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Displaying Dysfunctionality:

How Interactive Narratives Can Aid in the Representation of a Schizophrenic Disorder

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Chapter 1: Introduction

Schizophrenia is a mental disorder that is as devastating to experience as it is captivating to contemplate. The enigma surrounding the inner world of the alleged 'psychotic lunatic' is so fascinating to many, since it is particularly difficult to represent to someone outside of the psychotic experience. When narratively represented, for example in book or film, the sequence usually stereotypically addresses how one character can see or hear something that other characters cannot, resulting in them completely disregarding the character's experience because it is so decidedly different than their own. These types of representations provide more insight into external reactions to a psychotic experience of 'reasonable' characters, than the internality of the psychotic experience itself. This is not necessarily surprising, since stepping away from more conventional third person perspective on such an experience, one winds up with the alternative of an unreliable narrator who arguably has even more trouble to convey their experience to an audience.

Yet in the last twenty years or so, there has been a considerable technological development in the field of narrative mediums[1], not only in the form of completely new mediums, but also in the sense that the narrative possibilities of some existing mediums have been improved. The key concept these either new or improved mediums all seem to be involved with is the concept of interactivity. The most recent and arguably well-known example is the interactive film *Black Mirror: Bandersnatch* (from here on *Bandersnatch*) that was released by Netflix at the very end of 2018. The film with its unfamiliar format was praised for its innovation: no big-name streaming service as Netflix had ever attempted this for a larger audience (Damiani). What struck me as remarkable, besides the innovative format, was the explicit presence of the theme of mental disorder in the narrative. Even more than that, the form of an interactive narrative and the content of a mental (and specifically psychotic) disorder seemed to be closely intertwined. This alerted to me to a recurring connection of the form of an interactive narrative and the theme of psychotic disorder. Not only in interactive film, but in other interactive mediums as well. Why is this the case? Is there something about interactive narratives that makes them inherently better at representing this theme than conventional linear narratives where the viewer supposedly has a more passive role? This prompts me to pose the following research question:

How can interactive narratives of different mediums aid in the representation of an experience of a schizophrenic disorder?

[1] As the plural of 'medium' I choose to use 'mediums' instead of 'media' to avoid confusion with for example 'the media' as in journalism.

By different interactive narratives I mean to say that I will use three narratives (including *Bandersnatch*) of different mediums as case studies. The term interactive narrative as I use it in the research question is not always unambiguous. It can be widely applied to all sorts of mediums and stories, each with different degrees of interactivity, different modes of engaging and more. There is not just one clearly outlined example of what an interactive narrative is and therefore the term could be considered too vague. However, when one compares different new mediums, I believe it to be the best way to avoid excluding any potential narrative from this research. In regard to the representation of an experience of a schizophrenic disorder: a universal experience of a schizophrenic disorder does not exist. It is unique for each individual in different phases and states of their lives, and therefore a representation of it is as well. Additionally, a representation is also not something static that only happens inside the narrative. It is constituted in cooperation with the mind of the viewer that perceives it. Therefore the notion of experience can be thought of in a twofold way, especially in the light of interactive narrative. One might argue that in *Bandersnatch* for example, it is not the goal of the story to convey a representation of an experience of a schizophrenic disorder. Still, in the narrative the main character does experience symptoms of a schizophrenic disorder and the viewer partly views the story through his eyes. More than that, one could say that the viewer is the cause or amplifier of said disorder in the main character. So in this example the viewer is partly responsible for the representation and therefore also shares in the experience, although in a more moderate way. In mediums such as videogames or virtual reality it is even more logical to speak of a representation of an experience of a schizophrenic disorder not only for a character, but also for the viewer, since in these mediums these two overlap more naturally. So, the twofold way in which the notion of the experience can be thought of is that of the character on the one hand, and on the other hand that of the viewer.

In the second chapter of this thesis I will discuss what the symptoms and the observed experiences of people with the diagnosis of a schizophrenic and/or other psychotic disorder are. I will use theoretical and clinical sources from the field of psychology for literary research. The main goal of this chapter is to provide a clear overview of what experts in the field of psychology categorize as a disorder of this nature, so that when reviewing fictional representations of this disorder they can be more adequately judged. In the third chapter I will focus on interactive narratives. The so-called nodal structure of a choose-your-own adventure in light of *Bandersnatch*, but also the types of interactive narratives that can be generated for virtual reality or videogames. For each of these I will discuss three topics: the interactive structure of the narrative, the position of the viewer, and the level of perceived agency that the viewer has over the narrative. In chapter two and three a vast array of uncommon

words and definitions will be presented, therefore a glossary is added after the bibliography for easy reference.

Chapters four, five and six together make up the case study part of this thesis. Each chapter will respectively discuss one of the three case studies, starting with the interactive film *Bandersnatch* written by David Slade and directed by Charlie Brooker. This chapter will focus primarily on the way the interactivity on the part of the user is shaped in relation to the theme of schizophrenic disorder. What stands out about this interactive narrative is that the viewer is present in the story as a voice in the head of the protagonist. A seemingly all-knowing and almighty voice that the protagonist Stefan has no choice but to subject himself too, even when he is aware of manipulation and perhaps even disagreeing with the choices that are made for him.

Then in chapter five I will turn to the videogame *The Stanley Parable* (2013), a first person puzzle game designed by Davey Wreden and produced by Galactic Cafe. Critics as well as players were blown away by the game's ability to give commentary on decision-making and player agency (Petit). This is a very different type of representation compared to *Bandersnatch*, since the player and the character controlled by them overlap in such a way that it really adds an extra dimension to the question of whose representation and whose experience of a schizophrenic disorder it is.

My third and last case study, presented in chapter six, will be the VR experience *Ver Binnen ([Far Inside]* 2018) written by Karin Anema and directed by Jenny van den Broeke in relation with Studio Apvis. This VR experience differs from the other two case studies since it is not necessarily for entertainment purposes. The VR is based on the experiences of the schizophrenic and psychotic artist Ton. The VR is based on a book written by Anema, and is usually only shown in during a lecture also given by her. Anema, who was a close friend to Ton, saw to it that the representation of life with schizophrenia and episodes of psychosis were as faithful as he wanted them to be. For this case study the focal point will again be different from the former ones. There is less visible user interactivity for this VR since there are no obviously presented choices or nodal structure. However, because of the nature of the medium, one is truly fully enveloped by and immersed in the experience. There is no director to frame the shots for you to see or buttons for you to push, yet every experience is different and unique since the viewer chooses for themselves where to look and for how long, especially in this visually overwhelming experience. Next to the medium specificity, the fact that this is an artistic representation of the experience of a schizophrenic disorder, can really provide a distinctly different representation than presented in the other two case studies, which both fit more into the category of mainstream popular entertainment. The loss of the ability to distance oneself from the experience and the artistic representation are both elements that can potentially really aid in the representation of an experience of a schizophrenic disorder.

In my conclusion I will present my most complete answer(s) to the main research question and discuss the aspect that cannot be fully answered yet and could hopefully lead to follow-up research.

Chapter 2: Disorders on the Schizophrenic Spectrum

When even a rather dry and information packed university textbook opens its chapter on the schizophrenia spectrum and other psychotic disorders with the words, “Schizophrenia is one of those disorders you’ve probably seen depicted in the media.” (Nolen-Hoeksema 193), one can safely assume that representation of this type of disorder is almost equally important to consider next to actuality of the experience of this type of disorder. In the previous chapter I introduced my research question: “How do different interactive narratives reflect on the experience of a schizophrenic disorder?”. However, the term “schizophrenic disorder” as used in the research question is formulated quite blunt for the sake of readability. Rather “a disorder of psychotic nature on the schizophrenia spectrum” would be a more inclusive and theoretically correct formulation. This chapter serves to analyse what this schizophrenia spectrum entails and how all the different psychotic disorders that are placed along this continuum vary from each other. To create an accurate yet accessible description for those who are unfamiliar with this field or topic, I have opted to use the introductory chapter on schizophrenia from the book *Introduction to Personality, Clinical and Health Psychology* (2015) by Nolen-Hoeksema.

To start off, schizophrenia itself is not a spectrum. It is an established diagnosis with defined symptoms. The full continuum of disorders as illustrated in figure 1 together constitute the schizophrenia spectrum: they are a set of psychotic disorders that share similarities with schizophrenia yet are not as severe or persistent (193).

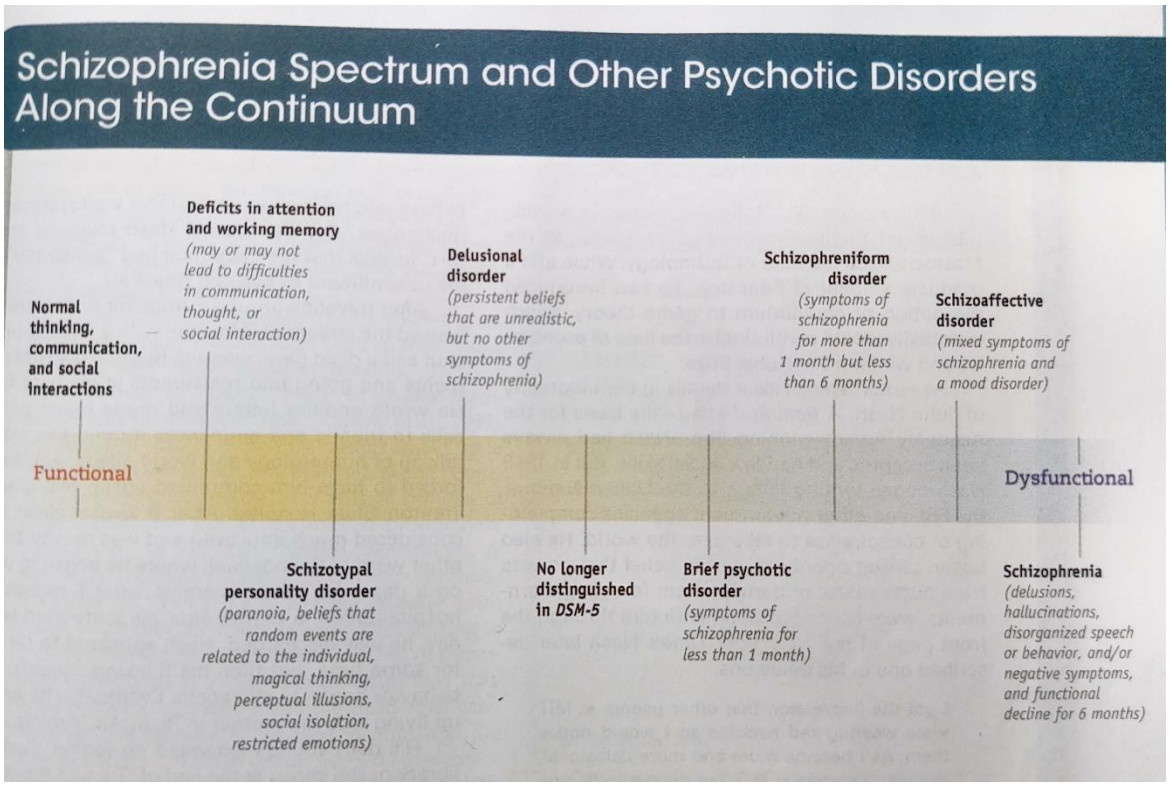


Fig. 1. Schizophrenia Spectrum and Other Psychotic Disorders Along the Continuum from Nolen-Hoeksema; “Schizophrenia Spectrum & Other Psychotic Disorders”; *Introduction to Personality, Clinical & Health Psychology;* page 217.

The straightforward way to describe the experience of schizophrenia is seeing, hearing and feeling things that are not real. This usually results in fixed beliefs about the world that are not necessarily true. In other words: hallucinations and delusions. The umbrella term for such experiences and beliefs that are out of touch with reality is 'psychotic' (193). So people with psychosis can potentially suffer from multiple disorders on the schizophrenia spectrum and do not necessarily have to be schizophrenic. The disorders and their definitions as recorded on this spectrum are all in line with the DSM-5 (diagnostic and statistical manual of mental disorder) (193). On the far left side of the spectrum stand the people who are functional: their thinking, communication and social interactions are considered normal. Still on the functional side of the spectrum are those with schizotypal personality disorder. They show moderate symptoms resembling those of schizophrenia but with a retained grasp on reality. These moderate symptoms among others are paranoia, belief that random events are somehow related to their person, perceptual illusions and social isolation and restricted emotions. People with this personality disorder may speak in odd ways or have trouble relating to other people, but are otherwise functional (193). Right after delusional disorder, where the person has persistent unrealistic beliefs but no other symptoms of schizophrenia, lies the junction between functionality and dysfunctionality; where people truly lose touch with reality. In brief psychotic disorder people show symptoms of schizophrenia for one month or less. Then in schizophreniform disorder, individuals have symptoms of schizophrenia for one to six months. Interestingly enough these individuals usually resume their normal lives and routines after this time. Schizoaffective disorder presents a combination of schizophrenia and a mood disorder as depression or mania. Lastly at the end of the spectrum is schizophrenia where a person experiences delusion and hallucination, shows disorganised speech or behaviour and/or negative symptoms and full functional decline for six months or over. Other types of psychotics disorder outside of this spectrum are for example substance-induced psychotic disorder or psychotic disorder associated with another medical condition.

Schizophrenia is a severe and disheartening psychotic disorder, partially for those individuals who live it and partially for those who have to live with those individuals, especially since it is not clear cut where the disorder starts and ends. At times, people with schizophrenia have an accurate view of reality and can communicate and function well in their daily life. However, during the so-called active phase of their illness, this image can turn around completely, resulting in a difficulty for people who suffer from the disorder to take care of themselves (195). In addition to this, a psychotic disorder in general is not something that is reserved for those who have always had trouble functioning in society or those with odd thoughts and behaviours, in other words: societal outcasts. This type of disorder can manifest itself in anyone. The symptoms usually start occurring during the young adult years,

when these people have to start contributing to society: graduating, working, marrying etc. It is estimated that between a half and two percent of the global population will develop schizophrenia (195). Note that this does not include any other psychotic disorders from the schizophrenia spectrum, just schizophrenia in itself.

Now, the core diagnostic symptom of schizophrenia is psychosis: the experience of hallucinations and delusions. But what different sort of hallucinations and delusions can a person experience and what are their contents? The DSM-5 states that there are five domains of symptoms that define psychotic disorders. The number of these five domains as well as their severity and duration distinguish the different psychotic disorders of the schizophrenia spectrum from one another (195). These five domains of symptoms are made up of four different kinds of positive symptoms and one kind of negative symptom. A symptom is labelled positive when there are overt expressions of unusual perceptions, thoughts and behaviours (195). To put it more straightforward: positive symptoms are those the surroundings may notice as adding onto or existing on top of the usual behaviour presented by the person. On the other hand negative symptoms can be describe as something that is lacking or simply gone, which is in general more difficult to notice.

The first of four positive symptoms of schizophrenia is delusion. Delusions are ideas that an individual believes to be true but that are highly unlikely or simply impossible (196). This is not to be confused with self-deceptional ideas that functional people have every day, for example that one will win the lottery. As opposed to a physically impossible delusion of your body suddenly dissolving into thin air. Furthermore, people with delusions are preoccupied with them and actively search for evidence supporting their beliefs and convincing others of them. Therefore they will also resist facts that contradict their illusions and people who confront them with their false realities. The contents of delusion again can vary enormously, but are useful to consider in general since these different types of illusions are quite easy to represent in a (fictional) narrative. Persecutory delusions (196) are defined by the false belief that a person or those related to them are being watched, followed or conspired against, usually by large organisations of power in the world. For example, the belief that the FBI is trying to frame you for a crime. Then delusions of reference (197) have to do with associating everyday events, objects or even people with yourself. For instance, the belief that this particular graffiti is put on the wall for you to see or that a newscaster is talking directly to or about you. Then delusion of being controlled, delusion of broadcasting, thought intersection and thought withdrawal (197) all have to do with the external manipulation of one's mind. An extra-terrestrial may have possessed your body and is controlling it, or your thoughts are being transmitted through the 5G-network and broadcasted somewhere for all to hear. People close to you like your sister or roommate may be planting atrocious thoughts into your head or stealing your private thought right out of your

mind. The examples that are mentioned here that have to do with 5G or radio waves or thoughts being broadcast may sound familiar, because especially these types of delusion get much exposure in the media. However, it is not a coincidence that the (probably Western) reader of this thesis recognizes those. The contents of delusions are culturally determined. In a comparative study between British people with Schizophrenia and Pakistani people with schizophrenia, it became clear that the British reported on being controlled by televisions, radios and computers, whereas the Pakistani reported that they were controlled by black magic (198). In light of this the DSM-5 also revised their definition of delusions from "erroneous beliefs" to "fixed beliefs that are not amenable to change in light of conflicting evidence", since labelling a belief as true of false is culturally determined and truth is not absolute.

Then the second positive symptom is hallucinations. Like delusions they are unreal, however where delusions operate in the realm of the mind, hallucinations are perceptual experiences. Hallucinations can involve any of the senses, but auditory hallucinations are most common (199). Auditory hallucinations (not exclusively) consist of a voice speaking the individual's thoughts aloud, running a commentary on the person's behaviour, a collection of voices speaking about the individual in third person or voices issuing commands and instructions (199). Notice how especially the running commentary on the person's behaviour has a lot in common with the all-knowing narrator in a novel. Or a voice issuing commands or instructions with the omniscient God-like influence a videogame player may have over their characters. The voices these people experience can be perceived to come either from inside their head or somewhere outside. Especially for the latter it is not uncommon that people with schizophrenia talk to these voices as they would talk to any other person in the room with them. Visual hallucinations are also possible, although often accompanied by auditory hallucinations (199). As with delusions, the content of hallucinations is culturally determined.

The third positive symptom is disorganized thought and speech. When this occurs in people with schizophrenia it is also referred to as formal thought disorder. This usually manifests itself in the form of slipping from one topic into another seemingly unrelated topic without any coherent transition (199). At least, incoherent for onlookers. This is called loose association or derailment. Although the topics seem unrelated, they may not actually be. If the person is asked about them open-mindedly and at length, they might be able to explain the relations in a way others can understand them too. The form of loose association also differs per person, for example large differences between men and women have been observed (200). For men, language is in general more localized in a single part of the brain. If that part is affected by schizophrenia the disorganized thoughts and speech are in general much worse because they are unable, unlike women, to compensate with other parts of the brain.

Finally there is the symptom of disorganized and catatonic behaviour. This type of behaviour can vary strongly, but always seems untriggered and unpredictable to those around them, making it very frightening (200). These behaviours are often perceived as aggressive or threating towards the direct environment, although it is usually more in response to hallucinations and delusions. For example screaming, swearing, running away or scratching. Because of this, it can be difficult for a person with schizophrenia to perform simple routine tasks. General attention and memory are impaired so at times it takes all of their focus to perform a single task like brushing teeth. In general, while someone with disorganized behaviour still responds to their environment, catatonic behaviour shows the opposite.

As stated before, negative symptoms represent something that is lacking in behaviour and is therefore difficult to notice. The most common ones associated with schizophrenia are restricted affect and avolition/asociality (200). Although these might not seem as severe as the positive symptoms, after all it is not uncommon for any person to feel asocial at times, a strong presence of these is associated with a worse outcome of the disorder, because they are more persistent and difficult to treat (201). For example restricted affect manifests in an absence of emotional expression, such as their voice, face and gestures. Note that this does not mean devoid of emotion as such. Several studies on schizophrenics' responses to positive stimuli have concluded that they do not experience less affect, the opposite may be true that they experience more intense emotions that they have no way of expressing (201). It is specified that negative symptoms are less prominent in other psychotic disorders than schizophrenia, but are also connected to mood disorders as depression. This is the case for avolition for instance, which is the inability to initiate or persist in common goal-oriented activities such as studying, or for asociality, where the person has access to welcoming family and friends, but shows not interest in socializing with them. So although these negative symptoms are more in line with schizophrenia than with any other psychotic disorder, I expect these are less interesting to visually represent since their depiction (sitting alone in a room, not eating, not answering phone calls) is used more often to illustrate depression.

Now, after this vast enumeration of facts, what is the most important thing to realize about the schizophrenia spectrum next to all the different definitions and symptoms? Although one might still think the experience of schizophrenia is decidedly different from the experience of 'normal' everyday life, it is important to realize that we're speaking of a continuum. The symptoms that make up schizophrenia can appear in mild to moderate form in many people who do not meet the full criteria for any disorder. It might be better to think of it as a continuation or an augmentation of reality. Here the connection with augmented reality and virtual reality should become apparent. The term 'virtual' in an older non-computer sense equals something existing in essence or effect, though

not actually or in fact (“Virtual”). This is arguably the same for the delusions and hallucinations a person with schizophrenia may experience. Especially for hallucinations, which are perceptual experiences connected to our senses. Our senses are what we base our perception of reality on. If you can touch the thing, it is physically in front of you, if you hear a voice coming from behind then there must be a person producing that voice. If reality is what our personalized and biased senses make of it, then the reality of a person with schizophrenia is just as real as anyone else’s. The only reason it is considered abnormal is that the perceptions and functioning of the brains are tested against the majority of those of other people. When people experience virtual reality, they may praise how life-like the experience is and marvel at the fact that it was as if they could touch it themselves. This pleasure is inherently linked to the clear division of one reality to another. Headset on and headset off equals to augmentation of reality on and augmentation of reality off. For schizophrenia it is an ever-changing continuum with no such signs.

Chapter 3: Interactive Narratives

In this chapter the diverse and complicated nature of interactive narratives takes centre stage. There is not one form of interactivity. One might be compelled to argue that this is due to medium specificity. While this of course plays an important role, there are ways to think about interactivity, in the sense of the nature of interactivity as well as the structure, that can be traced back to a broader foundation. The structure of a narrative, regardless of medium, can allow for different levels of interactivity. The book *Narrative as Virtual Reality 2* (2015) by Marie-Laure Ryan provides a clear and complete overview of all sorts of properties that an interactive narrative may have. The main focus of the book is to review the balance between immersion, interactivity and narrativity. These three concepts have an ambiguous relationship since they cannot all co-exist to their full extent and create a single coherent yet immersive and interactive narrative. At least, not yet. Here I will highlight the parts of her argument that resonate most with the case studies that will be discussed in the following chapters.

On Immersion

To start off with, it is important to be aware of a general shortcoming in Ryan's writing. At least, a shortcoming regarding the topics that are discussed in this thesis. In general Ryan theorizes about narrative in the classic textual sense, her main focus is usually on literature (be it electronic or not). She does mention videogames, virtual reality and other forms of multi-media narratives, but when she does she always states it explicitly. The same goes for the section on immersion: in general it is about immersion in a literary narrative. The concepts and ideas she employs are still valid and provide an excellent overview of the field of narrativity and interactivity, yet one should adopt a critical attitude when regarding how they are applied to newer mediums.

She defines three distinct types of immersion: spatial, temporal and emotional (86). The first of the three, spatial, she defines in general as the response to setting. In addition to that, space can be tied to bodies who exist in space. The characters exist in the space of the narrative, however, how is it possible for the reader to be transported into that narrative? This can be done with the help of a virtual body inside the narrative. This body does not only overlap with the (external or internal) narrator but also with the reader. To be more precise: "(…) to the reader's counterpart in the fictional world" (94). This virtual body has a place in the narrative and enables the reader to have a sense of presence in this space.

Then the second form, temporal immersion, is in general defined as the response to story (99). Temporality can be seen as the dichotomy between 'actual' time, passing on the clock, and 'lived' time. For a book that would mean, crudely speaking, that what makes it a page-turner. Therefore

different types of suspense play an important role in temporal immersion. Ryan states: the reader has to keep speculating about what happens next (100). This already hints at a paradox that will become more apparent later. “Suspense is dependent on the construction of virtual scripts and events (…)” (101). One can only experience suspense with the help of potentialities of the future. The intensity of suspense is directly linked to an image of all the forking paths that lead into a future, some may be more desirable at the beginning of the story than others. Suspense then arises when problems arise and fewer and fewer routes seem to lead to the desired outcome, for example the one where the hero wins (102). At the end of this chapter Ryan refers to a line of argument presented by art philosopher Noël Carrol: if it is true that uncertainty is a necessary condition for suspense then when uncertainty is removed from a situation, suspense evaporates (105). This originally referred to the phenomenon of suspense in literature, but is also interesting in the light of an interactive narrative where the reader can interfere with different possible futures.

The last form, emotional immersion, is in general defined as the response to characters in an narrative (107). There exists a divide between empathetic emotions, where one believes that they can feel the feelings of another as they felt them, and emotions felt for oneself. These emotions come closer to the body, for example fear, disgust and sexual arousal. It is interesting to consider where this division begins and ends in the light of newer mediums as virtual reality, where divide between oneself outside the narrative and characters inside the narrative is arguably less defined. If a character in a novel is mentally confused, the reader may experience the empathic reaction to feel sorry for them. Even if the events in the storyworld are presented through the eyes of this character, the reader will most likely not feel that same confusion for themselves. They might be confused by the disorganized order of events or by obscure sentences that are suddenly presented before them, but that is not a type of confusion shared with the character. In a narrative in virtual reality it is arguably possible that this mental confusion is not only what the character experiences, but also what the viewer experiences provided they are properly spatially immersed and adequately aligned with a character in the storyworld. Of all three types of immersion, emotional immersion is the type where eventually most can be gained with the help of newer interactive mediums as opposed to older linear mediums. Gained in the sense of bettering the representation of experiences that are normally more difficult to present, like the experience of a schizophrenic disorder.

On the Nature of Interactivity

After the topic of immersion, Ryan moves on to interactivity. She proposes two main ways to think about the nature of interactive texts. The first is text as game, where the interactivity in the text is governed by certain game rules and the player gains entertainment not from the internal storyworld

but from participating in or performing the actions of the game itself. She presents two defining elements of games: they are "played for their own sake" and "constituted by rules" (119). A classic example that takes text as demonstrates text as game quite literally is a language game such as 'Pig Latin'. Another example that lies much closer to our subject matter is that of a labyrinth of hypertext that: "is no longer a problem to solve but a playground for the reader" (122). This conceptualization removes any competitive spirit from the reading of hypertext and suggests an experience much closer to what will be described below as ilinx or as free play" (125). So, as opposed to text as game where an interactive text still governed by rules but lacking competition and played for its own sake, is the idea of dysfunctional texts as form of play. Here (story)worlds disappear completely and dysfunctionality takes over as an inconsequential form of play in which nothing matters but insignificance, as opposed to the functionality that usually reigns textual structures and everyday life. Ryan uses Bakhtin's terminology of 'the carnivalesque' to create an extensive list of what dysfunctionality as play means to her:

> (…) chaotic structures, creative anarchy, parody, absurdity, heteroglossia, word invention, subversion of conventional meanings (à la Humpty Dumpty), figural displacements, puns, disruption of syntax, mélange des genres, misquotation, masquerade, the transgression of ontological boundaries (pictures coming to life, characters interacting with their author), the treatment of identity as a plural, changeable image—in short, the destabilization of all structures, including those created by the text itself. (126)

The destabilization of all structures is closely related to dysfunctionality, yet the latter could be argued to take it all a step further, namely the gradual disappearance of all structures. For this research, it is interesting to apply the realm of dysfunctionality as a from of play to narratives, since I suggest that significant similarities exist between the dysfunctionality of a psychotic disorder and the dysfunctionality of text and language.

Hypertext is dysfunctional with respect to linear storytelling, Ryan argues (138). There are examples of dysfunctional games (glitches prevent the player from performing any actions) or dysfunctional tools (spoons with a hole in them), but for hypertext the dysfunctionality usually lies within the interface. There is not one singular definition of interface but a basic and workable description would be "the physical means to provide input in a system as well as the feedback produced by the system" (147). *The Jew's Daughter* is an example of a hypertext with a dysfunctional interface (147). The work exists of one page of virtual text that reads like a postmodern novel. When the reader hovers with their mouse over a blue word, a part of the text changes. However, which part changes is not indicated, and it changes too fast to perceive it. Therefore it would be an impossible task memorise what came first and what came after, what it is that the reader did versus what the

program did. Because of this, Catherine Hayles describes it as an allegory of the neural mechanisms that underlie consciousness (Ryan 148). Although this work only makes use of the dysfunctionality of interface, Ryan names two other works that, in addition to that, also make use of the dysfunctionality of language. The text *Reagan Library* hints at a brain suffering from Alzheimer's disease and *The impermanence Agent* at one suffering from memory loss, which is attributed to the specific character of the grandmother in the narrative (150). The language used in these works is similar to that which I described in chapter two as loose association. Although dysfunctionality in interface and dysfunctionality in language are two separate points in Ryan's argument, a meaningful connection can be made. On the one hand she indicates that dysfunctionality in interface can be regarded as a political statement in the present time where new media and technologies should be practical and useful. We are hiding what the actual machine is doing, and that is not always perfect or pretty, behind a sleek glossy interface (154, 156). On the other hand there is the dysfunctionality in language, that is usually explained on the level of the narrative by some sort of mental dysfunctionality of a character or narrator. This could mean that a hypertext, which can be regarded as a dysfunctional form of a 'functional' linear narrative, not only has a natural friction with interface and language, but that this friction is also similar to the way our own 'living' interface starts to show cracks because of the incompatible inner workings of our brains. The glossy interface and eloquent models of communication simply bump metaphorical heads when presented with something that is dysfunctional, whether it is an interactive narrative or an interactive self.

On Interactive Design

As stated before, interactivity comes in all sorts of shapes and sizes. At the foundation of any kind of interactive work lay the mechanisms inherent to its design. In the design of an interactive narrative, the user has a certain position in and a certain transformational power over the narrative. Ryan places the user position and the amount of transformational power on two axes to create four types of interactive designs. The first is external-exploratory. The user stands outside the storyworld in time and space and participates in it from a God-like perspective. On top of that the user cannot make lasting changes to the storyworld (162). This is an example of a classic hypertext. From an external perspective the user explores all the different branches of the narrative yet never makes lasting changes. Additionally, for this category there are no time-limits to the exploration and the user does not simulate the behaviour of one member of the virtual world.

Then, when a work employs external-ontological interactivity it means that the user still acts from this God-like perspective, but does make lasting changes to the storyworld. The catch is that they are not in full control of the consequences of those choices. The best example would be a simulation

game like *The Sims* (163). Now, one can argue that a classic hypertext can in some instances also be ontological instead of exploratory. However, this is only true when readers are able to actualize certain branches of the plot at the expense of others, not when they are able to endlessly loop around in the full story space.

Then there is internal-ontological interactivity where the user operates inside the storyworld and is able to make lasting changes (163). This is a common form of interaction for first-person videogames. An important difference with the previous two categories is that here the narrative is actively and dramatically created in real time. In other words: it is being enacted rather than diegetically created by representing past events (164).

The last and quite uncommon category is called internal-exploratory interacivity. The user experiences the storyworld from an embodied point of view of one of its members and is free to play tourist so to speak, but holds no power to change anything (165). Personally I would say this category is not that uncommon anymore, since in the last few years the number of VR experiences that could be categorized under this label have grown exponentially. Just one example that comes to mind is *Carne y Arena* by Alejandro González Iñárritu. With the help of a walk-around VR-installation, the viewer can experience the attempt of a group of Mexican immigrants to illegally enter the United States. From an embodied point of view, the viewer can move freely inside the space of the storyworld and observe the different characters and settings. However, they move as a ghost through the whole scene: they cannot be seen by or interact with the characters or make lasting changes in the storyworld. Still, because of the embodied point of view that the walk around-VR provides and the 360 degree sound-effects, it still feels as if you are actually present in the world, despite the lack of power to make a lasting impact on the narrative.

Now, these types of interactivity can be supported by explicit architectural structures. Moreover: the very narrative potential of an interactive text is related to this structure (165). There are two terms that are essential for describing these structures: nodes and branches. Nodes are intersection points, or in other words, decision points for the user from which several branches sprout. The branches are short pieces of linear narrative that can be explored with the use of these nodes. While Ryan discerns no less than ten different architectures, I will only discuss those structures that are relevant for the following chapters, so keep in mind that this is not a complete account.

The most standard architecture for a literary hypertext is called the network (167). Here the movements of the user through the narrative are not totally free since they are confined to the branches, nor limited to a single course because of the nodes. The characteristics of a network are that the user is able to loop back and cross nodes multiple times. So several nodes can be accessed through different routes. This creates a problem since narrativity (or narrative coherence) can only be

guaranteed on the branches itself, locally. Globally there are no linear sequences of events that at all times follow logically. One might encounter a branch where someone has terminal cancer and another where they are in perfect health. Therefore Ryan concludes that this network type structure is more suited for surreal or Dadaist explorations than for narrativity (168). Yet, as shall be addressed in chapter four, this mode is also used in more accessible works that are for popular entertainment.

The tree structure is different from the network structure in the sense that there is no turning back and only one way to reach a node. This structure of course can guarantee narrativity. Nothing is preventing the sequences of events from following logically from each other. Another popular term for the tree-structure is 'choose-your-own-adventure'. It is important to note that this label does not fit the previous network structure of interactivity. Simply speaking this is because you cannot guarantee an adventure there, at least not on a narrative level.

The previous two structures were more in line with text-based interactive works. Yet for videogames, no matter how unrestricted or open world they may seem, it is also possible to discover such an underlying structure. In first person adventure or shooter games the goal is to beat the game. This is usually one final event, so actually the user is searching for the exit node of the structure. There can be multiple exits, yet some of these are undesirable, like character death. The appeal is in the search of the route, therefore this structure is called the maze (171).

On Agency

Several topics on the nature and structure of interactivity have now been explored save one: the topic of 'agency'. Ryan states that some scholars, for example Janet Murray, prefer to use the term agency as a substitute for interactivity (160). She is opposed to Murray's view because Murray is: "associating the former with purposeful actions that alter a world meaningfully, in contrast to the latter, which may consist of routine actions such as rolling dice or clicking on links" (160). Ryan takes the standpoint that even routine actions are actions enough and that is why she believes 'interactivity as human intervention retains a legitimate place in the toolbox of media studies" (161). Personally, I think there is truth in both statements. Indeed every form interactivity, no matter how trivial, is valid. Yet, it is a bit too strong to cling only to that term and refrain from using agency at all, like Ryan seems to prefer. To me, agency can be viewed as the level of interactivity: the level at which you as the user can affect the text. This is actually the term that Ryan uses to describe the final way of categorizing interactivity: the four levels of interactivity (175). All the texts that were presented thus far had layers in the sense that the interface presented itself at the top and the narrative at the core. I will follow Ryan in her description of the four levels, yet not refrain from using the term agency when applying them to the case studies further on in this research.

The first and least interactive is peripheral interactivity, where the user's changes are limited to the level of the signifiers. They make them visible to make the text readable for them, for example by controlling the speed at which text appears (176). On the next level the user affects the presentation of the story. This level should be familiar by now since it is here where the user has the power to affect the order of the events in the storyworld (178). Then, creating all sorts of variations in a partly predefined story is the third level of interactivity. In videogames different players have different playthroughs of the same story, because their way of progress is different each time (180). The last form where the user arguably has the most effect on the story is when interactivity leads to real time story generation. Incidentally, this is also the level at which the incompatibility of interactivity, narrativity and immersion again takes centre stage. If the user somehow would have high creative freedom, there is no guaranteeing that their creations lead to a satisfactory story (181). Not even to speak of the double role of creator and consumer that the user has to switch between.

Especially for hypertexts this is a significant problem, since it is beneficial for the user if there is a sense of involvement with the computer program: "(…) the user needs a scenario that casts him into a role and projects his actions as the performance of concrete, familiar tasks: writing, editing, drawing, sending mail, building cities, or killing dragons to save a princess" (195). From the examples above it is clear to see that this conceptualization is no problem for videogames, since they usually employ a form of internal ontological interactivity. Still, clicking is not really the same a turning a page of a book, especially at nodes where the user has a choice. How would a hypertext conceptualize the reader's active yet external involvement and really distinguish the role of the user as a non-passive one?

Additionally, when proper conceptualization fails, it is also troublesome to constitute immersion. The three forms of immersion that were discussed earlier in this chapter again provide a good framework to demonstrate this. Temporal immersion was subject to the management of the expectations of the reader to create suspense, curiosity or surprise at the right time in the narrative. When the user partly fulfils a role as maker, it is certainly conceivable that they do not get a lot further than light curiosity. Spatial immersion is in turn hindered by the magnitude of the story space. If the user adopts a role a traveller or navigator, a more passive position than co-maker, they can choose to travel just one path from start to finish and leave all other branches unexplored and therefore unactualized. Several authors, as for example Gareth Rees, claim that the reader is then haunted by the "what could have been" (Rees). On the other hand, if the reader would explore the whole textual space it could be compared to the dismembering of the immersion: a hand is in one branch and a foot is in the other and the reader as a whole would just float somewhere not quite above not quite in the textual space. Lastly the same argument goes for emotional immersion. If the user opts to actualize

multiple branches, which arguably is the point of interacting with a hypertext in the first place, they know the character is actualizing different versions of their narrative in different branches. The emotional bonding with a character out of the concern for their fate is no longer that interesting. Umberto Eco famously commented on this issue: "A hypertext can never be satisfying because the charm of a text is that it forces you to face destiny" (Murray, *Hamlet* 296).

To conclude, the area on which the clash of interactivity, narrativity and immersion is the most prominent is the self-reflexive dimension that alienates the reader from the storyworld (Ryan 207). Examples of this dimension are the tension between reader as active constructor and as passive consumer; the tension between the external position and the justification for interactivity in this external position and resistance of immersion that follows; the use of an interface that imposes itself on the user in overtly visible signs as menus and buttons. To get rid of this self-reflexive dimension as a whole seems impossible. However, the medium virtual reality could function as a stepping stone. They key is the embodied point of view from which the user interacts with the world. In a book, videogame or hypertext the hand that turns the pages, clicks the links or uses the joystick does not belong in the textual world (208). In virtual reality the user enacts rather than represents, overcoming the problem of the dichotomy of a retelling of past events in the form of narrative or interactivity in the here and now.

Beyond the (Hyper)text: On Viewer Position and Embodiment in Visual-based Mediums

Although Ryan's analysis of immersion, interactivity and narrativity is quite complete, as I stated before a considerable drawback is her preference for writing predominantly about literature. In her writing she perfectly sets out the foundations of the relationship between readers, characters and narrators and of fabula and sujet. Yet the moment audio-visual mediums come into the picture, there is no clarification on how this these theories would apply. Although it would also make the concerns stated above more complicated, the theory of film narratology would aid in the understanding of the position of the viewer/user in visual-based mediums as interactive film or videogames.

To connect back to the virtual body that exists in virtual reality or in the form of an avatar in videogames, there is arguably a similar virtual body in film. As in a literary text, the distinction between an external narrator and an internal narrator is important (although it is possible that they overlap). An external narrator organises the whole text from outside of the narrative, the internal narrator is a narrating character within the narrative (Verstraten 16). However in a hybrid medium as film, the narrative can be organised with the help of images as well as sound. Therefore Verstraten proposes the distinction between the image narrator and the sound narrator, who hierarchically operate on the same level. The two of them in turn are organised by the filmic narrator, who exists in a higher

hierarchical order and can therefore balance out the influence of the other two narrators (17). Basically, from an external point of view the filmic narrator picks which images the viewer sees and which sounds the viewer hears. These can overlap with a certain character seeing or hearing events, which would make the focalisation internal. As a consequence, the viewer can be, through the decisions of the filmic narrator, switched from external to internal point of view throughout the film. The filmic narrator is our anchor in the storyworld, that entity that we identify with and receive all the images and sounds from.

Yet as classic literary narratology is not up to par when it comes to audio-visual narratives, film narratology is not up to par when it comes to any kind of narrative where the viewer is not deemed to be a passive pair of eyes. Earlier in this chapter I already touched upon the problematics of the double role of creator and consumer that those who interact with an interactive narrative acquire. The division between the filmic narrator and the viewer as it is presupposed in film narratology is then not that self-evident anymore. Moreover, when the viewer is in that double role of creator and consumer, they hardly ignore the involvement of their bodies anymore, since they are probably acting upon the narrative with the help of a device external to the narrative like a mouse or controller. When considering this, the theory of phenomenology might provide some more insights. Vivian Sobchack distinguishes a film's 'body': ''(…) the moving camera is originally perceived by us in experience as an 'other' who is animate, conscious, and experiences and intends towards its own conscious activity as we do'' (Sobchack, *Semiotica* 324). Sobchack claims that film viewing is also for the spectator an embodied activity. A film is experienced with the whole of a body, not just the eyes, ears or brain. So even though the embodied spectator and the film body are in theory able to overlap, Sobchack states that a dichotomy between the self of the film viewer that sits still in a seat in the theatre and the film body of the anonymous other that externally reports the narrative are never reconcilable.

Timothy Crick builds on this phenomenological approach in his theories on the 'game body' ("The Game Body: Toward a Phenomenology of Contemporary Video Gaming" 261). He claims the main drawback of Sobchack's theory is the disregard for electronic representation, in other words: digital narrative environments. Digital imagery, as formulated by her in the 1990's, is too busy and dispersed for the representation of an embodied experience (Sobchack, *Carnal Thoughts* 159-161). It is true that a 'game body' would indeed function quite differently from the workings of a film body as Sobchack proposes it, states Crick, yet that does not mean that that digital imagery should be excluded from theories on embodied vision. In videogames there is no actual camera to record the events in the game world. However, there is a simulated camera that operates in a similar way. The storyworld is presented to the player either from an external or an internal point of view, in videogame jargon

respectively named the third person perspective and the first person perspective. The main difference between the film body and the game body, is that the simulated camera of the game body does not look through the eyes of an anonymous yet conscious other. In videogames, it is common that the player has control over the position and angle of the simulated camera. In first person perspective, the camera view becomes the avatar's virtual head, so the player cannot see the actual avatar they are controlling anymore. Extending Sobchack's line of argument, it is especially in first person videogames that a conscious embodied entity that situates the viewer in the storyworld is missing (Crick 261). Crick quotes Laurie Taylor's apt phrasing that this would lead to a situation where the player is "acting on the screen rather than within the screen" (261). Crick does not agree with these viewpoints. Although he admits that the film body in many way works different than the game body, it is also true that the game body is comparable to the point of view shot in cinema (263). He argues that for point of view shots there is no problem to embody the viewer inside the storyworld, so why would that be different for videogames using the first person perspective? Crick calls the game body "intrasubjective" and that is a terminology I can get behind. By regarding the experience of a videogame as intrasubjective (265), I would say one could even argue that this could be more immersive experience than film. For example when the graphics and the artificial agent loading the environments are highly developed or the player is so skilled with their controllers that they input commands without explicitly thinking about them.

It needs to be said that Sobchack's ideas were presented in the early 1990's and Crick's in 2011. It might simply be zeitgeist and the lack of experience with videogame narratives and technologies that led her to these claims. I do agree with Crick that there is no reason to disregard digital imagery when writing from a phenomenological perspective, after all: "A game's virtual world is a space that can be roamed like the physical one and thus experienced as an embodiment of vision" (265). What is true for both the film body and the game body however, is that they cannot overcome the dichotomy of their body behind the computer/screen and the embodied game/film body. In fact, I believe this dichotomy even grows larger in games using the third person point of view, since the player has to control the camera that functions as the game body and the avatar separately. It is then also more difficult to reconcile the body in front of the computer that is controlling both, that is lacking one single embodied view inside the narrative. In the chapters of the case studies that look into the mediums of videogames and virtual reality however, both narratives employ the intrasubjective first person perspective. So the theoretical challenges that the third person perspective provides are not deeply relevant to this research.

In the next chapters I will use the concepts and terminology presented in this chapter to connect the subject matter and form of the different case studies to the representation of the experience of schizophrenia.

Chapter 4: *Bandersnatch*

In the previous two chapters, the nature of a schizophrenic disorder and the workings of interactive narratives have been addressed. In chapter three, it became clear that there are certain similarities between the dysfunctionality of an interactive narrative and the dysfunctionalities that are associated with a schizophrenic disorder. In this first case study chapter on *Bandersnatch*, these 'certain similarities' will be illustrated with more detailed examples. I will first discuss the type of nodal structure the narrative has implemented to make interactivity possible. Additionally I will discuss what about the position of the viewer and the level of perceived agency in this interactive narrative make this specific medium of interactive film so distinct in regard to the representation of the experience of a schizophrenic disorder.

The interactive film *Bandersnatch* tells the story of the main character Stefan Butler. He is a young videogame programmer who is working on a game by the same name as the film's title. The game is based on a choose-your-own-adventure book with again the same title by fictional writer Jerome F. Davies. During the programming process Stefan gets lost in the branching paths of his narrative, just like Davies allegedly did when writing the book. He feels like he is losing control over his own actions and decisions, much to the confusion of his father and his therapist. As for the design of the interactive film, the idea is that the viewer[2] can explore different storylines with different endings each. When a decision point is reached, a black menu bar appears at the bottom of the screen with two buttons (or quite mockingly just one in some scenarios). The viewer has ten seconds to decide between the two options. In the meantime there is no freezeframe or other indication that the narrative comes to a halt, the scene continues naturally: as if Stefan is thinking before responding or taking action. If the viewer does not click a button before the time is up, the film will pick the pre-programmed default option. Although the producers claim they themselves do not even know how many endings and how many decision points there are (Strause), dedicated fan groups quite quickly came up with an accurate overview diagram of the story space with all its decision points and endings (Garcia et al.). See appendix 1 for this diagram. Additionally, the viewer can pause, rewind or fast forward, and when doing so the previous decision points present themselves as thumbnails on the screen, allowing for faster navigation between different decision points and storylines. Next to the actual endings, that are marked with the rolling of the credits, there are dead ends. Here the viewer can only return to an earlier decision point. When the viewer does this, a short rewind of earlier events is shown to save the viewer from tiresome repetition.

[2] 'Viewer' will suffice for this chapter although one could also make the case that user or player would be more fitting.

Through all of these decision points, the viewer does not only receive agency to choose certain events that take place in the story, but it allegedly also bestows a responsibility for the outcome of these events onto them. Therefore, the psychological struggle that Stefan is submit to in the narrative is also the viewer's responsibility, if we have to believe the creators (Strause). Yet, no matter how many times the narrative tried to convince me that it was me, clicking through these decisions behind my laptop, who brought all of this upon Stefan. I was all too aware of my position as an entity outside of the narrative to even consider this as a viable option. This is not, as Sobchack would state, a medium that allows for a phenomenological experience of the narrative. The body that clicks is too separated from the body immersed in the storyworld. To return the focus to the question of representing a schizophrenic disorder in an interactive narrative regardless of the level of perceived agency of the viewer, the viewers' illusory involvement in the events on the screen will be temporarily be put aside in order discuss the symptoms of a schizophrenic disorder that Stefan's displays intradiegetically.

When one would review the symptoms and characteristic of disorders on the schizophrenia spectrum and psychosis as discussed in chapter two, one can see the undeniable similarities between them and Stefan's behaviour. It is apparent in a lot of Stefan's dialogue that he does not necessarily know what is real and what is not real anymore, but his main statement that he keeps repeating in every timeline is that he is not in control and that another entity has taken control over him and his actions. According to the DSM-5 this could be characterized as a delusional thought. Partly, this 'diagnosis' is also supported by Stefan's therapist. We see him take medication at the very beginning of the film, but we do not know what it is for. Later, when he confesses he thinks people are controlling his choices in life, she does not prescribe different medication, but a higher dosage, hinting at the fact that they were antipsychotics. This is in line with the clinical picture of either psychosis or schizophrenia, yet the dialogue is not. The therapist answers in reply to Stefan's confession: "Sounds like you are starting to dissociate so we want to nip that in the bud before you start to seriously entertain delusions", after she asked if he is hearing voices. Hearing voices, as we know now, is a sign of hallucination and not delusion.

So although the writers did try to address the theme through dialogue, the actions and events in the narrative speak louder. For example in the PAC branch. Here Stefan discovers, after opening the safe in his father's office with the letter P-A-C, that the man pretending to be his father is a member of the research collective PAC and that he is the subject of an extensive experiment that already started in his youth. The mother he remembers is not actually his mother but an actress and they are spiking his food and tea with drugs to continuously monitor his reactions towards it. This is a classic example of persecutory delusions, where the subject thinks they are being monitored and conspired

against by a large organisation of power. Delusions of reference, where the subject thinks that random objects or events somehow relate to them, are also present in the narrative. One example is the graffiti on the billboard that Stefan sees when he is on the bus at the beginning of the film. From inside the bus the camera lingers on the billboard as the bus speeds pass and turning to Stefan, following his gaze to where the billboard was moments ago to show him looking in the same direction. This type of camera movement does not happen at any other point during the bus ride, so we can safely assume that this particular billboard caught Stefan's eye in such a matter that he deemed it important. The same goes for the documentary that is given to him by Collin in another branch. The presenter of the documentary speaks in the background while Stefan is working on the game. She tells that Jerome F. Davies kept seeing and reproducing a symbol that to him meant that he had no control in life. It is not necessarily delusional that Stefan applies this to himself, since he is adapting the book that Jerome F. Davies wrote. Yet the moment the presenter says, "Your fate is out of your hands, so why not commit murder? Maybe that is what destiny wants" (*Bandersnatch* 2018), Stefan jumps up from his desks and looks up to his television in bewilderment. This frightened sort of reaction would not occur to those who know that this is just a presenter talking about an unrelated issue on a videotape. It seems that Stefan believes the suggestion to commit murder is addressed directly to him. And, as the viewer later sees, in most timelines Stefan eventually acts on this suggestion.

The delusions of being controlled and of being broadcast are of course the two most obvious ones present in the narrative yet also the most complicated. While control and the question of who is in control of Stefan's life is a recurring theme, there are three distinct moments when Stefan speaks about it. A prelude to this could for some viewers be the branch where Collin offers Stefan LSD. If the LSD is accepted, Collin talks about his theories of how we think we have free will, but in fact are controlled by another entity, therefore none of your actions have consequences. Even if the viewer has never seen this part of the story space and therefore it has never happened to the main character, Stefan will still question his control over his decisions. The first time he expresses this is at the therapist's office, in the sequence discussed earlier where she increases the dosage of his antipsychotic medication. When she asks what sorts of things he feels like he is not in control over, he answers with the examples of a few choices the viewer recently has made for him. So one could argue the character is not delusional since these choices have indeed been made for him, so his ideas and perceptions are in line with reality. However, that is the reality of the viewer. In the reality of the storyworld the viewer still does not participate nor exists. At a further point in the narrative, Stefan tells his father to back off, because he does not feel in control. He keeps repeating it over and over, even while he searches for an ashtray to bash his father's head in with. The viewer's next choice is whether Stefan does this or backs off, but for either choice he will keep stating it.

The last time Stefan speaks about it, is the most peculiar and probably for the viewer the most uncomfortable moment in the whole narrative. This is also where the distinction between symptoms of schizophrenia that present itself intradiegetically and extradiegetically cannot be held up anymore. When Stefan gets frustrated with writing his program for the umpteenth time, the viewer has to choose between Stefan destroying his computer or performing another destructive action. Stefan does something unexpected: he refutes the viewers decision. The interactive mode of the hypertext seems to break, because the click on the decision of your event does not actually show you that event. Stefan yells "no" and throws his head towards the sky, yelling that he knows someone is there and that they should give him a sign. For the viewer the two following options are the strange symbol that represents split realities, or the logo of Netflix. When choosing the latter, the text "I am watching you on Netflix. I make decisions for you", appears on Stefan's computer screen. He asks who or what Netflix is, giving the viewer the 'choice' of telling him more or trying to explain, which both lead to the same outcome. The sentence "It is a streaming entertainment platform from the early 21st century", appears on screen. This confuses Stefan even more and he asks 'you' to make some sense. The viewer again has the illusion of a decision by choosing between telling him more or stopping the conversation, both lead to the same outcome. The text "It's like TV, but online. I control it", appears. The computer screen goes back to the programming error message and Stefan is in shock. His father comes in and calls Stefan's therapist.

In the examples mentioned previously where Stefan does not feel in control, the interaction between him and the viewer has remained one-sided. He mentions a few of the previous choices the viewer has made, yet that is just because he is recounting them to his therapist. It is arguable that in this Netflix-sequence, this is different. Is there some sort of higher level of interactivity between the viewer and the narrative at play in this sequence? And if so, could this sequence provide a new model for representing the experience of a schizophrenic disorder in interactive narratives? This is a difficult question, in order to formulate an even remotely satisfying answer, it is necessary to specify the nature of this interactive experience with the help of the findings of chapter three.

As what type of interactive experience could *Bandersnatch* be categorized? In general it has a standard hypertext format: external exploratory. The viewer interacts with the narrative from a God-like perspective. *Bandersnatch* does allow going back in the story space and making loops, therefore no lasting changes can be made. However, this category has two other facets that are not in line with *Bandersnatch*. Normally the viewer would have no time limit, yet in *Bandersnatch* they have ten seconds to decide between one branch or another, else the decision is made for them. Another aspect of external exploration is that the viewer does not simulate the behaviour of one member of the storyworld, but the events of the storyworld in general. In *Bandersnatch* this is definitely not the case

as proven by choices such as ‘bite nails’ or ‘pull earlobe’. This is probably another facet in which *Bandersnatch* could confuse viewers: the interactive format is quite different from other choose-your-own-adventure type of narratives. Both the time limit as well as the aspect of controlling one specific character in the storyworld, are in general more in line with videogames. This could allude to the idea that *Bandersnatch* fits into the concept of text as game. The experience of viewing *Bandersnatch* might not only be enjoyable because of its content, but maybe more so because of the game-elements of the text. When the viewer clicks through the narrative this is done for its own sake and according to rules. Clicking leads to a certain outcome or ending of the narrative. The ordeal of trying to uncover the entire story space merely by clicking the right buttons during the limited time might be enjoyed in itself and for itself regardless of the narrative content in that story space.

Next, the underlying structure of this text is a network structure. Its main feature is that narrativity can only be guaranteed on the branches itself. What makes *Bandersnatch* extraordinary however, is that they adapted the content of the narrative in an attempt to solves this problem. The trickery of this decision is for example revealed in the branch where the viewer may decide whether the character of Collin or Stefan jumps of a building and dies. When the viewer picks Stefan the narrative hits a dead end and returns to an earlier node. When the viewer picks Collin, Stefan sees him fall and moments later wakes up as from a nightmare in his father’s car on the way to his therapists office a few nodes back. If this branch has been completed Collin, will be missing and cannot perform actions he would normally do in following branches. So while that is accurate, the moment where Stefan wakes up in the car would suggest this was all a nightmare. The use of nightmares comes back during a point in the middle of the narrative. When Stefan has the option to open the safe in his father’s office, there are four branches to be followed depending on which password the viewer chooses. At the end of such a branch, Stefan has discovered something about himself or his past which changes him. Yet to keep the option open for the viewer to explore all of these branches without actualizing one, at the end Stefan consistently wakes up from a nightmare. So effectively erasing all that just happened by dismissing it as merely a nightmare.

The producers’ decision to try and reconcile the interactivity and narrativity with these sorts of gimmicky solutions has huge implications for the viewers’ agency and their ability to feel immersed. Although the Netflix-sequence tries to suggest otherwise, when it comes down to it, the viewer still only holds the power to change the presentation of the story. Since this type of agency in combination with external exploration of a network is not necessarily the most engaging form of storytelling for the viewer, they sought a way to distinguish the story through conceptualization. Since you do not share the perspective of a character in the storyworld with a certain goal- as in videogames a princess who has to save her subjects- the scenario Netflix chose to cast the viewer in is one of the

conceptualized all-knowing narrator instead of the anonymous one. This meta twist allows for Stefan to call you out on your control over him. It is certainly possible that the initial idea was that tearing the viewer out of this anonymous position would generate more self-reflexivity within the viewer. Presumably that feelings of guilt would arise when controlling Stefan as an unwilling puppet and pushing him to the verge of tears. Yet, with all the different mechanisms of interactivity, narrativity and immersion at work, that ideal is not reached. Both the idea of the dismembering of immersion as proposed by Rees and the impossibility of proper embodiment in Sobchack's theories support this claim. It is very difficult for a person to view/experience *Bandersnatch* with their whole body when they are cast into this role of interacting and all-knowing narrator that creates the events in the story from a God-like perspective, while also being addressed as their own person performing the activity of clicking inside the Netflix interface from behind a computer. This is a recipe for confusion: a visceral confusion that opposes proper embodiment and proper narrative immersion.

This sentiment is shared by more viewers of *Bandersnatch*. In 2019, shortly after the release of *Bandersnatch,* two researchers of VU University, Lobke Kolhoff and Frank Nack, looked into the issue of "(…)what effect choice-based interactive digital narrative has on user engagement and perceived agency in a streamed interactive narrative environment" (Kolhoff & Nack 75). They follow Janet Murray in her definition of agency: "the ability to make a meaningful choice" (Kolhoff & Nack 75). They based their findings on the results of an extensive survey of in total 169 participants who had all seen *Bandersnatch*. Their main observation was that the experiences of the individual viewers varied widely. Therefore they concluded that "(…) free exploration generates a large deviation on how content is perceived" (82). There were, however, two aspects that most viewers uniformly agreed on. The first is that these viewers kept exploring the different branches due to initial curiosity of the new storytelling format on Netflix. They explored the different branches in the narrative regardless of the satisfaction that the narrative contents of that branch gave them. This finding supports my earlier argument that the experience of the interactive narrative of *Bandersnatch* can also be approached from the concept of text as game. The second idea that the viewers shared was that the choices felt arbitrary and that the outcomes lacked meaningful consequences (73). I argue that this could be because of a lack of emotional immersion due to the dismembering of immersion, as suggested earlier.

The possibility to loop and the use of nightmares as well as Stefan's delusions to make every branch accessible within the same playthrough seems to be an enormous obstacle for proper immersion into the narrative and therefore emotional bonding with the characters and their story. For example, the leading tech developer suggests in an interview that "A choice involving a family member of Stefan's is one that Engelbrecht said 90 percent of people won't want to do, but will pick anyway" (Strause). She suggests that this has to do with the viewers experiencing dilemmas on

morality. However, gathering from the conclusions above this might not be the case. The choice she is referring to is probably the one where Stefan kills his father. This is of course written to be an undesirable choice. The father is in general a sweet character that cares for Stefan. As much as they tried to convince the viewer to feel an emotional connection to this character, this does not happen because of the way the interaction and narrativity are structured. On my first playthrough, I did not care whether I murdered the father or not. I had already seen him in so many different scenarios that I did not care about making this choice, since it would never actualize anything. I choose the murder option because I wanted to see the story space behind that particular node.

All things considered, what can we conclude about the way the form and the theme of schizophrenia are linked in this particular interactive film, and what does this mean for the ability of the medium of interactive film to represent this theme in general? It has become apparent that in *Bandersnatch* there is a twofold way of representing a schizophrenic disorder. In some instances, the representation of a schizophrenic disorder is independent of the interactivity of the viewer: the part of the representation that happens on the linear branches of the story and not on the nodes. For example when Stefan talks to his therapist about what he feels and believes, and sequences that take place after he opens the safe. In other instances, which are much more prominent in the narrative, the representation of a schizophrenic disorder depends on the interactivity of the viewer, since it is suggested by the narrative that is them who are the cause of Stefan's beliefs and behaviour. There is a certain friction between the thought that Stefan is right. He is right about an entity watching and controlling him, after all the viewer is the one who chooses his actions for him through clicking. Stefan's paranoia and delusions are justifiable for himself in the storyworld. Only no other character in the storyworld can actually feel this external control the way he does. The friction constitutes itself because the viewer still undeniably exists external to the storyworld. Every click is just a means to show a preprogramed branch of the story. From this point of view, the viewer is not causing Stefan's symptoms. This friction makes it difficult to say something about the representation of a schizophrenic disorder in interactive films in general. On the one hand this friction can be seen as dysfunctionality on the level of the narrative, through which it complements the dysfunctionality of a schizophrenic disorder. In the scenario that they complement each-other, it is not unusual to think of Stefan as being right: opening the way for a representation where the thought and beliefs of the psychotic individual are a plausible and acceptable way of viewing the world. On the other hand it is problematic that this form of interactive film hinges on the conceptualization of the mingling viewer as the cause of the symptoms of schizophrenia. From the external exploratory perspective, the viewer floats above the narrative, making it difficult to anchor themselves in the storyworld and really immerse themselves in the experiences of the character. If these types of interactive films will be produced more often in the

future, it could very well be the case that it affects the representation of a schizophrenic disorder more negatively. This does not mean, however, that the medium interactive film is fundamentally unfit to represent the experience of a schizophrenic disorder. Interactive films do give the viewer the opportunity to, at the very least, alter and rearrange the order of events. This creates room in the narrative to represent the dysfunctionality that is integral to a schizophrenic disorder more adequately than a linear narrative. *Bandersnatch* has most certainly paved the way for other interactive films to take on the theme. Many of the mechanics this narrative has used to tell its story can really contribute to the possibilities of representation of a schizophrenic disorder in an interactive narrative.

Chapter 5: *The Stanley Parable*

The focal point of the last chapter was on the medium interactive film and how it could aid in the representation of the experience of a schizophrenic disorder. This chapter will be similar, but with a focus on the medium videogames. I've chosen *The Stanley Parable* as a case study since it is a-one of-a-kind experience that employs a few game mechanics that so far have been unparalleled in the field. The game make use of an unique amount of meta-commentary on the illusion of choice- or rather agency- that the player has in videogames and other interactive mediums. This commentary also sets out to reveal the dichotomy between the narrator of the game, the player's avatar, and the player themselves. To describe how this commentary constitutes itself, I will start off with a description of the story set-up and the gameplay. Then I will cover how the game makes use of a narrator whose voice-over we can hear throughout the entire game. Then, I will contrast the commentary that this narrative provides on the illusion of choice with the comparable commentary that *Bandersnatch* presents. From this comparison it should become apparent how the medium of videogames can aid in the representation of the experience of a schizophrenic disorder in an entirely different way than interactive films.

The Stanley Parable opens with a cinematic cutscene. A male voice narrates the following premise (paraphrased):

> There is a man named Stanley, whose job it is to push buttons in accordance with instructions on a screen. Then one day the instructions suddenly stop. Stanley also realizes he has not been called to any meetings, nor has he seen his boss or colleagues. Once he recovers from the shock of having to decide what to do by himself, he decides to get up and leave his office. (*The Stanley Parable)*

This introduction would prompt the player to think that this might be a puzzle-mystery or horror game, where the objective is to find out what happened to his colleagues. Now the player can start moving Stanley around in his office. The player controls Stanley from a first person perspective. Yet, it differs from various other games that employ first person perspectives, like first person shooters, since the player cannot see Stanley's feet or hands. Therefore, the player basically becomes a focalized floating gaze. There are two reasons that the player knows they are controlling Stanley even though they cannot actually see his avatar. The first reason is the transition from cinematic cutscene to gameplay. The players have seen Stanley's supposed point of view. Secondly, the narrator specifies that it is Stanley who gets up from the desk. The player moves on to a different room. They can freely roam the entire office space and make some minor changes, for example shutting off a computer. This means that the game employs internal ontological interactivity. In the terms of Timothy Crick, the player has an intrasubjective embodied position in the storyworld. The game body in a first person

perspective represents at the same time the virtual camera and the avatar, which are both controlled by the player. Apart from the visual perspective into the storyworld, the game body also provides the auditory perspective. The player can hear a variety of intradiegetic sounds, such as the clicking of doorknobs and the mechanic sound of an elevator. Extradiegetic sounds, like theme music or jingles, are not used in this game.

Yet, the narrator is an odd exception in this videogame. In the case of cinema, a narrator on the audio track can appear in many different forms. It can be a character in the storyworld, narrating their own thoughts in real time. As opposed to real time, an external narrator can narrate a recollection of past events. A well-known example is the narrator of a classic fairy-tale. Alternatively a narrator that exists internal to the storyworld can recollect their own story while images of these past events are shown on the image track. This is for example common in film noir. In these last two examples, the story has already taken place and is then diegetically represented. However, due to the internal ontological interactivity that videogames employ, the story is usually enacted in real time while the player plays. It then becomes the narrator's tough job to narrate everything the character/player is doing as they are doing it. And since the player supposedly possesses a very high level of agency over the developments of events, this should quickly become impossible from the moment that the player performs an action that is not within the narrator's scope of thought. I say 'supposedly' because the previous sentence is not necessarily true. Every action in a videogame is pre-programmed, else the player would be unable to perform it[3]. Therefore, they cannot do anything that falls outside the scope of the equally pre-programmed narrator. At this point interactivity and narrativity clearly clash. It is an issue *The Stanley Parable* is clearly aware of. Instead of trying to cover up the issue, it starts applying self-reflexive meta-commentary on its gameplay on three different levels.

The commentary starts with Stanley's inability to make the 'right' choice. When the narrator narrates: "When Stanley came to a set of two open doors, he took the door on his left", and you as a player take the door on the right, the narrator will correct himself saying that Stanley took the door on the right because he changed his mind. Yet as these situations happen more often, the remarks change: "Stanley was so bad at following directions it's incredible he wasn't fired years ago". Later on, in some instances, the narrator will acknowledge Stanley: "He seems to think I have nothing better to do with my time than to sit around and describe every fascinating little detail of his inability to do anything. This is why Stanley and I are on such good terms". On the other level of meta-commentary, not only Stanley is directly addressed, but the player will be addressed as well. The narrator will

[3] This is not entirely true of course. Artists and dedicated gamers alike have done playthroughs of games exposing as much glitches as possible, practically breaking the game. For this argument I assume that the majority of people play the game in accordance with the design of the developers.

acknowledge you, a videogame player, controlling the character of Stanley. If the player has gotten that far, they have usually set a new goal for themselves within the game: outsmarting the narrator. Outsmarting him by trying to find some way out of the game, a form of winning, an ending that is somewhat satisfactory to them. This is when the meta-commentary on the winnable nature of videogames begins. As Steve Mullis, an Indie game reviewer, describes it: “The Stanley Parable even calls into question the "winnable" nature of video games as the natural ending state. (…) Are books always won? Are movies always won? Is the experience of looking at a piece of artwork ever won?” (Mullis). The narrator in *The Stanley Parable* shares this view, although in a more morbid way: you are playing a videogame, so if you are not able to win then naturally you must lose. He states: “When every path you can walk has been created for you long in advance, death becomes meaningless, making life the same”. The one way he claims the player can really win this is game is: “Press 'escape' and press 'quit.' There's no other way to beat this game. As long as you move forward, you'll be walking someone else's path. Stop now, and it'll be your only true choice”.

As stated earlier, the narrator is an odd exception when it comes to intradiegetic sound. It is difficult to pinpoint whether he exists inside or outside the storyworld when taking into account all his commentary addressing the player directly. In one particular playthrough though, it is very clear that the narrator is supposed to be a voice in Stanley’s head giving him orders and providing commentary on his actions. This is a similar position the viewer was put in in *Bandersnatch*. Although this is only one of many endings, it really questions Stanley’s mental stability. On the level of the story, Stanley presents several symptoms of schizophrenia. The narrator picks each and every one of those symptoms apart, highlighting the inescapabilty of one’s thoughts. For the full narrator’s commentary of this playthrough see appendix 2.

Stanley’s first remark- as narrated by the narrator- is that he thinks he is crazy. For instance he cannot see his feet, while he does realise he is supposed to see them when he looks down. This can be called a delusion. When Stanley later on remarks that he must be dreaming and therefore anything is possible, the room indeed starts changing. Ultimately he is flying through a void full of stars. That is when Stanley starts pondering who the narrator is and why he is narrating. Here the commentary gets extremely complicated:

> And then perhaps the strangest question of them all entered Stanley's head, one he was amazed he hadn't asked himself sooner: Why is there a voice in my head, dictating everything that I’m doing and thinking? Now the voice was describing itself being considered by Stanley, who found it particularly strange. I'm dreaming about a voice describing me thinking about how it's describing my thoughts, he thought! (*The Stanley Parable*).

Considering the voice, and hearing it comment on the fact that Stanley is beyond any doubt awake, is what makes Stanley realise that this is not a dream but his reality. A cruel reality in which he cannot escape the orders and live commentary. His inability to discern reality and delusion causes him to cry out for help (still narrated, we never hear Stanley's own voice during the game): "Please just someone tell me I'm real! I must be real! I must be! Can anyone hear my voice?! Who am I? Who am I?!". After this exclamation the screen goes black and a cinematic cutscene starts. The narrator is back and recounts the story of a woman named Mariella. She heard Stanley's cries for help as he ran through town talking to himself and eventually collapsing dead on the sidewalk. What follows is a great example of anti-stigma provided by a satirical twist. According to the narrator, Mariella thinks: "Everyone knows what crazy people look like". Her reason for this thought is that she can discern what is real and what is not, and that she is certain that she is in control of her own mind. The videogame has provided extensive commentary on the ambiguous nature of the self (who is Stanley), of agency (the narrator prescribing choices and the player executing them) and reality (Mariella thinks she can discern what is real). Therefore, this last comment can be read as a critique on those player who still believe this game will eventually turn out to be a traditional storytelling videogame, where in the end it is clarified what the objective and absolute truth of the situation is. Again we see the common ground with disorders on the schizophrenic spectrum, where we can only speak of a thin line between functionality and dysfunctionality not one of absolute 'sanity' or 'insanity'.

Taking what we know now of the narrator's meta-commentary, a fundamental difference in how *Bandersnatch* deals with the theme of schizophrenia in the narrative has become apparent. Generally speaking, the story of *Bandersnatch* still focusses on how Stefan is developing a videogame. In *The Stanley Parable*, there is nothing else for the player to focus on than the story that the narrator builds through the meta-commentary. This way, the commentary can be given more directly and perhaps also be received my directly by the players. *Bandersnatch* has much more complex dynamics between the viewer and the storyworld than in *The Stanley Parable*. In *Bandersnatch* the camera is an anonymous embodied other, Stefan is a character in the storyworld, the viewer stands outside the storyworld and yet they can somehow alter it from a God-like perspective using buttons and a timer that pop-up on the screen. Because of this, the viewer has more difficulty to get a grip on the justification of their interactivity. Stefan's psychosis supposedly provides a tool for that, although an ill-mannered one. In *The Stanley Parable* the player is arguably more embodied, because lacks it some of these complex dynamics. As stated before, the game employs the first person perspective, in which the game body and the avatar overlap and are both controlled by the player simultaneously. Therefore all that remains as the result of interaction is the story that Stanley/the player enact together with the narrator. Contrary to *Bandersnatch*, this videogame has practically no visible interface. This also helps

to combat the alienation that arises when the player fulfils that double role of creator/consumer in a narrative. In *Bandersnatch* the player temporarily suspends their immersion into the narrative to make a choice at a node. In *The Stanley Parable*, this is never necessary. Walking and looking around with the help of the keyboard and mouse is all that has to be done. Normally, one would have to click a certain specified area to perform an action. Here looking in the general direction of the object and clicking is enough. The first person perspective and the lack of interface make that *The Stanley Parable* provides a good example of how to partly overcome the clash of interactivity, narrativity and immersion. When the impossibility of true interactivity is integrated into the narrative in a provocative way, they become one entity instead of two opposing ones. On top of that, when one considers the use of internal ontological interactivity from a first person perspective, in combination with the practically absent interface, the game has also worked towards providing a well-founded spatial and emotional immersion. I do not claim that this game has totally overcome the impossibility of incorporating proper interactivity, narrativity and immersion in one narrative, yet it does deserve recognition since it is an exceptionally well executed attempt.

It is beneficial that this videogame has achieved this, especially in light of ameliorating the representation of the experience of a schizophrenic disorder. What this narrative has shown, is that it is the intrasubjectivity of videogames that has the most potential of generating better immersion and therefore hopefully a better understanding of the experience in general. In this case: Stanley's confusion becomes the player's confusion. Bringing them a little bit closer to that experience of a schizophrenic disorder than for example in *Bandersnatch*, where the viewer is partly the cause of the psychosis. Although I do have to say that the reason that the theme of dysfunctionality was so prominent in this videogame, and therefore the interactive form and dysfunctional content could be connected in the mind of the player, was because of the narrator. I do not yet see how other videogames that do not make use of the concept of a narrator, who is constantly calling out the character as well as the player, could also achieve this desired effect. If any other videogame would want to tackle the theme of schizophrenia, they would do good to follow the ideas behind the design of *The Stanley Parable*. What makes the design outstanding is specifically the effort the game has put in making people aware of the split between self/avatar, between the real world/storyworld and between own body/game body that all of these interactive mediums necessarily possess. Not only does it make people aware of this split, but it also raises a question. In the light of the condition of schizophrenia, it becomes more ambiguous and even questionable if one can draw a clear line between all these oppositions at all.

Chapter 6: *Ver Binnen*

The medium virtual reality has already been mentioned multiple times in previous chapters, yet this chapter will discuss the properties of the medium more extensively. It has been hinted at already that virtual reality possesses some new and (due to its relative novelty) largely unexplored abilities to situate a person inside a storyworld. The case studies presented in the previous two chapters really presented a clear storyworld and narrative to the viewer. Although both the characters Stanley and Stefan show symptoms that are in line with those on the schizophrenic spectrum, the subject matter of their narratives is ultimately about something else; a game developer who is programming a videogame and an office worker who is finding out what has disturbed his routine[4]. The case study discussed in this chapter is decidedly different since it has no other subject matter than the experience of a schizophrenic disorder. Therefore *Ver Binnen* is very well suited to help research the question how a medium that is known for its properties that allows viewers to have a seemingly unmediated experiences, as if they were effectively experiencing something themselves, can aid representing the experience of a schizophrenic disorder.

The term 'virtual reality' (VR) holds a certain contradiction. 'Virtual' has an array of different meanings ranging from "as far as essential qualities or facts are concerned" to "as good as" (www.etymonline.com). This means that this medium claims to provide an experience that resembles the essential qualities of a world so well, that it seems almost exactly in line with what we normally identify as intrinsic qualities of the real world we live in. Yet, exactly because it is virtual, it can never be actual. The idea that this medium, as opposed to hundreds of others, can accomplish this is attributed to a few medium-specific features. The first is head mounted displays, or HMD's for short. Originally, the HMD's were introduced in the US army. With the use of infrared camera who broadcasted live footage from example from their position underneath a plane to an HMD (Grau 163). This way, the eyes of the military men effectively replaced the cameras, creating a telepresence (Grau 163). Now the images are usually computer generated, yet the basic workings of the HMD has not changed. They close off your entire range of vision, so you cannot receive external visual stimuli. There are two glasses (sometimes integrated into a single screen), one for each eye with a slightly different image. Since these are so close to the eyes the images merge into one, creating a 3D effect. The main interactive aspect that even the simplest HMD has is head-tracking. There are sensors in the HDM that trace the movements of the head and recalibrate the image according to these data (Grau 163).

[4] As already remarked in chapter five, *The Stanley Parable* has many different paths for the player to take and not all paths focus as much on the questions of the self, control and sanity as the path that I described in chapter five does.

Because of head-tracking virtual reality can use its characteristic 360 degree images. The offscreen space, as it exists in cinema, can be accessed in virtual reality when the viewer turns their head.

There are many different virtual reality experiences, some resemble more closely to film, others resemble more closely to videogames and again others have more in common with experimental art installations. A simple, general description of VR would be "any kind of interactive, and fully immersive digital experience" (Herson 854). I would like to add some emphasis to this description, namely that important to note that virtual reality is not necessarily a storytelling medium. Nowadays a majority of the VR experiences, especially those for entertainment purposes, do possess a narrative. Yet, there is also a large category that resemble more closely to simulations. For example the experiences where the viewer can ride a rollercoaster or dive with sharks in VR. The interaction that Herson describes can be said to be at least the interactivity that enables the viewer to turn their gaze in any direction they choose at any time. Effectively, it can be said, that they are able to 'edit' the scenes for themselves. Now, the 'fully immersive' part of Herson's description requires quite a side note.

When virtual reality was first made available for the general public, the consensus was that the medium had a naturally high immersive quality. The fact that many outside stimuli are blocked and that there is often no visible interface in the experience largely contributed to this idea. Fernanda Herrera, a quantitative VR/AR researcher states the following: "Unlike traditional media, the high level of immersion, feeling of presence, and the ability to vividly experience any situation from any perspective, may uniquely position VR as an effective perspective-taking medium" (Herrera et al. 4). This idea that virtual reality is a unique medium in the sense that it really has the ability to place you as a viewer in somebody else's shoes had already longer taken hold of the VR research space, Herrera rightfully claims (2). A good example that comes to mind is Chris Milks influential TED Talk: "How Virtual Reality can Create the Ultimate Empathy Machine" (Milk, *TED*, 1,6 million views as per December 2020). He claims that more than any kind of fictional narrative or documentary would be able to do, virtual reality could snatch the viewer from their excluded safe spectator position and immerse them into a world unknown to them in such a way that they would experience high cognitive and emotional empathy for people in different subject positions than themselves (Milk). The company he co-founded produced the virtual reality film *Clouds over Sidra* (Arora & Milk 2015) in collaboration with the United Nations on the subject of the refugee crisis. The production of this type of humanitarian virtual reality film was not an anomaly at the time. On the website of the "United Nations Virtual Reality" alone one can find more than thirty VR films with similar themes.

However, the extensive immersive qualities attributed to VR might be overrated says professor Janet Murray in a recent essay. She takes a stand against "magical thinking about VR

technology" (Murray 13) . I agree with her when she claims that the "ultimate empathy machine" that Chris Milk describes is such a form of magical thinking about VR technology. When he claims that rich old men in business suits have, through *Clouds over Sidra*, really taken the position of a Syrian refugee girl and were correspondingly affected by it, he is forgetting that we are not magically leaving our physical body somewhere (Murray, 13- 14). In order to attain and sustain immersion, a certain threshold is needed to separate our reality from the other reality, like the fourth wall in theatre. When an environment is interactive, this can be a threshold object to take the viewer over the boundary between the two worlds: "something that has physical existence in this world but agency in the imagined world. The VR headset and hand controllers function in this way" (Murray 18). Her main point of critique is that one should not confuse the magical novelty of a medium with it being unique and possessing unparalleled powers. Murray states: "Madary and Metzinger present VR as if it were an entirely new phenomenon, divorced from other cultural rituals and genres (…)". She is right to note that this is not the case. As discussed in the writings of for example Jonathan Crary or Oliver Grau, there are older forms of visual entertainment, optical toys, that can arguably be viewed as predecessors to virtual reality. It would therefore be very uncommon that another medium of representation would not be processed by the brain in its appropriate cultural context and appropriately making the distinction between fiction and reality, just like it has done for other writing and moving images (Murray 20). Ultimately, she argues that it is the novelty of the 360 degree images that creates this magical effect. Once that has worn off, ultimately the user will feel that "(…)the world does not respond as you expect it to because the designers have not included most actions you immediately think of taking" (Murray 22). She refutes the bold claims by for example Chris Milk with the notion that not any situation can be accessed from any point of view, take only eating a meal or wrestling a bear (Murray 14).

The same conclusion, that the medium virtual reality is not inherently connected to an increase in empathy, has also been reached in a clinical psychology research conducted by Sriram Kalyanaraman and colleagues. As early as 2010 they already concerned themselves with the question whether a representation of an experience of schizophrenia would help biased people change their views on people with a disorder on the spectrum. They tested four conditions on participants (N=112): virtual simulation of schizophrenia, a written empathy-set induction of schizophrenia, a combination of both the simulation and the written empathy conditions and a control condition (Kalyanaraman et al. 437). Although the empathy measures were equally high in the simulation condition and in the combination condition, the former resulted in a greater desire of participants to socially distance themselves from people with a disorder on the spectrum. Whereas when the written empathy-set condition was added, more positive perceptions towards these people were recorded.

This sidestep serves the purpose to show that uncritically taking VR for the most emotionally immersive medium yet invented, as some VR scholars are inclined to do, is not by definition accurate. Yet I also do not entirely agree with Murray's point that VR's impact only rests on its novelty and is ultimately not different from any other representational medium once this novelty has worn off. In the two chapters prior to this one we have seen an interactive film in which the spectator stood entirely outside of the narrative, and a videogame where the player and the avatar assimilated up to a certain extent. I do think that VR's ability to provide an internal and sensory experience has significant advantages as opposed to other representational mediums, provided that the form and content are in accordance with each other. *Ver Binnen* is such a VR experience where the form and content succeed in doing that.

Ver Binnen was created by Studio Apvis director Jenny van den Broeke, based on the book *Vandaag Koop Ik Alle Kleuren* [*Today I Buy All Colors*] written by Karin Anema. The VR-experience is available both as head-turn VR and room-scale VR. In the version that makes use of head-turn VR the viewer stays stationary inside the world and can rotate their gaze 360 degrees. In the room-scale VR version, the viewer can also walk around in an approximately two square meter radius, and pick up and manipulate selected objects in the experience. *Vandaag Koop Ik Alle Kleuren* tells the life story of a man with the diagnosis schizophrenia named Ton. Anema was close friends with Ton and together they saw to it that the reconstruction of his life was to his agreement. Ton was an artist, and he kept folders full paintings, drawings, sketches and other creative projects perfectly ordered in his attic. Because of these artistic expressions, he could show what his mental state was like at certain points in his life. The director Van den Broeke has 'translated' the stories that his art tell by making a digital representation of parts of it, as well as animating them in accordance to Ton's accounts of his active psychotic periods. In addition to the images, a voice-over was added that is largely made up of direct quotes from Ton.

This results in quite an overwhelming experience that thrives on Ton's form of thinking that closely relates to free association. Because of this it is quite difficult to summarize the fabula of the ten minute VR experience. I do however claim this VR experience has a narrative for the reason that the creators have stated on multiple occasions that this is not a simulation of psychosis. There is not one way of simulating one since every psychotic episode is unique for every person experiencing it. What is represented in *Ver Binnen* is an explicitly artistic approximation of what Ton's psychotic experience felt like to him. It is the voice-over (which represents Ton's voice) that provides the experience with the necessary narrative layer, even though it never explicitly invites the viewer into his mind, nor steers the viewer in what they should see.

Before analysing *Ver Binnen* further, I quickly pose the question of what symptoms of schizophrenia one can more easily represented in a VR experience, and which are more difficult. In chapter two it has been discussed that delusions are false beliefs that people may hold in their minds. Outsiders can know that they are false when those experiencing them talk about them or react to them, for example when they start sweeping the house for electronic listening devices. Thoughts are difficult to represent visually, especially from a unmediated first person perspective. Hallucinations however, are perceptual experiences and therefore perfectly in line with the first person perspective in VR. As far as the description of auditory and visual hallucinations go as per chapter two, what is represented in *Ver Binnen* somewhat deviates from that. It especially deviates from the notion that auditory hallucinations are more common than visual ones. In *Ver Binnen* visual hallucinations are exceptionally prominent and they range from humanoid shadows to dancing lines to a huge sun that seems to turn black. This deviation could be explained by the fact that Ton, as an artist, was more visually oriented. On top of that, this representation was realized with the help of Ton's art. This means that the way these visual hallucinations are represented might have less in common with his hallucinations on a day-to-day basis, and more in common with the feelings and experiences Ton had when he was in a psychosis. In addition to this, the auditory hallucinations that are represented on the audio track of *Ver Binnen* are not necessarily in line with the almost stereotypical idea of a cacophony of multiple voices that can be heard in one's head. Despite the recurring remarks of viewers that they were not very aware of the soundtrack since they were so struck by the visuals, the audio track is arguably more important in *Ver Binnen* than the video track in the representation of schizophrenia. One example is a direct quote from Ton that demonstrates the symptom labelled as disorganised thought and speech: "Man –Vrouw is de biologische tijdschaal. Argongolflengte bij 8 graden Celsius. Aktie radius vanuit Veghel is 4 x 10 tot de tweede = 400 jaar. De opstand van de Bossche Gilden tegen de Bossche Burgerij. 1579"[5] (*Ver Binnen*). For Ton this sentence made perfect sense, especially in combination with certain visuals that naturally connected these ideas for him. Anema has stated that once you would open yourself to sentences like these instead of writing them off as gibberish, asking Ton to explain it, they would indeed make sense, although from a different viewpoint. In addition to disorganized speech, there are other interesting auditory hallucinations to be found in *Ver Binnen,* for example loud sirens or seemingly close footsteps. These are equally interesting in terms of the representation of schizophrenia. However, these will be discussed further in the section on interactivity and conceptualization of the viewer.

[5] "Man -Woman is the biological timescale. Argon wavelength at 8 degrees Celsius. Range from Veghel is 4 x 10 to the power of 2 = 400 years. The revolt of the Bossche Gilden against the Bossche Bourgeoise. 1579."

When considering Ryan's categories of interactivity, *Ver Binnen* falls into the uncommon category of internal exploratory interactivity. There is no doubt that the viewer is operating from inside the storyworld. As in a fair amount of videogames, the viewer operates from a first person perspective in the storyworld. There is no film body, an anonymous conscious other, with whom together the viewer witnesses the events of the narrative. The intrasubjective game body is a definition that is also very fitting for this type of virtual reality experience. This also where the interactive agency of the viewer comes in. It is difficult to place *Ver Binning* in one of the levels of interactivity as Ryan proposes them. The viewer most certainly cannot influence the order of the events in the narrative as in a hypertext. On the other hand, the idea of the interactivity in *Ver Binnen* leading to real time story generation can either be laughingly dismissed or argued in favour of. Conventional examples of this kind of interactivity are interactive role-playing games such as *Dungeons and Dragons,* and *Ver Binnen* does not come close to that level of real-time story generation. However, I would argue in favour of this definition since the film body that normally would have the agency to select which visual the viewer is allowed to see at specific times is discarded. While some viewers might not even view turning their head as a form of interactivity it is quite significant. One could counterargue that this is nonsense since the director can easily make the main events of the narrative take place in one direction at a time, basically forcing the viewer to look that way. However, that is assuming there is an unambiguously defined direction to look at all times. For example when characters are in dialogue, it would make little sense to turn around so that they are offscreen. What if there is no such defined direction? Earlier in this chapter I stated that the experience has much in common with free association, one of Ton's forms of thinking when experiencing a psychotic episode. Since the narrative is shaped according to a free associative form, there is no hierarchy between all the different visual and auditory cues that the viewer may experience. Essentially: there is never a right or wrong direction to look at. This usually becomes clear when all viewers discuss their experience at the end of the presentation. Some would say that the penis-shape that detaches itself from a flesh-coloured block made them very uncomfortable. The penis is keeps lying on the ground for about a minute. However, usually a quarter of the viewers have not seen it.

As I suggested before, next to the head-turning technology, sound also plays an important role in conceptualization of the viewer in the storyworld. On the one hand there is Ton's voiceover. Most of the sentences are uttered as if he is orating, to an audience that will never answer because they would not understand anyway. Apart from the voiceover, there is an array of different sounds to be heard in the experience. Usually the viewer looks around for the source of the sound. A film usually provides a reverse shot of an ambulance when a character hears a siren. Here however, when an proportionately loud sound of a car or a siren is heard, the viewer searches the whole 360 space to

find it. Yet as it turns out, they can never find it since these noises represent auditory hallucinations. The same is true for footsteps that are heard somewhere in the middle of the experience. The viewer perceives it as if someone in heels in walking around them at very close proximity. Then a female voice says (translated): “Do you see what he is looking at? I do not see it either” (*Ver Binnen*). This moment is very important for pinning the viewer inside the narrative: instead of the observer, they become the observed. They find themselves in another world than the voices on the audio track do. Some viewers express unease with the fact that they could not discern whether some of these noises and voices that had no visual counterpart were part of the VR experience or happening outside in real life. Karin Anema usually tells these people: “That is a good thing, since Ton did not have that either. You are able to check the origin of these sounds by taking off your HMD and headphones, but Ton could not”.

In this chapter it has been showed how much virtual reality can really aid in representing the experience of a schizophrenic disorder. It is indeed true that VR cannot do every type of experience justice, as Murray states. However, the dysfunctionality of psychosis is something that really clicks with the internally interactive and sensory experience that virtual reality can provide. Take the example that was given earlier, that the viewers have not always seen the same visuals or taken note of the soundtrack. This is very much in line with the disappearance of hierarchy of sound and image: Ton’s loose associations just come and go. The viewer can experience these feelings without the presence of a clear mediator, yet with the help of a threshold instrument (the HDM) it makes it all the more fitting. The ultimate goal of *Ver Binnen* as stated by the creators is to combat the stigma on people with a schizophrenic disorder. This cannot be achieved if people would only view this artistic representation of schizophrenia as a spectacle; as the effects of an advanced optical toy that result solely in visual pleasure. That is also what happens when viewers drown themselves in the marvel technology of 360 images, the so-called magical thinking ensues. Although it gives the initial illusion of raised immersion, they do not really reach that desired level of empathy: to really reach the point of view of another. This is the same conclusion that is reached in the research of Kalyanaraman and colleagues. Only a virtual reality experience undoubtedly brings about an intense response, just not the desired one. That is why the creators have decided that that Anema’s lecture and the VR experience should, if it can be helped, not be presented separately. It takes more than technology alone to create credible virtual reality worlds with credible immersion. It takes novel ways of conceptualizing the viewer as being internal to the storyworld. Both in this and in creating the right context around the experience, *Ver Binnen* definitely succeeds. Virtual reality at its core concerns itself with being unable to discern what is real and what is not. The most important notion to gain from this case study is that here schizophrenia does not function as a tool to excuse the interactivity or dysfunctionality of the narrative, but really an experience mediated by a correctly fitting medium.

Chapter 7: Conclusion

In the introduction of this thesis I posed the problem that it is somewhat difficult to narratively represent psychotic disorders, and specifically disorders on the schizophrenic spectrum. On the other hand I made the observation that newer interactive mediums seem to incorporate the topic of disorders on the schizophrenic spectrum very frequently. This led me to pose the following research question:

How can interactive narratives of different mediums aid in the representation of an experience of a schizophrenic disorder?

What I hope to have accomplished by writing this thesis, is to have established a connection between the form of an interactive narrative, and the representation of a schizophrenic disorder. A connection that may have seemed coincidental to an unperceptive viewer before reading this thesis, but one that should not be anymore. Interactive narratives in general can most certainly attribute to the representation of an experience of psychotic disorder in a way that linear narratives have trouble to do. This insight may be underrepresented, but it is not new. In chapter three I have already discussed that Marie Laure Ryan briefly touched upon this topic with the idea that hypertexts are dysfunctional as opposed to linear narratives. She also lists a few examples where the characters in the narrative suffer from different mental disorders. Yet, not all interactive narratives operate in the same way as hypertexts. That is why separate analyses of different mediums are so important: in order to compare in what way their respective forms can aid in the representation of an experience of a schizophrenic disorder.

The interactive film, as *Bandersnatch* has shown, resembles a classic hypertext the most out of the three different mediums that have been analysed. The experience of schizophrenia that is represented in this interactive film is really the experience of the character, and less so that of the viewer. Due to the difficult position the viewer finds themselves in- floating above the narrative, while selecting and steering the events in their desired direction- it is difficult to feel embodied in the narrative. In general this has a negative impact on emotional immersion. On the other hand, the dynamic that arises from simultaneously creating and consuming the narrative causes an interesting friction. A friction that is amplified in *Bandersnatch* when the main character addresses the clicking viewer from inside the narrative. I believe this friction is interesting because it complements the dysfunctionality of a schizophrenic disorder. This extends into the idea that a character in an interactive film who suffers from a form of schizophrenic disorder is perceiving the situation correctly and behaving appropriately to their thoughts and beliefs. So although this medium has some

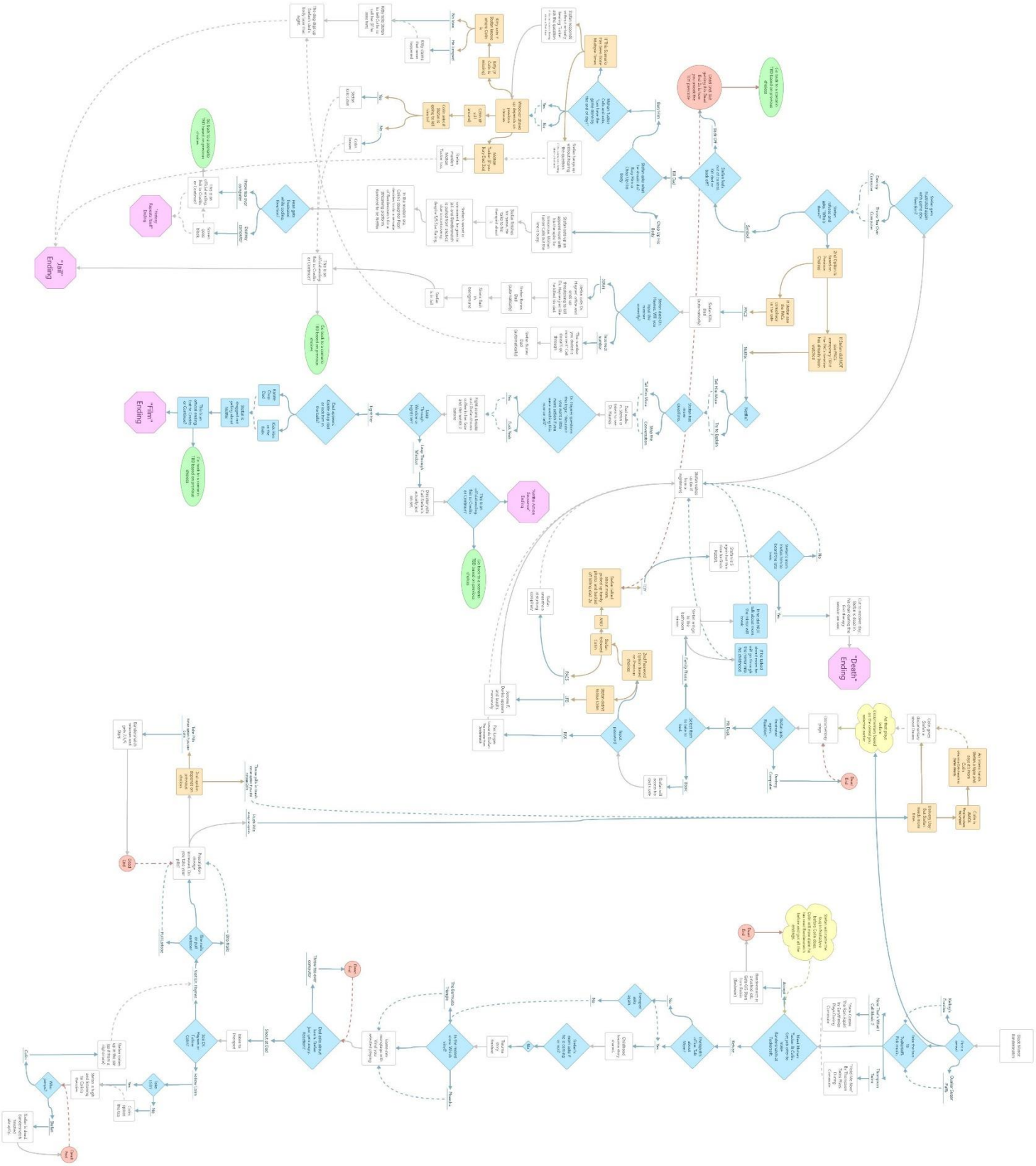
drawbacks when it comes to the immersion of the viewer into the narrative, they can really present the dysfunctionality of an interactive narrative structure and its relation to the dysfunctionality of schizophrenia to the viewer.

In videogames, the intrasubjectivity of the first person perspective creates a considerable overlap between the character and the player. In *The Stanley Parable* we saw the narrator fulfil quite a unique role, in which his meta-commentary calls out the control that the player has over the character, and how the character perceives this control. This really sheds light onto the very thin and obscure line between sanity and insanity. This type of reflection is quite similar to what interactive films are able to achieve, as I have described earlier. However, due to the intrasubjectivity there is more opportunity to share in this experience of obscured sanity and insanity: a feeling that is shared between the character and the player. A videogame scenario with a more defined embodiment can really help clarify all the different splits that exist when playing a videogame: those between self and avatar, between the real world and the storyworld, and between one's own body and the game body. By using 'clarify' I do not mean to say 'make unambiguous', I mean that better defined terms can pave the way for more coherent thoughts on the workings of these splits. Where does one start and the other end? A doubt that really fits the experience of a schizophrenic disorder.

Virtual reality has been praised by many to be a medium that can convey any kind of experience as if people were living it themselves. As demonstrated however, virtual reality is not magically the most immersive medium to date. To ensure it can achieve a high form of emotional immersion, even after the novelty of the technology has worn off, the content and the abilities of the medium should be in accordance with each other. *Ver Binnen* provided a few examples of how to properly do this if the content is the experience of psychosis and schizophrenic disorder. The free associations of thoughts is easier to represent in virtual reality than in most linear narratives since the viewer is able to look at any direction at any time, and one visual has no hierarchy over the other. Visual and auditory hallucinations are also well fitted to be represented in virtual reality. What is unique to the medium, is being able to completely close off oneself from the outside world by the means of the HMD. Because of this divide, it is sometimes possible to recreate the feeling of being observed, instead of being the observer. When viewers are confused about whether a certain auditory hallucination is part of the virtual reality experience, or if somebody in the room is making noise, they proceed to test this by removing their HMD's or headphones. One can than hope that something clicks about the real experience of life with psychosis, where a threshold object like an HDM to test one's senses is not available. The representation of psychosis or schizophrenia in the medium virtual reality could therefore potentially be an experience that leads to a real sense of understanding of the disorder. Provided that it is properly framed with enough background information.

In conclusion, these three mediums all have aspects that are better than the others at showing certain aspects of the experience of a schizophrenic disorder. What they do have in common is the ability to contest the idea that schizophrenia is 'the dysfunctional' that is distinct from, and the polar opposite of, 'the functional'. The reason for this ability is that interactive narratives are in essence dysfunctional, therefore they are well equipped to represent the difficult and variable experience of schizophrenia. My findings provide opportunities for further research on the link between interactive narratives and the representation of the dysfunctionality inherent to disorders on the schizophrenic spectrum. This thesis has, by means of a comparative overview, already created a starting point for that.

Appendix 1: *Bandersnatch* Choices Map



Garcia, Janet et al. "Bandersnatch Choices Map". *IGN*. Published: 11-01-2019. https://www.ign.com/wikis/black-mirror/Bandersnatch_Map_-_All_Choices_and_Outcomes

Appendix 2: Transcript of the narrator's voice-over of the 'Mariella Ending', also called the 'Insanity Ending'.

But Stanley just couldn't do it.

He considered the possibility of facing his boss, admitting he had left his post during work hours, he might be fired for that. And in such a competitive economy, why had he taken that risk?

All because he believed everyone had vanished? His boss would think he was crazy.

And then something occurred to Stanley: Maybe, he thought to himself, maybe I am crazy. All of my co-workers blinking mysteriously out of existence in a single moment for no reason at all?

None of it made any logical sense. And as Stanley pondered this he began to make other strange observations.

For example, why couldn't he see his feet when he looked down? Why did doors close automatically behind him wherever he went?

And for that matter, these rooms were starting to look pretty familiar, were they simply repeating?

No, Stanley said to himself, this is all too strange, this can't be real, and at last he came to the conclusion that had been on the tip of his tongue, he just hadn't found the words for it.

I'm dreaming! he yelled, This is all a dream!

What a relief Stanley felt to have finally found an answer, an explanation. His co-workers weren't actually gone, he wasn't going to lose his job, he wasn't crazy after all!

And he thought to himself, I suppose I'll wake up soon, I'll have to go back to my boring real life job pushing buttons, I may as well enjoy this while I'm still lucid.

So he imagined himself flying, and began to gently float above the ground.

Then he imagined himself soaring through space on a magical star field, and it too appeared!

It was so much fun, and Stanley marvelled that he had still not woken up. How was he remaining so lucid?

And then perhaps the strangest question of them all entered Stanley's head, one he was amazed he hadn't asked himself sooner:

Why is there a voice in my head, dictating everything that I'm doing and thinking?

Now the voice was describing itself being considered by Stanley, who found it particularly strange. I'm dreaming about a voice describing me thinking about how it's describing my thoughts, he thought!

And while he thought it all very odd and wondered if this voice spoke to all people in their dreams, the truth was that of course this was not a dream. How could it be?

Was Stanley simply deceiving himself? Believing that if he's asleep he doesn't have to take responsibility for himself?

Stanley is as awake right now as he's ever been in his life.

Now hearing the voice speak these words was quite a shock to Stanley. After all, he knew for certain beyond a doubt that this was, in fact, a dream!

Did the voice not see him float and make the magical stars just a moment ago? How else would the voice explain all that?

This voice was a part of himself too, surely, surely if he could just....

He would prove it. He would prove that he was in control, that this was a dream.

So he closed his eyes gently, and he invited himself to wake up. [Stanley closes his eyes] He felt the cool weight of the blanket on his skin, the press of the mattress on his back,

the fresh air of a world outside this one. Let me wake up, he thought to himself.

I'm through with this dream, I wish it to be over. Let me go back to my job, let me continue pushing the buttons, please, it's all I want.

I want my apartment, and my wife, and my job. All I want is my life exactly the way it's always been.

My life is normal, I am normal. Everything will be fine.

I am okay.

[Opens eyes and sees that it didn't work]

Stanley began screaming: “Please someone wake me up! My name is Stanley! I have a boss! I have an office! I am real!”

[Screen slowly tints red, music and Narrator grow more frantic]

“Please just someone tell me I’m real! I must be real! I must be! Can anyone hear my voice?! Who am I? Who am I?!”

And everything went black.

This is the story of a woman named Mariella.

Mariella woke up on a day like any other. She arose, got dressed, gathered her belongings, and walked to her place of work.

[Screen shows an aerial shot of a man (presumably Stanley) lying face-down on the sidewalk. Mariella is standing near, looking at him and covering her mouth in shock, suitcase on the ground by her feet.]

But on this particular day, her walk was interrupted by the body of a man who had stumbled through town talking and screaming to himself and then collapsed dead on the sidewalk.

And although she would soon turn to go call for an ambulance, for just a few, brief moments, she considered the strange man.

He was obviously crazy; this much she knew. Everyone knows what crazy people look like.

And in that moment, she thought to herself how lucky she was to be normal.

I am sane. I am in control of my mind. I know what is real, and what isn't.

It was comforting to think this, and in a certain way, seeing this man made her feel better. But then she remembered the meeting she had scheduled for that day,

the very important people whose impressions of her would affect her career, and, by extension, the rest of her life.

She had no time for this, so it was only a moment that she stood there, staring down at the body.

And then she turned and ran.

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Glossary:

Term	Definition	Page
Psychotic	Experiences and beliefs that are out of touch with reality.	6
Delusions	Ideas and beliefs that are out of touch with reality.	8
Persecutory delusions	False belief that a person is being followed, watched or conspired against.	8
Delusions of reference	Associating everyday events, object or people with oneself.	8
Delusions of being controlled	False beliefs in regard to the external manipulation of one's mind.	8
Delusions of broadcasting	Idem	8
Thought intersection	Idem	8
Thought withdrawal	Idem	8
Hallucinations	Perceptual experiences of any of the senses that are out of touch with reality.	9
Auditory hallucinations	Hallucinations related to hearing.	9
Visual hallucinations	Hallucinations related to vision.	9
Loose association / derailment	When a person slips from one topic to the other without coherent transition when speaking.	9
Spatial immersion	Response to a spatial setting in the narrative.	12
Temporal immersion	Response to the events in the narrative.	12
Emotional immersion	Response to the characters in a narrative.	13
Text as game	Text or language games that are constituted by rules and played for their own sake. Example: Pig Latin.	13
Text as play	(Story)worlds disappear completely and dysfunctionality takes over as an inconsequential form of play in which nothing matters but insignificance.	14
Dysfunctionality as play	The gradual disappearance of all (textual) structures for the sake of dysfunctionality.	14

External-exploratory interactivity	The user interacts with the storyworld from a God-like perspective. They cannot make lasting changes.	15
External-ontological interactivity	The user interacts with the storyworld from a God-like perspective. They can make lasting changes. They are not in full control over the consequences of the changes.	15
Internal-exploratory interactivity	The user operates from inside the storyworld, yet they cannot make lasting changes. Comparable to playing tourist.	16
Internal-ontological interactivity	The user operates inside the storyworld. They can make lasting changes.	16
Nodes	Intersection points/ decision points in interactive narratives.	16
Branches	Short pieces of linear narrative that can be explored with the use of nodes.	16
The network structure	The user is able to loop back and cross nodes multiple times in the same narrative.	16
The tree structure	The user is not able to loop back and there is only one way to reach a particular node.	17
The maze structure	The goal of the narrative is to find the desirable exit node.	17
Agency	The level at which the user can affect the text.	17
Peripheral interactivity	The user can only affect the level of the signifiers in a text.	18
Interactivity at the level of the presentation of the story	The user can affect the order of events in the storyworld.	18
Variations in a partly predefined story	The user can affect the way of progressing through the story.	18
Interactivity leads to real time story generation	The user can affect virtually everything about the story.	18