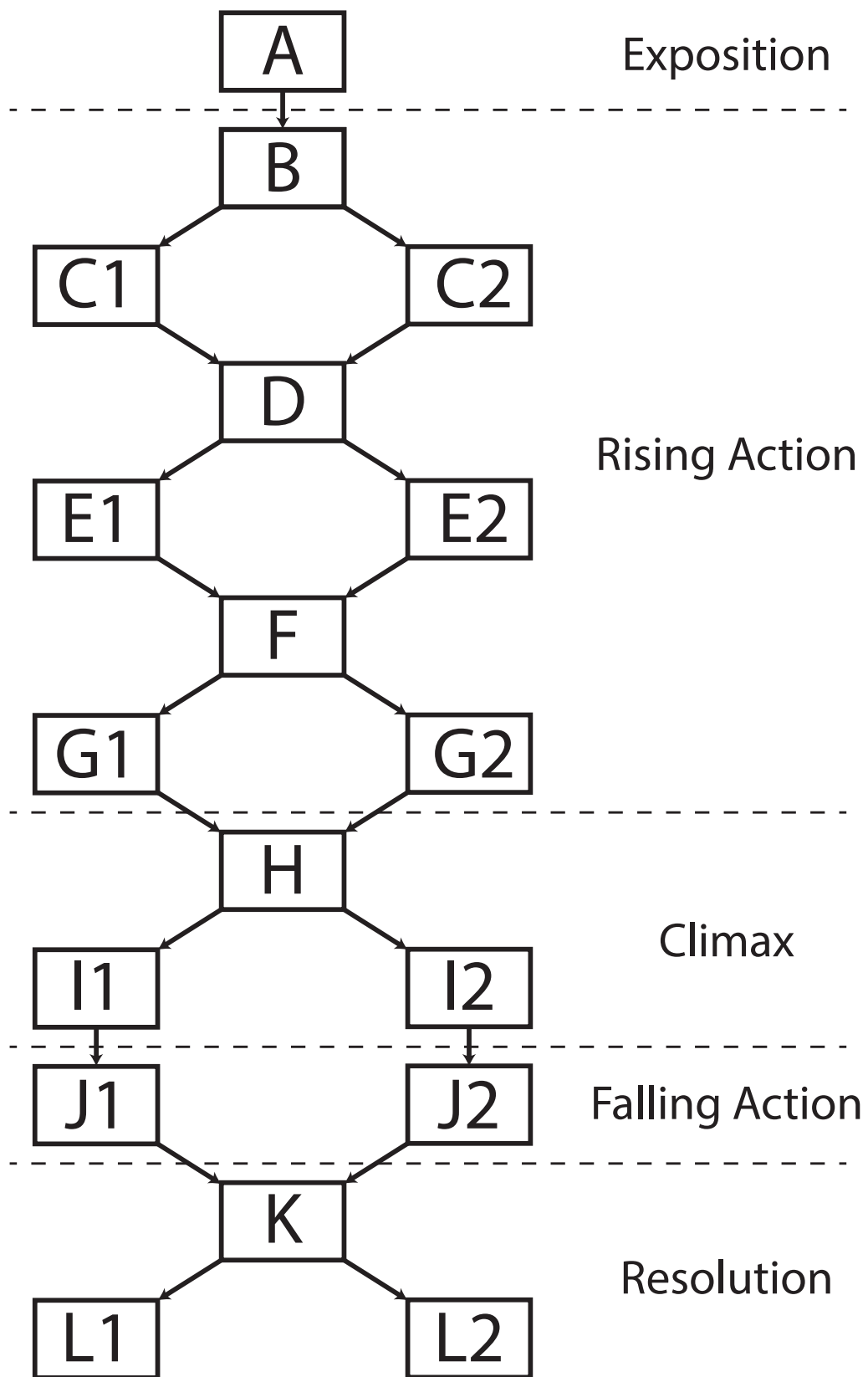


Figure A.1: Storyboard

CURRICULUM VITAE

PERSONAL INFORMATION

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K. Havlíčková, "Mortality in american novels (1900-1999). a quantitative analysis," in *Proceedings of the MEi:CogSci Conference 2015*, Comenius University, 2015, p. 106.