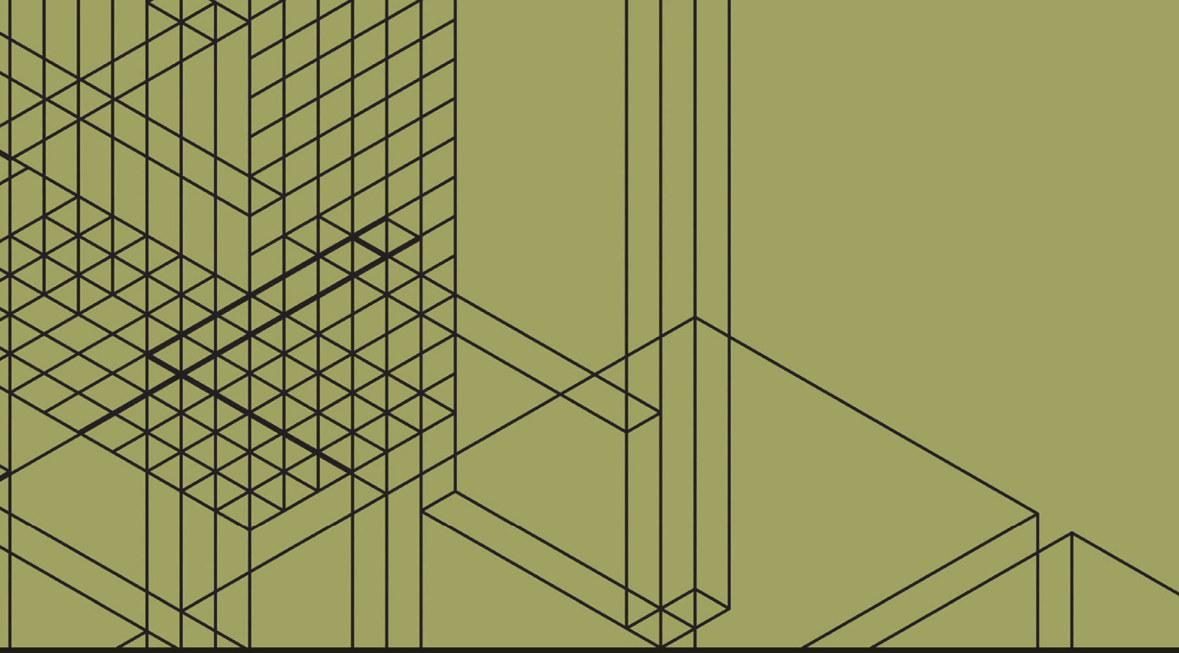
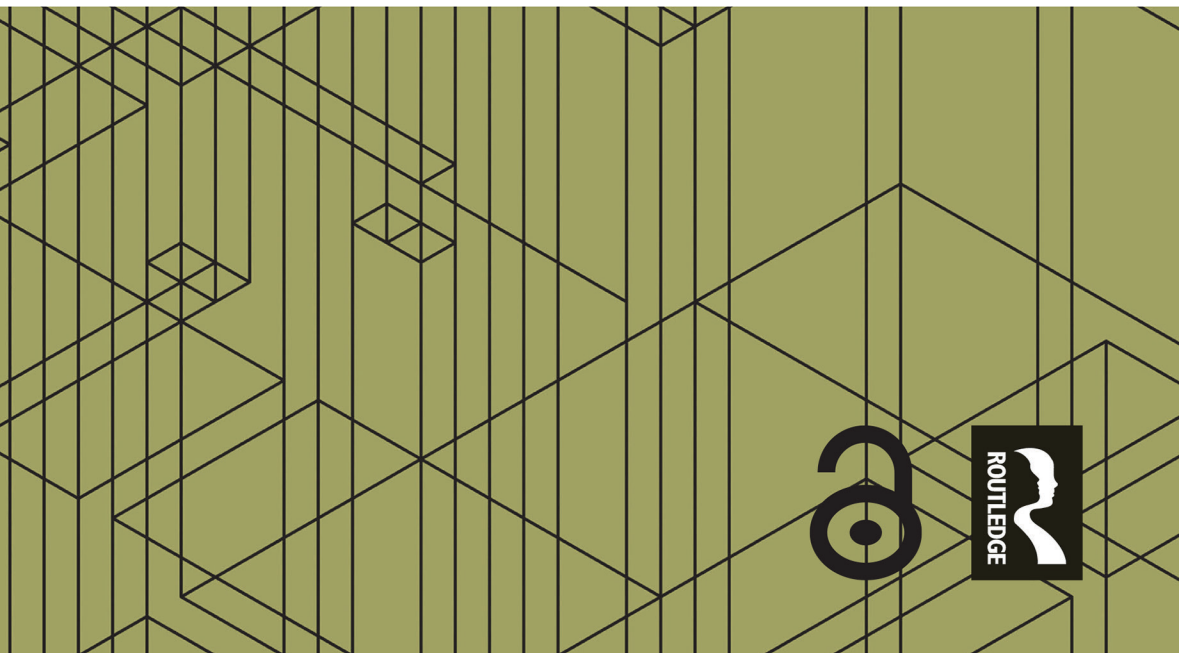


Routledge Advances in Game Studies

METAREFERENCE IN VIDEOGAMES

Theresa Krampe



“This outstanding monograph develops a comprehensive conceptualization of metareference in videogames that systematically takes into account transmedial and medium-specific aspects, offering an impressively broad survey of the metareferential strategies that videogames use as well as a theoretically sophisticated model for the close analysis of videogame-specific forms and functions of metareference.”

- Prof. Dr. Jan-Noël Thon, *Osnabrück University*

“Much has been written about self-reflexivity in games and other digital fictions, about anti-, meta- and paraludic forms and structures. Yet a full-fledged, systematic study on how games can break fourth walls, create metaleptic transgressions and more generally refer to, parody and problematize their own gameness has long been overdue. Krampe’s diligent work delights as much as it enlightens not only the critical, postmodern and/or scholarly reader/player in us, but indeed anyone wishing to understand the unique creative and literally game-changing affordances of a medium more often misunderstood for its apparently one-sided effects than appreciated for its ultimate complexity and innate, deep metareferentiality.”

- Prof. Dr. Astrid Ensslin, *Director of DAS|LAB, University of Regensburg*

Metareference in Videogames

Taking an original, in-depth approach, this book investigates the forms and functions of metareference in videogames.

Drawing on a rich body of research in game studies, transmedial narratology, and neighbouring disciplines, the author combines detailed close-reading-style analyses of the indie games *What Remains of Edith Finch*, *The Magic Circle* and *OneShot* with a breadth of examples and systematic analyses that span multiple genres as well as several decades of videogaming. In doing so, the book maps different metareferential elements that can be found in videogames and proposes an original model for their analysis, while showcasing the complex interrelations among different metareferential elements in contemporary videogames.

This book will appeal to videogame researchers and transmedial narratologists as well as to those interested in metaization in media and popular culture across disciplines.

Theresa Krampe is a Postdoctoral Research Associate at the International Center for Ethics in the Sciences and Humanities (IZEW) at the University of Tübingen, Germany, and a Guest Researcher in Media Studies at Osnabrück University, Germany.

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Metareference in Videogames

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- Krampe, Theresa. 2023. "Rewriting Rules: Changing Worlds: Diegetic and Ludic Forms of Metareference in *The Magic Circle*." *Frontiers of Narrative Studies* 9.1: 137–157.
- Krampe, Theresa, Stephanie Lotzow, and Jan-Noël Thon. 2022. "Playful Poetics: Metareferential Interfaces in Recent Indie Games." *Poetics Today* 43.4: 729–771.
- Krampe, Theresa. 2021. "The World Machine: Self-Reflexive Worldbuilding in *OneShot*." In *Game | World | Architectonics: Transdisciplinary Approaches on Structures and Mechanics, Levels and Spaces, Aesthetics and Perception*, edited by Marc Bonner, 187–200. Heidelberg: Heidelberg University Press.

1 Introduction

Imagine yourself sitting before a screen, controller in hand, engrossed in a suspenseful videogame. In the world of the game, you take the role of a hyper-powerful military man about to complete a very important mission. Having fought, sneaked, and killed your way through various levels, the only thing standing between you and your objective is the boss; a particularly strong enemy whom you are eager to defeat. As you ready your weapons, however, things take an unexpected turn. Unimpressed by your guns and muscles, the antagonist begins to taunt you: "I see that you like Konami games. […] You are somewhat reckless. You have not saved often." While by all rights your military man should feel confused by the unexpected reference to the game developer Konami and the recommendation to "save" their game more often, you, the player, will perhaps remember that you installed another game by the developer Konami on your console, or that you were, indeed, a little negligent about saving your progress. Shortly after, the fight reaches its climax when the game urges you, the player, to get up from your sofa and unplug the controller to disrupt the psychic abilities of your enemy and give your player character the chance to deliver the final blow. Pointedly shattering the so-called fourth wall between player and game, the boss fight against Psycho Mantis from the stealth game *Metal Gear Solid* (1998) redefined the parameters of metareference as we know it from "established" media such as literature or film and was to become one of the most memorable moments in the history of videogames. Cleverly combining audiovisual storytelling with interactive elements, *Metal Gear Solid* foregrounds the role of the hardware and software on which the game runs and recontextualizes its player as the operator of a console. The game, that is, draws attention to its own mediality as a videogame, challenging the divide between the fictional gameworld and "real life" in the process.

Self-reflexivity, especially in its humorous uses, has arguably been going strong in videogames from the start—only think of the quirky self-references in *Zork* (1977) or *Maniac Mansion* (1987) (see also Bonello Rutter Giappone 2015; Neitzel 2007; Rapp 2007). However, *Metal Gear Solid*'s experimentation with game mechanics and even hardware anticipates the emergence of new and medium-specific forms of metareference in recent years. From *Spec Ops: The Line* (2012) to *Detroit: Become Human* (2018), and from *The Stanley Parable* (2013)

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to *Inscryption* (2021), AAA and especially indie games have been using not only their multimodal surface layer of representation, but also game rules, mechanics, interfaces, and even the very platform on which they run to exhibit their own artifice. Drawing on a rich body of research derived from game studies, media studies, and transmedial narratology, this book sets out to investigate the forms and functions of metareference in videogames. In doing so, it pursues three main aims: (1) It formulates a theory of metareference in videogames that connects to the phenomenon's conceptualization across media while also accounting for the medium-specific communicative situation in videogames. (2) It maps the different metareferential elements that can be found in videogames and proposes a model for their analysis. (3) It closely examines three case studies that demonstrate the model's analytical value and show how different metareferential elements relate to one another in contemporary videogames.

Denoting instances in which a media text appears to speak about itself, metareference derives most of its theoretical foundation from the extensive investigation of metafiction in the novel. While the phenomenon and its study could certainly be traced back much further, the roots of my understanding of metareference can be found in two seminal monographs that established metafiction as a key concept in literary studies: Linda Hutcheon's *Narcissistic Narrative* (1980), and Patricia Waugh's *Metafiction* (1984). Hutcheon defines metafiction as "fiction about fiction—that is, fiction that includes within itself a commentary on its own narrative and/or linguistic identity" (1980, 1); Waugh speaks of "fictional writing which self-consciously and systematically draws attention to its status as an artefact in order to pose questions about the relationship between fiction and reality" (2001 [1984], 1). What these approaches have in common, and what seems an important observation for videogames as well, is the emphasis on metafiction's interest in exploring different aspects of its own medial identity, which may entail the exposure of the text's fictionality, but also detailed critical considerations of its semiotic and material dimensions. Subsequent years saw the publications of important contributions on metafiction and related phenomena in various media (e.g., Currie 1995; Fludernik 2003; Hauthal et al. 2007b; Mader 2017; Nöth/Bishara 2007; Nünning 2004; Scheffel 1997; Wolf 1993; 2009b; 2011) so that today we are faced with a conundrum of terms and concepts, including, but certainly not limited to, self-reflexivity, self-consciousness, metanarration, and metatextuality as well as intramedial coinages such as metatheatre, metapoetry, metacomics, or metacinema (for concise overviews, see Wolf 2009a, 3–6, 15; Hauthal et al. 2007a, 2).

Seeking to unify these different approaches, Werner Wolf (2009a) proposes metareference as an umbrella term that can be applied across a wide range of media and artefacts, including but not limited to film, theatre, painting, music, and videogames. Metareference describes a form of self-reflexivity in the media that is characterized by the presence of a logically higher level—the eponymous metalevel—from whence the text or artefact can comment on itself as if from the outside. Thereby, it draws the recipient's attention to aspects of its own mediality or exposes the fictionality of its storyworld. The text, in short, comments on itself and thereby invites corresponding metareflections in the recipient (Wolf 2009a, 15–31).

This conceptualization is readily applicable to videogames, and quite often, the strategies and devices they use do resemble those of other media. We may, for instance, note how games like *Max Payne* (2001) or *Thimbleweed Park* (2017) make the fictionality of their characters explicit, or how *Deadpool* (2013) delights in drawing the player's attention to its parodic subversion of genre conventions.

Seductive as these analogies and possible synergies may be, they do not efface the need for medium-specific considerations. Due to their procedurality—i.e., the fact that the behaviour of videogames is based on rules executed by a computer (Bogost 2010 [2007], 4)—the formal characteristics of videogames may differ significantly from those of other media, and this also reflects on the forms of metareference they may use and the topics they address in their self-reflexive commentary. We may, for instance, expect videogames to draw particular attention to their ludic and digital dimensions—to rules, mechanics, algorithms, and code. As a comparatively young medium,[1] we may further expect them to express some insecurity regarding their cultural status and purpose (Ryan 2007a, 269) as well as to self-consciously explore their own formal possibilities (Fest 2016, 4). Meta*games*[2] thus demand in-depth studies of their own as well as a critical reflection of terms and concepts that originate from the study of more traditionally narrative media such as literature and film.

Naturally, neither the popularity of metareference in videogames nor the need for dedicated approaches to its study has escaped notice in game studies. To name but a few, pioneering articles such as Fotis Jannidis's "Metareference in Games" (2009), Astrid Ensslin's work on metaludicity (2014), Bradley J. Fest's "Metaproceduralism" (2016) and, most recently, Agata Waszkiewicz's *Metagames: Games about Games* (2024) have not only contributed new coinages of meta-terms but also integrated medium-specific facets such as game mechanics or player choice in their respective approaches. Fest, for example, emphasizes that videogames are part of a wider informatic and algorithmic turn in the cultural imaginary of the 21st century and as such draw attention to their specifically digital materiality and use their "machinic and operational procedures to reflect upon themselves" (Fest 2016, 9). This leads him to coin the term "metaproceduralism," defined as a "self-reflexive videogame technique that responds to and attempts to exploit (rather than resist or unveil) the informatic, algorithmic logic of cultural production in the digital age" (Fest 2016, 3). A similar increase in scholarly attention can be observed when considering closely related terms and concepts such as self-reflexivity (Ferri et al. 2016), metalepsis (e.g., Bell 2016; Ensslin/Bell 2021, chap. 2; Ensslin 2022; Harpold 2007), the fourth wall break (Conway 2010; Waszkiewicz 2020), or metareferential interfaces (Krampe et al. 2022).

What seems increasingly urgent in the face of this rich and rapidly expanding field is a comprehensive and systematic framework for the study of the different structures, techniques, modes, and devices that can contribute to metareference in videogames; a goal that I seek to meet in this book. However, to do justice to the complexity of contemporary metareferential videogames and to ensure that the analytical framework developed here remains alert to medium-specific affordances

and limitations, it seems necessary to first develop a more concrete understanding of what videogames are, and how they communicate with the player.

The Communicative Situation in (Metareferential) Videogames

Analyzing metareferential videogames means considering several dimensions at once, from the surface layer of the already multimodal forms of semiotic expression via the game's underlying system and its embeddedness in the hardware and software environment of the computer or console, down to its positioning within the contemporary media landscape. To lay the foundations upon which a videogame-specific theory of metareference can be built, and to facilitate the productive distinction between different forms of metareference in the chapters to come, I therefore propose a model of the communicative situation in videogames that distinguishes between different layers. Inspired by the meta-ontological models and perspectives developed by Espen Aarseth and colleagues in a series of presentations and articles (e.g., Aarseth 2011 [2009]; Aarseth/Calleja 2015; Aarseth/Grabarczyk 2018; see also Konzack 2002), this approach differs from seminal frameworks such as Jesper Juul's (2005) classic game model in that it does not aim at a "crisp formal definition" (Aarseth 2011, 51) but advocates a descriptive modelling of game components. In a recent paper on the topic, Aarseth and Grabarczyk (2018) identify four main layers that are typically present in videogames and along which they can be described: (1) The physical layer, which encompasses player actions as well as the physical objects and entities used to play the game; (2) the structural layer, which focusses on computation and game mechanics but also takes into account economic aspects of production and distribution; (3) the surface layer of (audio-visual and haptic) communication and (4) the mental layer, which focusses on the player's understanding and experience of the game (2018, 6–8). While the categories proposed in Aarseth and Grabarczyk's comparatively short paper may seem too general for an immediate application to the analysis of metareferential videogames, the approach as such is certainly instructive and provides a good starting point for modelling (meta)communication in videogames. Not only does it offer a useful way of identifying which layer(s) of the game are primarily affected by a specific metareferential element and how this element can be contextualized within the overall structure of the game but it also conclusively integrates components as diverse as hardware, code, interfaces, signs, or mental models, all of which are part of the player's experience, and all of which may be involved in the creation of metareference or, conversely, may become the subject of the game's self-reflexive commentary.

My own modified version of the model privileges those layers that are involved in the creation and communication of metareference. It also draws on the extensive research available across game studies, transmedial narratology, computer science, philosophy, and related fields to further flesh out the characteristics and elements of videogames that can become involved in metareferential play. With a view to the rather complex metareferential strategies put forth in recent videogames—some of which effectively go beyond the game itself—the model not only considers the

layers of the "videogame proper" (i.e., gameworld and game system) but also the hardware and the software environment of the platform on which the game runs. The latter encompasses the hardware of the computer or console and its software environment, at the forefront of which we find the operating system (OS).[3] In more concrete terms, I distinguish between (1) the hardware of the computer or console; (2) its software environment; (3) the game system; and (4) the gameworld as the main layers of communication in videogames (Figure 1.1). Mediating between these layers, there are various types of interfaces, most of which remain imperceptible to the player and hence take a backseat in the discussion of how games communicate with their players. The exception, naturally, are the user interfaces of the videogame and the OS, which I will return to in due course (on different kinds of interfaces, see, e.g., Cramer/Fuller 2008; Distelmeyer 2017; 2019).

The layer of the hardware corresponds largely to Aarseth and Grabarczyk's "physical layer" (2018, 6–7), and refers to the hardware system, usually a personal computer or console, on which the game is played. From a player-centred point of view, the human interface device (HID) that connects the player to the console or computer and shapes their kinaesthetic experience is particularly relevant to the communicative situation. Input devices such as controllers allow players to perform physical actions; these are then communicated to the game system which translates them into meaningful gestures in the gameworld. The game's output devices such as the screen, sound system, or controller then return sonic, visual, or haptic feedback which is typically made congruent with the narrative and ludic events to enhance player immersion. Game controls are often conventionalized to the point where players no longer consciously think about their hand movements on the controller or keyboard. However, as the example of *Metal Gear Solid* at the start of this chapter shows, metareferential games may deliberately undermine these processes of naturalization to construe moments of intense medium awareness, for example by drawing explicit attention to the presence of the controller and its function as an interface between a human player and the game system.

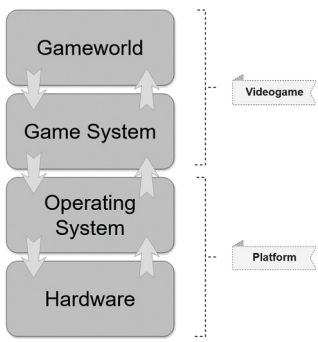

Figure 1.1 Model of the main layers of communication in videogames.

At the heart of the software environment of the platform, we find the OS, which can be imagined as a kind of support system mediating between the hardware and the software applications installed on the computer or console. Among other things, it manages the storage and retrieval of game data and coordinates the interaction of scripts and programmes. The player usually only comes into contact with the WIMP interfaces[4] of the OS at the margins of the game, for instance when launching the game by double-clicking on the .exe file or desktop icon. Other software installed on the computer may occasionally play a role in shaping the player's experience—for instance, if the player uses Steam overlays to access additional functions such as chatting or screenshotting. However, not only are these kinds of enhancements not a necessary part of the game, but they are also normally backgrounded during gameplay. If the present discussion thus seems only marginally relevant to the analysis of metareference, let me just point to two examples that justify analytical attention to the software environment of the platform. First, in the indie puzzle game *Pony Island* (2016), the player's encounter with the antagonist Asmodeus is interrupted by a pop-up message, to all appearances sent by one of their real-world friends via the Steam chat. As it turns out later, both the messages' content and the pop-up notifications via which they are delivered are simulated by the game. Nonetheless, the situation is likely to direct the player's attention to the Steam overlay and also suggests the possibility of a metaleptic transgression between the game and Steam, as well as the possibility of the videogame's uncanny intrusion upon the player's real life or, in any case, upon the identity they fashioned for themselves in their Steam profile. Second, games such as *OneShot* (2016), which I am analyzing in Chapter 6, even require the player to access and manipulate the game data in the actual computer's documents folder, which implicates the graphical user interface (GUI) of the OS in playing the game. In both examples, metareferential videogames use their embeddedness in the software environment of the platform to playfully test the boundary between the game and what is outside it and to draw attention to their specifically digital mediality.

In concluding this excursion to the platform, it is worth mentioning that the very idea of platforms can be of interest to the study of metareferential videogames, first because platforms are often associated with specific videogame styles and aesthetics and second because platforms are also "cultural constructs" (Strank 2018, 298) associated with specific historical circumstances. Some metareferential games reference the characteristics of iconic platforms and their impact on game design, for instance by representing or remediating gaming hardware (e.g., *Impossible Mission* [1984]), imitating older operating systems (e.g., *Superhot* [2017 (2016)]), or even emulating fully playable versions of older games (e.g., *Zork* in *Call of Duty: Black Ops* [2010]) (see also Höltgen 2017, n.pag.; Strank 2018, 197). Others orchestrate an "ironic technological striptease" (Strank 2018, 197; my translation) that reveals the specifications and limitations of the technology used. Nowadays, this often happens in the context of retro games which simulate earlier technologies—what Juul (2014; 2019) calls "high-tech low-tech authenticity"—as when *Undertale* (2015) imitates the audiovisual aesthetics of games played on consoles with 8-bit processors such as the NES (Nintendo

Entertainment System), or when *Pony Island* remediates the simple programming, mechanics, and even some of the material aspects of an arcade machine (Krampe et al. 2022, 740–746). Recursive references such as these are highly relevant to the present study because they draw attention to the materiality and mediality of videogames and tap the discourses and meanings surrounding the platform as a cultural motif (Strank 2018, 198–199).

Moving on from the platform to the "game proper," the next layer of communication to discuss is the game system. The game system encompasses game rules, mechanics, algorithms, and processes. It determines the relationships between the different elements of the game-as-simulation and governs changes of state (Aarseth/Calleja 2015; Debus 2019, 307; for terminological precedence see also Bojahr/Herte 2018; Sicart 2008). Clear-cut distinctions between game mechanics and game rules are not always sustained in game studies but generally speaking, game rules can be said to denote the productive constraints that are a defining and structuring feature of the game (Juul 2005), whereas game mechanics are the methods or procedures of interaction afforded by the game and its rules (Sicart 2008).[5] Over time, videogames have developed strong conventions regarding the use of game mechanics, which often relate to the game's (narrative or ludic) genre (e.g., Ashcraft 2010; Sicart 2008). When analyzing the game system with a view to its involvement in metaization, we may thus look for moments of salient deviation from these conventions and similar strategies through which videogames may foreground their mechanics.

As long as the game's software and its operations remain inside the "black box" (Bogost 2010, 62) of the game, they are imperceptible to the player and cannot plausibly trigger metareference. Not all aspects of the game system can remain hidden from the player, however. At the very least, players need a working knowledge of the game's rules and mechanics as well as the state of the game system to be able to interact with the game in a meaningful way. This kind of information is usually communicated by the GUI, though the term "graphical" user interface is a bit of a misnomer considering that the user interfaces of videogames typically entail not only visual but also auditory and sometimes haptic information (Manovich 2013, 29). While some scholars have argued in favour of extending the term "interface" to the entirety of the gameworld on the grounds that system-relevant information could certainly also be embedded in, say, the environment (e.g., Jørgensen 2013), my focus here is on extradiegetic GUIs such as menus or overlays that are not part of the gameworld and consequently do not exist from the point of view of the game's characters.

It is a commonly accepted goal in interface design that GUIs of videogames should be transparent and provide maximum usability while remaining below the threshold of the players' conscious attention (Schemer-Reinhard 2018, 156; Therrien 2014, 307).[6] The assumption behind this is that players can only become immersed in the game if the interface, as a potential interfering factor, is backgrounded: "The interface should never demand more attention than the game play itself. Deep immersion within a game will only start after a user is no longer conscious of the interface during the decision-making processes within the experience of play"

(Mauger 2014, 37). This does not necessarily mean designing a natural interface after the fashion of *Star Trek*'s holodeck (Murray 1997; Ryan 2009, 47–50)[7] but more importantly that the GUI is naturalized, in the sense of having become too habitual and/or conventional to draw the player's attention. This argument can be reversed to claim that conspicuous GUIs are likely to alert the player to the artifice of the game. This is arguably where the game system unfolds its strongest metareferential potential: As we have argued elsewhere (Krampe et al. 2022), and as I will show over the course of the following chapters, there are numerous game-specific forms of metareference that involve the use of metareferential interfaces. Partly as a consequence of being located outside the gameworld from a logical point of view, yet sharing the same screen space and being represented by the same sign constellations, extradiegetic interfaces seem particularly prone to level transgressions and frame breaks. In *Marvel vs. Capcom 3* (2011), for example, the character Deadpool can use his own health bar as a weapon to perform an attack that is aptly named "4th-Wall crisis." Similar metaleptic intrusions of extradiegetic interfaces into the gameworld and vice versa occur in many other games (see Chapter 3 in this book).

The gameworld, finally, denotes a kind of videogame-specific storyworld. Like the storyworlds of other media, gameworlds are imagined as holistic worlds by the player, based on the cues provided by the text (where text is understood in the broad sense to also encompass videogames). Storyworlds entail mental simulations, or models, that help the recipient to comprehend the story, keep track of the state of the world, and monitor changes therein (Ryan 2015a, 79). Typically, such models encompass a connected set of objects, individuals, settings, physical laws, social rules, and values as well as events unfolding in time and space that turn the world from a static map into a storyworld (Ryan 2014, 35–36; 2015a, 62–63). Storyworlds also have an experiential quality, giving rise to emotions and "sensory quasi-perceptions" (Wolf 2013, 22) that can be very similar to our experience of the actual world (see also Herman 2009, 14). Recipients may for instance construct mental models of certain characters as conscious human beings with a life beyond the text, attribute mental states, motivations, and personalities to them, or feel emotions towards them (Ryan 2015a, 63; Van de Mosselaer 2018; Zunshine 2008). Projected by a text or media artefact, yet imagined to extend beyond it, storyworlds are thus neither purely semiotic nor entirely subjective (Herman 2009, 106; Ryan 2015a, 63; Thon 2009, 2; 2016, 53) but ideal, or "intersubjective" (Thon 2016, 51) mental representations that are shared among recipients who construct them from the same set of textual cues.

In order to explain not only the ontological status of storyworlds but also their often multilevel internal structure and their relation to the "actual" world, it is helpful to consult Marie-Laure Ryan's elaboration of possible worlds theory (e.g., Ryan 2015a, 69–75; 2015b; see also Planells de la Maza 2017 as well as the contributions in Ryan/Bell 2019). In short, possible worlds theory assumes that the sum of the imaginable is composed of a plurality of worlds. These are structured hierarchically and characterized by the opposition of a centre, referred to as the actual world, to a number of satellite worlds called possible worlds.[8] Examples

of possible worlds include dreams, future plans, fears, desires, and, most importantly for the present purposes, the fictional worlds we find in novels, films, or games. Possible worlds need not be single-layered but may themselves contain the embedded worlds of, for example, the characters' dreams or the stories they tell one another. We can therefore distinguish not only between the extradiegetic level outside the storyworld and the diegetic level of the first-order storyworld, but also the hypodiegetic level of the second-order storyworld embedded within it, the hypo-hypodiegetic level of the third-order storyworld, and so forth.[9]

Possible worlds theory and the concept of the storyworld can in principle also be applied to non-fictional worlds and stories told as fact (Ryan 2014, 33; 2015b, 13). However, since the overwhelming majority of the gameworlds discussed in this book are fictional in the sense that they are characterized by make-believe and represent invented events, characters, objects, or settings (Ryan 2006, 15, 31–58; Walton 1990),[10] it seems justified to focus on fictional worlds within these pages. Importantly, fictional texts do not attempt to deceive their recipients but invite them to partake in the construction of an elaborate illusion, allowing them to imaginatively step inside the fictional world (Ryan 2007b, 32; Wolf 2013, 43–44). According to Ryan, this mode of reception, which she likens to space travel, is characterized by a process called "recentering" during which "consciousness relocates itself to another world" (2015a, 73). For the recentred recipient, the fictional world becomes their primary frame of reference so that they experience it as actual while in it, "an experience that forms the basic condition for immersive reading [or playing]" (Ryan 2015a, 73). This corresponds to Janet Murray's view of immersion as a willing and active creation of belief (1997, 110). The immersed player feels fully present in the fictional gameworld and accepts it as if it were real, yet retains a latent awareness that their experience is mediated (see also, e.g., Jacobs/Lüdtke 2017, 110; Welsh 2016, 54). I will return to the notion of medium awareness and its surprisingly flexible relation to immersion in later chapters.

Though the concept of storyworlds is clearly not limited to a specific media genre, gameworlds differ from the storyworlds of other media in important ways. A gameworld is also a play space that the player interacts with, and in which ludic events take place and ludic rules apply (Juul 2005, 121–162). The terms interactivity and player agency are frequently used to describe the possibilities of manipulating the game, and the player's ability to make meaningful choices and thus attain a sense of empowerment, respectively (Bódi 2023, 22–30; Herte 2020, 22; Murray 1997, chap. 5; Ryan 2015a, chap. 7). From user-directed camera movements via navigation and exploration to fully-fledged interactive agency, where the story emerges "on the fly out of data that comes in part from the system and in part from the user" (Ryan 2015a, 181, see also Murray 1997, 126), players have a particularly active role that clearly exceeds the forms of interactivity also ascribed to other media.[11] Player actions and ludic events can be considered part of the gameworld in as far as they are endowed with a "diegetic legitimization" (Domsch 2013, 23). In *BioShock* (2007), for instance, dying and respawning is legitimized as the player being revived by means of pseudoscientific technology. In these cases, players will imagine their interaction with the game as a meaningful narrative event within a

fictional world (Bódi 2023, 60–61; Domsch 2013, 20, 105; Juul 2005, 162; Ryan 2009, 46).

In light of the similarities between gameworlds and the storyworlds of other media, it is unsurprising that games also use a variety of metareferential strategies familiar from other narrative media, including but certainly not limited to metareferential narrators and fourth wall breaks. The character Deadpool, in particular, is known to acknowledge and directly address his audience regardless of the medium—comic, film, or game—he appears in. Other techniques, however, are more medium-specific in that they are contingent on the player's interaction with the game. That fictional characters express boredom or disgruntlement if the player remains inactive for too long, for instance, is a recurring trope used in videogames from *Little Computer People* (1985) via *Sonic the Hedgehog* (1991) to *Grim Fandango* (1998). While the main function is arguably to encourage players to return to the game, this technique is also metaleptic (in that the characters see or speak across the boundary between the fictional gameworld and the actual world) and specific to interactive media (in that the fourth wall break only occurs if players do not provide any input for some time).

Rounding off the discussion of gameworlds, it is important to note that the ludic and narrative modes are separated here for heuristic purposes only. More often than not, both are part of a single phenomenon; in fact, the worlds of videogames are characterized precisely by the co-presence and co-dependence of narrative and ludic structures, which has been a major motor for the development of medium-typical forms of storytelling and worldbuilding such as emergent and branching narratives and environmental storytelling (Fernández-Vara 2019, 119–120). Note, furthermore, that the gameworld is not to be confused with the videogame's perceptible surface, which would also include the non-narrative information communicated via the extradiegetic GUI (Aarseth/Grabarczyk 2018, 7; Zierold 2011, 146). To this model, the decisive criterium is the player's perspective from which the sum of a videogame's perceptible signs is quite different from the abstract idea of the gameworld as a possible universe that the player can enter in make-believe. In some ways, the gameworld goes beyond the perceptible surface in that it is imagined as a holistic world extending spatially and temporally beyond what is shown on screen; in others, it is more limited (e.g., when extradiegetic GUIs are considered to be external to the gameworld). Therefore, I prefer to distinguish between the diegetic gameworld and the non-diegetic elements of the game system, not between the visible and the invisible, and to attribute the extradiegetic information communicated by the GUI to the game system, rather than the gameworld. This also means that the analysis of the game's audiovisual presentation becomes relevant for several layers of communication, including the gameworld, the game system, and the OS.

This latter point brings me to the question of how—by which signs and sign configurations—the information situated within the different layers is communicated to players. Since videogames are multimodal media that have developed rather elaborate means of expression over time, answering this question may involve the analysis of images, animations, montage, and other aspects of visual representation (e.g., Beil 2010; 2012; Günzel 2008; King/Krzywinska 2002; Nitsche 2008;

Wolf 2002), of videogame music and non-musical sound (the domain of the fast-growing field of ludomusicology, see, e.g., Collins 2008; Fritsch 2018; Fritsch/Summers 2021) as well as of haptic elements such as controller vibrations and other embodied interactions with the hardware (Järvinen 2002, 120, 124). While I will draw on all of these as necessary in my analysis, I will, for the sake of brevity, limit the present discussion to what we may refer to as a game's overall style (Cho et al. 2018; Järvinen 2002; Juul 2019; Thon 2020). The notion of style is interesting for the study of metareference insofar as certain styles seem more prone to metaization than others. The well-known concept of "Independent Style" (Juul 2014; 2019) seems particularly relevant in this regard. Coined by Jesper Juul as a means of describing the particular look and feel of award-winning indie games,[12] independent style refers to a visual (and arguably also ludic) programme characterized by the use of pixelated retro styles and/or the remediation of other (non-digital) media (Garda/Grabarczyk 2016; Juul 2014; 2019; Lind 2023; Thibault 2016; Thon 2019). While these characteristics may in principle also appear in AAA games, they are most often used in indie games to signal their independence and difference from the mainstream. For Juul, the use of independent style signals an "authenticity" and "honesty in materials" (2019, 31) that interrogates the realist paradigm of mainstream videogame development and promises the creation of unique and personal games (2019, 35–39). Importantly for my present purposes, independent style games also tend to "wear their game-ness on their sleeve, openly making their underlying structures visible" (Juul 2019, 22). As a "*representation of a representation*" (Juul 2019, 31), they "remediate the materiality and mediality not only of older videogames but also of primarily analogue media forms such as novels, comics, films, television series, or board games" (Thon 2019, 197). It is arguably due to this emphasis on materiality and mediality as well as due to their overt references to earlier videogames that pixel aesthetics and handmade styles appear with conspicuous frequency in metareferential videogames. Only think of the pixelated retro styles used in *Undertale* or *Pony Island* or the remediation of different media ranging from comics in *Comix Zone* (1995) and *Storyteller* (2023), via interactive playbooks in *What Remains of Edith Finch* (2017), to medieval manuscript in *Pentiment* (2022).

Remediation, the main catalyst of independent style's ability to draw the player's attention to aspects of mediality and materiality, is surely among the most influential ideas in contemporary media studies. Famously conceptualized by Jay David Bolter and Richard Grusin, remediation describes the "representation of one medium in another" (1999, 45), which can include various forms and degrees of reference, incorporation, and transformation. When it comes to the remediation of "old" media in "new" digital media such as videogames, Bolter and Grusin identify a spectrum of techniques, including ones that operate more in line with the logic of immediacy[13] in that they simply aim to grant access to the older medium (as in the case of digital photos) or seamlessly integrate older forms in a new medium (e.g., in videogame cutscenes) (1999, 45–50). Of particular relevance here, however, are the forms of "more aggressive" (Bolter/Grusin 1999, 47) remediation that are more aligned with the logic of hypermediacy in that they retain clear signs of the respective media involved and thus draw attention to aspects of mediality. A striking

variation of remediation is what Jens Schröter calls transmaterialization, and which describes a digital medium's imitation of aspects of the mediality and especially the materiality of another medium:

> While transmedial forms (such as narrative techniques, for example) cannot be attributed to any medium in particular, transmaterial forms emphatically refer to the respective specific materiality (e.g., a lens flare refers to photography or at least to photographic optics) of a medium, but in a different context.
>
> (Schröter 2013, 94; author's translation)[14]

Videogames may for instance imitate the crackles of audio recordings, the distortions or blurriness of camera lenses, or the creases and tears of paper, whereby they self-reflexively demonstrate "digital simulation's ability to transform the materiality of analog media itself into transmaterial forms" (Schröter 2013, 94; see also Nitsche 2008, 91). Remediation and transmaterialization will play an important role in my analysis of *What Remains of Edith Finch* (Chapter 4 in this book), a videogame that is created from and shaped by an abundance of books, letters, comics, flipbooks, and other media. The bottom line and the most important takeaways at present, however, are (1) that metaization can be achieved by means of visual, sonic, and sometimes even haptic cues, which must consequently be taken into consideration when analyzing metagames and (2) that some styles and the visual and auditory forms associated with them are more prone to exhibiting their mediality and can therefore be attributed a higher metareferential potential than others.

Having unpacked the role of the game's surface level of representation and the role of the (graphical) user interfaces in communicating meaning to the player, we

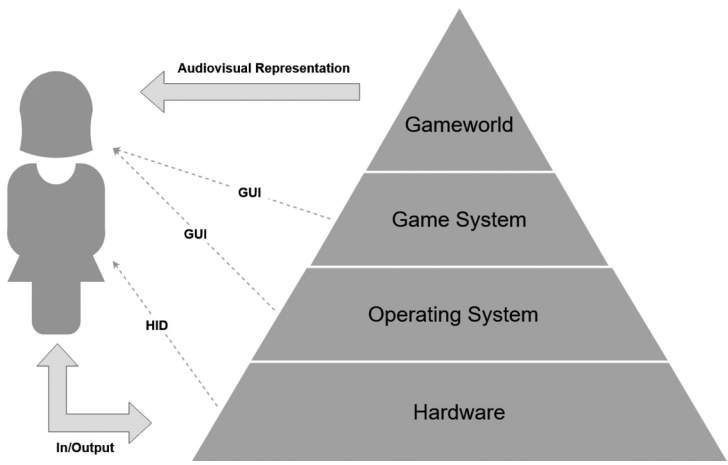

Figure 1.2 Communicative situation in videogames in relation to the player.

can now expand the model of the communicative situation in videogames to include the feedback loop between player and game (Figure 1.2). Physically, the player is connected to the game by means of the HID. These hardware devices allow them to provide input which travels via the software of the computer to the game system, where it is translated into a meaningful gesture in the gameworld. Feedback then travels all the way back and is returned to the player in audiovisual and haptic form via screen, speakers, controllers, and so forth. Importantly for the coming discussion, however, players seldom register any of these mediating processes in a conscious manner. Only where a game metareferentially draws attention to the hardware, to the GUI, or to the audiovisual representation of either the gameworld or the GUI does it constitute the forefront of the player's experience. The graphical user interfaces of the OS and the additional software applications installed on the hardware system, in turn, do not normally communicate information to the player during gameplay at all. I have nevertheless included them in the model since some metareferential videogames seem to delight in turning such principles and conventions on their head.

To sum up, the communication model, and the layers of communication it visualizes, are the foundation upon which I build my analytical framework in Chapter 3. Throughout this chapter, I have already formulated hypotheses regarding the specific forms of metareference that may be facilitated by videogames' formal elements or pointed to the high metareferential potential of specific devices. Which of these elements and strategies are actually realized in videogames and how we may systematically distinguish them for analytical purposes will be the subject of subsequent chapters.

Structure of the Book

This book is divided into two main parts, one concerned with an in-depth theoretical consideration of metareference in videogames and the construction of an analytical model, and the other with the application of said model to three case studies. Chapter 2 is dedicated to developing a concept of metareference that connects to the study of the phenomenon in other media but is nevertheless specific enough to account for videogames' ludic dimension and digital identity. To this end, I review prominent approaches to metareference across different media, with particular attention to the theories of metafiction that emerged in literary studies in the wake of postmodernism, the transmedial approaches put forward since the 2000s, and finally the emerging interest in meta-phenomena in game studies in recent years. I will also consider the metareferential potential of related techniques and devices to some extent, though with a view to the scope of this book, I will limit this discussion to metalepsis, *mise en abyme,* and intermedial references as the most prominent examples. Finally, to further pin down metareference and distinguish it from similar phenomena, it is useful to at least briefly consider the dimensions of production and reception. Reception is crucial to consider not least because medium awareness, metareference's signature effect on the recipient, has become part of the phenomenon's very definition. The dimension of production and the related

notion of intentionality, in turn, help distinguish metareference from accidental phenomena such as (true) glitches or technological limitations.

Having thus covered the main trajectories in the scholarly discussion at the intersection between metareference and videogames, I move on to introducing an analytical model for the systematic description of different forms of metareference in videogames in Chapter 3. Seeking to capture the dimensions of form and content, the model asks two core questions: (1) On what layer of communication is the element situated? (2) What exactly does it comment on? With reference to the communication model outlined above, I will relate each of these core questions to the gameworld and the game system, as well as to aspects that go beyond the game. The latter category encompasses all game-external layers of communication, i.e., the hardware and the software of the platform and potentially also other aspects of the media system the game is embedded in (which also makes the analytical model somewhat more expansive than the communication model). The result is a framework that examines metareference along two dimensions and three layers of communication within each dimension. To put this in more concrete terms: Formally, metareferential elements can be produced (1.1) in the gameworld (for instance by means of the actions or utterance of character), (1.2) the game system (for instance by means of game mechanics or interfaces), or (1.3) through elements that reach beyond the game (for instance if play is extended to the hardware or software of the platform, as in *Metal Gear Solid*). The same layers are also relevant for the dimension of content in the sense that a metareferential comment may refer (2.1) to the gameworld (for instance by exposing its fictionality), (2.2) to the game system (for instance by discussing game rules and mechanics), or (2.3) to aspects beyond the game (for instance by way of intertextual references to other games or comments on the videogame industry). I supplement my theoretical discussion with numerous examples from a comprehensive corpus of videogames, with a particular focus on games published within the past two decades. Through these initial applications and illustrations, it becomes clear that the analytical model has two main advantages. On the one hand, it helps to systematically map individual instances of metareference across a wide range of videogames and to identify commonalities and differences between them in terms of how they are produced and what they comment on. On the other hand, it can also serve as a heuristic for the analysis of metagames in their entirety because it affords a nuanced description of metareferential elements and the way they interact with one another and with the non-metareferential parts of the game.

The latter becomes the main focus in the second half of the book, which offers detailed analyses of three metareferential videogames based on methods of close analytical play (Bizzocchi/Tanenbaum 2011; Van Vught/Glas 2018) and textual analysis (Fernández-Vara 2019, 5–10).[15] While there are some similarities between the case studies—all three are narrative games published between 2015 and 2017 and typically counted among indie games—each case study illustrates a different aspect of metareference, which consequently becomes the main focus of my analysis. In Chapter 4, I start with a close reading of *What Remains of Edith Finch*, a so-called

walking simulator that exemplifies the diversity of forms of metareference that can be produced within the gameworld. As a narrative-heavy game, *What Remains of Edith Finch* uses several metareferential strategies familiar from other media. In fact, the citation, remediation, and incorporation of different media objects—from stereoscope to comicbook—is key to the game's overall metareferential aesthetics. Accordingly, my analysis focusses on how the game employs narrative elements as well as aspects of its multimodal means of representation to explore the materiality, aesthetics, and cultural functions of different forms of storytelling and mediation.

Chapter 5 is dedicated to my second case study, *The Magic Circle* (2015), an indie game that offers a satirical perspective on videogame design. In contradistinction to *What Remains of Edith Finch*, *The Magic Circle* combines metareferential elements situated within the gameworld with ones that emerge from within the layer of the game system, more specifically from the game mechanics afforded to the player and the metareferential interfaces that mediate between the player and the game system. *The Magic Circle* takes these strategies further than most other games, since players must repeatedly manipulate game rules or edit aspects of the game's level design, which encourages them to explore the game as a simulation governed by coded rules and algorithms. The game also uses multiple different visual filters and interfaces, some of which mimic real-world software applications used to create videogames, to draw attention to its own mediality. The use of metareferential mechanics and interfaces then becomes bound up with the satirical narrative as the game stages a conflict between its (fictional) designers and the player that sheds a harshly critical light on the practices, economics, and narratives surrounding the AAA videogame industry.

I conclude my case studies in Chapter 6 with an analysis of *OneShot*. *OneShot* is representative of the (as yet) comparatively rare group of videogames that "really" cross the divide between the game and what is outside it. In the course of the game, there are several instances in which *OneShot* adds new files and folders to the real computer, manipulates its desktop interface, or requires the player to play across multiple windows and make changes to game files via the WIMP interfaces of the Windows operating system. By means of what we might refer to as a genuine ontological metalepsis to the user's system (Ryan 2006, 226), *OneShot* thus extends its gameplay to the actual computer and reveals how the architecture of its fictional world is mirrored in its data structure. The versatility and frequency with which *OneShot* uses such experimental forms of metareference alone would yield a compelling case study but what makes the game doubly interesting is the philosophical reflection it offers on the level of its content. Despite the exposure of its own artifice, *OneShot* can be considered an immersive game because it also builds a detailed world with likeable characters that the player soon feels responsible for. In this sense, the game enacts what has been referred to as the paradox of (interactive) fiction (Van de Mosselaer 2018; see also Radford/Weston 1975): the phenomenon that players can experience self-reflexive emotions and feel very real attachments towards fictional videogame characters.

Each of the above examples can be described as metareferential in that they draw attention to their own building blocks and conventions. The kinds of metareferential elements used, the layers involved in their creation, and the themes they comment on, however, differ in each case, and require careful analyses. This book offers a theoretical framework and an analytical model that can capture metareference as a multidimensional phenomenon in contemporary videogames while also pointing to its similarities to and differences from other media. Accordingly, it contributes as much to our understanding of the medium-specificity of metareference in videogames as it does to ongoing discussions around metareference as a transmedial phenomenon. In many ways, the present moment of formal and aesthetic innovation in videogames is a privileged one, presenting the chance to think outside the box and revisit established tools, concepts, and knowledges. After all, as Patricia Waugh wrote as early as 1984, metareference "is in the position of examining the old rules in order to discover new possibilities of the game" (2001 [1984], 42), although, presumably, she did not think of videogames just yet.

Notes

1 A comprehensive discussion of the various and at times contradictory definitions of the term "medium" would certainly exceed the scope of this chapter. In fact, in game studies, the very applicability of the term has been contested on the grounds of the manifold platforms, communication technologies, and semiotic elements used in videogames, as well as the "diversity of material, communicative, social and aesthetic practices" related to videogaming (Aarseth/Calleja 2015, n.pag.). Nevertheless, it seems safe to refer to videogames as media in the sense of "culturally recognized form[s] of communication" (Ryan 2014, 28) whose distinction from other media rests largely on convention and which can be analyzed in terms of (1) their technical dimension, (2) their semiotic substance, and (3) their cultural role (Ryan 2014, 29–31; for an overview of competing meanings of "media," see also Ryan 2014, 25–29; Thon 2016, 17–18; Wolf 2017 [2014], 182–184).

2 By metagames, I mean videogames in which metareferential elements are particularly prominent, which is usually the case if they are overt and frequent (see also Waszkiewicz 2024 for a similar, though somewhat broader, use of the term "metagames" to denote "Games about Games"). This understanding differs from metagames in the sense of the practices and ideas that exist around videogames and which players may use to gain advantages (see Boluk/LeMieux 2017 for a comprehensive study of the latter).

3 Platforms are themselves multilayered in that the material layer of the hardware is linked to a specific operating system (OS), on top of which we may find specific programming languages and programmable software environments (Bogost/Montfort 2007; 2009; Schweizer 2014, 43–45; Strank 2018, 178). For instance, most games analyzed for this book were played on either a home computer running Microsoft's Windows OS, or on the PlayStation 4 with its native operating system Orbis OS. It is also worth noting that in computer science and platform studies, the term "platform" is often used in a more inclusive sense, encompassing any "hardware and software framework that supports other programs" (Bogost/Montfort 2007, 176).

4 The GUIs of most operating systems such as Windows adhere to the WIMP paradigm and represent information in the form of windows, icons, menus, and pointers that

suggest a physical desktop environment (see, e.g., Bolter/Grusin 1999, 29; Hadler/Haupt 2016, 7; Laurel 2014, 151; Mauger 2014, 33). However, especially on mobile devices, the logic of icons and windows is being superseded by that of the grid and single window (Distelmeyer 2017, 151–165).

5 Note that in Sicart's (2008) understanding, game mechanics are not restricted to players but may also be used by other entities in the game, such as NPCs. For a detailed discussion of different game mechanics and their classification, see Debus (2019, 155–225).

6 The conflicting demands of making visible while remaining invisible occasion the GUI's paradoxical quality of being at once palpable and unseen, and its equally paradoxical function of at once representing and "depresenting" the system, to borrow Marianne van den Boomen's evocative term. "Depresentation" describes how the GUI offers "human-readable stable signs" that let users know what the machine can do but thereby "necessarily hides the complex nested processes that it refers to" (van den Boomen 2014, 37; see also Distelmeyer 2018). Interfaces provide the user with easily comprehensible information about the state of the (game) system and enable them to manipulate it in a seemingly direct manner, but at the same time, they obscure what is actually going on inside the black box (Chun 2011, 59; Hadler/Haupt 2016, 7). As Wendy Chun aptly puts it, "GUIs have been celebrated as enabling user freedom through (perceived) visible and personal control of the screen. This freedom, however, depends on a profound screening: an erasure of the computer's machinations" (2011, 59).

7 Though the dream of full-body immersion associated with the holodeck myth remains influential. Recent years have seen considerable advances in motion capturing and symbiotic controller design for the popular market. Devices such as the Kinect or Wii use the player's natural bodily gestures as gameplay controls, and critically acclaimed games such as *Half-Life: Alyx* (2020) have renewed the interest in VR technologies for games played on home consoles or personal computers.

8 The distinction between actual and possible worlds and the association of the actual world with objective reality are problematic for several reasons, chief among them that what is perceived as real is culturally, historically, and even individually variable. Ryan therefore suggests conceptualizing the actual world as the world in which the subject is positioned and from which they speak and see without, however, "sacrificing the idea of an absolutely existing, mind-independent reality" (2015a, 71). Likewise, the possible is not limited to what is commonly considered "real," but its boundaries are defined in opposition to the impossible. The most common but by no means only interpretation of possibility, which Ryan also advocates, is based on logical laws and the principles of non-contradiction and the excluded middle (Ryan 2013; 2015a, 70). Phantastic worlds populated by dragons thus unproblematically qualify as possible; worlds in which characters metaleptically move between ontologically distinct levels of embedding do not (see also Krampe 2021).

9 Gérard Genette, by contrast, uses the term "metadiegetic" to denote the second-order embedded storyworld (1980 [1972], 229). Since his terminology sits uneasily with my understanding of the metalevel, I prefer to speak of first, second, or third-order gameworlds, which has the additional advantage that it makes more complicated level transitions countable and thus easier to follow.

10 In light of the rather complicated conceptual histories and terminological conundrums around fiction(ality) and related terms—including but not limited to non-fiction(ality), fact(uality), fictivity, and virtual(ity)—in narratology, philosophy, and beyond, I will refrain from a more extensive discussion (for concise overviews of relevant terms and positions, see, e.g., Fludernik 2001; Friend 2024; Rajewsky 2020; Schaeffer 2012; on

videogames, e.g., Aarseth 2007; Ryan 2015a; 2024; Welsh 2016). For the sake of my argument, I will assume that there are ontological (as well as commonsensical and conventional) boundaries between the actual world in which the player is situated, the fictional world of the game, and the game's data structure on the player's computer (often represented by the audiovisual elements of an extradiegetic GUI); boundaries that are contested or outright subverted by many of the metareferential videogames discussed in this book.

11 As Ryan reminds us, electronic media did not invent interactive storytelling but only remediated (and repopularized) features such as synchronicity, spontaneity, and volatility long familiar from, e.g., oral storytelling and, later, postmodern literature (2015a, 160). However, what is usually meant when describing videogames as interactive media goes beyond these examples in that players are participants in the narrative and ludic events unfolding on screen and regularly cause changes in the world or make decisions that change the course of the story (see Murray 1997, chap. 5; Ryan 2015a, chap. 7; Wolf 2012, 138; Zierold 2011, 115–136).

12 The label "indie" is often used interchangeably with "independent game" and describes not so much a unified genre as a cross section of financial, cultural, and aesthetic forms of independence. Indie games are typically produced by a small development team on a low budget, and distributed via channels such as the developer's website, Steam, or itch.io (e.g., Garda/Grabarczyk 2016; Juul 2019, 16–17; see also the contributions in Ruffino 2021).

13 The logic of transparent immediacy and its counterpart, the logic of hypermediacy, are central to what Bolter and Grusin call the "double logic of remediation" (1999, 5). Immediacy strives to make the medium invisible, granting immediate access to the things it represents (Bolter/Grusin 1999, 6) whereas hypermediacy makes the multiple acts of (re)representation visible again (1999, 34–35). Digital media typically combine both logics, oscillating "between transparency and opacity" (1999, 20).

14 The English quotes of Schröter's article are taken from the translated online version "Media Aesthetics, Simulation, and the 'New Media'" (Schröter 2019).

15 While text in the narrow sense connotes written words (as in literary texts), the application of the term to a variety of human expressions and artefacts, including videogames, is certainly not new (Consalvo/Dutton 2006; Fernández-Vara 2019, 5–6). In understanding videogames (and other media) as texts, I aim to treat them as "delimited objects of immanent analysis and interpretation as sources of introspection and insight […]" (Jensen 2016, 2). Textual analysis, then, is the "in-depth study of a text […] using the text as a sample or case study to understand a specific issue or topic" (Fernández-Vara 2019, 9).

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2 Theorizing Metareference

Concepts, Definitions, Models

From the epic poetry of Homer via the famous plays within the play in Shakespearean theatre to the self-referential moving images of early film and animation,[1] metareferential phenomena have been a part of the arts and media for centuries (Wolf 1993). Naturally, in the course of their long career and especially since the second half of the 20th century, these have caught the eye of scholars focussing on different media, leading to the coinage of terms such as metatheatre, metapoetry, or metacinema (see the overviews in Hauthal et al. 2007a, 2; Wolf 2009a, 3–6, 15). The "overwhelming bulk of research on meta-phenomena" (Wolf 2009a, 3), however, stems from literary studies and consequently, metareference remains strongly associated with the (postmodern) novel and with the concept of literary metafiction. Given the particularly productive role of literary studies, I think it worthwhile to review key insights gained from the study of metafiction at the beginning of this chapter (2.1). As it turns out, several of the forms and functions of metareference in contemporary videogames are quite similar to those described in the context of literary metafiction, making such a comparative approach rather constructive. The conceptual transfer from the novel to the videogame, however, cannot succeed without meticulous attention to the affordances specific to each medium. Consequently, the second subchapter (2.2) introduces transmedial as well as game-specific perspectives on metaization, focusing on "metareference" (Wolf 2009b; 2011b) as a broader, transmedial umbrella term, and thus a preferable alternative to metafiction. I thus derive my understanding of metareference, on the one hand, from transmedial narratology, and on the other hand from recent approaches in game studies, where metareferential phenomena are beginning to attract significant interest. Contributions focussing on the relation between metaization and videogame-typical aspects such as rules and interactivity, in particular, help tease out the unique and medium-specific characteristics of metareferential games.

In the second half of the chapter, I engage with some of the most pressing unresolved questions in the study of metareference. One concerns the status of devices closely associated with metaization, three of which, namely, *mise en abyme*, metalepsis, and intertextual and intermedial references, I will discuss in some detail (2.3). Another question revolves around the delimitation of metareference more generally. I mobilize the figures of the implied player and the implied designer

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to flesh out elusive characteristics of metareference such as its non-accidental nature or its defining function of eliciting medium awareness (2.4). Taken together, the insights gained from the comparative, transmedial, and videogame-specific perspectives reviewed in the course of the chapter form the basis of an understanding of metareference in videogames that is appropriate for the analysis of videogames in their medium-specificity, but nevertheless connects to the study of the phenomenon across media.

2.1 Theoretical Origins and Metafiction

Often, literary scholars trace metareferential phenomena back, *avant la lettre*, to the rise of the novel and in particular the works of Miguel de Cervantes or Laurence Sterne, arguing that the novel started out as an inherently self-critical genre (e.g., Alter 1975, 3, 28–29; Hutcheon 1980, 17–19; Waugh 2001 [1984], 5).[2] The unmistakable focus of metafiction research, however, are the highly self-conscious experimental novels of the 1960s to 1990s that are typically subsumed under the label "postmodern." While it would be ill-advised to conflate metafiction with postmodernism—the latter being a contested term that may variously refer to a historical epoch, a dominant cultural tendency in the second half of the 20th century in western societies, an aesthetic programme, or a loose collection of overlapping characteristics—these texts brought scholarly attention to self-reflexivity and playfulness in art as well as to techniques such as pastiche, intertextuality and intermediality, fragmentation, paradoxical loops, or the erosion of the diegetic hierarchy, all of which are central to metafiction (e.g., Lewis 2011, 169–179; McHale 2015, 2–3; Nicol 2009, 1–2; Storey 2011, 205–209; Waugh 2001 [1984], 137–141; for analyses of postmodernism in videogames, see Beil 2010, 244–256; Stanton 2015; Waszkiewicz 2024; Wong 2013). The coinage of the term "metafiction" followed shortly after and is often attributed to William Gass and Robert Scholes, respectively. The former is said to have used it in the 1960s to describe the then newly emerged fictions about fiction (Currie 1995a, 1; but cf. Wolf 2009a, 3 and Neumann/Nünning 2014, who date the coinage to Gass' *Fiction and the Figures of Life* [1970]), the latter can be credited with one of the earliest attempts at defining metafiction as "fiction that assimilates all the perspectives of criticism into the fictional process itself" (Scholes 1995 [1970], 106–107).[3]

The theorization of the phenomenon was significantly advanced in the 1980s, though I will limit my discussion to two monographs that stand out as staples of research to date: Linda Hutcheon's *Narcissistic Narrative: The Metafictional Paradox* (1980) and Patricia Waugh's *Metafiction: The Theory and Practice of Self-Conscious Fiction* (2001 [1984]). In what has become a popular, though somewhat oversimplified, shorthand, Hutcheon defines metafiction as "fiction about fiction—that is, fiction that includes within itself a commentary on its own narrative and/or linguistic identity" (Hutcheon 1980, 1). According to Hutcheon, metafictional techniques are typically connected to parodic functions and concepts such as foregrounding,[4] intertextuality, and defamiliarization[5]; to the unmasking of the process of writing and the conventions the text adheres to; to conscious

imitations and evocations of other voices and texts; to the "laying bare of literary devices" that have become naturalized (1980, 23–24). Hutcheon's work also stands out for its emphasis on creating a systematic model of different forms of metafiction that distinguishes, first, between two modes, namely the diegetic and the linguistic, and second between overt and covert forms of metafiction. Diegetically self-reflexive texts present themselves as narrative and draw attention to the roles of writer and reader as active creators of the fictional world (Hutcheon 1980, 7, 22–23, 28). Texts that are linguistically self-reflexive, in turn, openly display their "building blocks"—i.e., linguistic signs—and generally show a keen interest in the power of words and the affordances and limitations of literary language (Hutcheon 1980, 29). Diegetic as well as linguistic metafiction can occur in two variants. Overt forms explicitly thematize their narrative or linguistic identity, often with the help of techniques such as allegory, metaphor, narratorial commentary, or *mise en abyme* (Hutcheon 1980, 23, 28). In the covert varieties, self-reflection is internalized and hence less obvious, conveyed through stylized language and word play (e.g., puns and anagrams), deviations from narrative conventions, or recursive structures (Hutcheon 1980, 23, 32–35).

Since Hutcheon's model offers straightforward categories that can be imagined in the form of a matrix organized along the axes of diegetic/linguistic and overt/covert, it seems worth probing whether parts of it can be adopted for the study of videogames. Diegetic forms, for instance, seem readily available across narrative media and could thus be understood to refer to the techniques and devices through which a game draws attention to the layer of the gameworld. Linguistic metafiction, by contrast, is limited to written language and therefore less suitable for describing metaphenomena in other media unless it is expanded to images and sound, not to speak of ludic and kinaesthetic elements. In short, while a framework suitable for game analysis can certainly draw inspiration from the theories and models developed in literary studies, it must also expand them to be able to account for videogames' multimodality and for communicational layers such as the game system that are simply not relevant to literary scholars. Before I abandon the discussion of Hutcheon's model, however, let me point to her category of covert metafiction, which I believe is worth highlighting, first, because it draws valuable attention to less conspicuous techniques and devices that may nevertheless hold metareferential potential, and second, because it discloses the difficulty of drawing the line between metareferential and non-metareferential phenomena. To Hutcheon, covert forms of metafiction "must not be so subtle as to be invisible" (1980, 118), nor can they be so obvious as to qualify as overt. This (perhaps necessarily) vague delineation begs the question of how one might differentiate between the structural self-referentiality inherent in all novels—and, as shall become evident in due course, all videogames—and the marked cases of metafiction and metareference that are of primary interest to this book. I will return to this problem later in this chapter.

Patricia Waugh's *Metafiction,* published shortly after *Narcissistic Narrative,* forms a second cornerstone of metafiction research in literary studies. Waugh defines metafiction as "fictional writing which self-consciously and systematically

draws attention to its status as an artefact in order to pose questions about the relationship between fiction and reality" (2001 [1984], 2). Metafictional novels typically flaunt the paradoxes inherent in the text, lay bare their scaffolding, and thus cause the aesthetic illusion to collapse (Waugh 2001 [1984], 6, 87–100). I shall problematize the idea that metareference automatically disrupts player immersion in due course; first, however, I would like to focus on Waugh's positioning of metafiction as something in-between fictional and critical discourse. Equal parts creation and critique, metafictional works "explore the *theory* of fiction"—its structures, conventions, techniques—"through the practice of *writing* fiction" (Waugh 2001 [1984], 2–5). For Mark Currie, such critical functions even advance to metafiction's most central characteristic. He defines metafiction as a "borderline discourse," one that positions itself across and between fiction and literary criticism, and "which takes that border as its subject" (Currie 1995a, 2). Currie's account may seem somewhat overly optimistic regarding the intellectual ambition of metafiction and metareference.[6] Nevertheless, his emphasis on the assimilation of critical discourse points to a vital aspect distinguishing metareferential texts from other forms of experimental literature, films, or games, namely, that they open up a second level of discourse; a kind of outside perspective from which they can comment on aspects of themselves.

It is worth mentioning that literary scholarship in the late 20th century, despite the visibility of so-called apocalyptic positions (for an overview, see Hutcheon 1980, 2; see also Nöth 2007, 7), is generally quite optimistic about the creative and innovative potential of metafiction. Currie, for instance, speaks of metafiction's "unlimited vitality" and finds it "outward looking" (1995a, 2); and even Barth's oft-cited essay on the "Literature of Exhaustion" (1995 [1967]) does not paint as bleak a picture as the title would suggest. Rather than a sign of exhaustion, metafiction is portrayed as an expression of a new critical consciousness in the face of uncertainty and provisionality and as fertile ground for aesthetic innovation (Currie 1995a, 2; Waugh 2001 [1984], 9–10). Considering that metafiction is concerned with defamiliarizing and disrupting established conventions, this innovative drive is hardly surprising. In order not to become itself conventionalized, metafiction must constantly reinvent itself and develop new means of producing metareferential effects (Mader 2017, 51). Such a perspective seems particularly appropriate for videogames, in which forms of metaization not only serve various functions that range from a "narcissistic" kind of self-mirroring to politically minded criticism but have also inspired the conception of entirely new narrative and ludic strategies.

The theories of metafiction from the 1970s and 1980s have since been contested, refined, and applied to countless analyses and interpretations.[7] Even nowadays, metafiction remains productive in and beyond narratology in at least three prolific research directions. First, literary scholars continue to offer new perspectives on the concept. Ilona Mader (2017), for instance, builds on Patricia Waugh's theory of metafiction to explore interconnections between metafiction and deconstruction, arguing that both concepts share a tendency to unveil and dissolve constructs, be it the constructedness of fiction or the very idea of reality (Mader 2017, 12). Deconstruction, in this sense, "is an inherent feature of metafictionality" (Mader

2017, 58) which enables metafiction to "pose questions about the relationship between fiction and reality" (Waugh 2001 [1984], 2, qtd. in Mader 2017, 58).

Second, researchers such as Monika Fludernik and Ansgar Nünning have worked towards greater internal differentiation among different forms of literary self-consciousness, distinguishing metafiction from the closely related concept of metanarration. Simply put, metafiction comments on the constructedness and/or inventedness of the storyworld while metanarration comments on processes of narration (Fludernik 2003a; Nünning 2004, 12, 16; see also Neumann/Nünning 2014, paras 4–5 as well as Booth 1952 for an early analysis of metafictional narrators). These and other recent additions to the theoretical repertoire have yielded useful frameworks to describe the characteristics of metaphenomena in fiction that I will return to when constructing my own framework. The most interesting research trajectory for our present purposes, however, is the opening of the concept of metafiction to the study of different media (e.g., Baeva 2019; Hauthal et al. 2007b; Wolf 2009b; 2011b). In the next subchapter, I will therefore focus on these transmedial approaches, alongside videogame-specific ones.

2.2 Metareference as a Transmedial Phenomenon

2.2.1 Theories of Metareference across Media

Despite the strong association with the novel, there seems to be a broad consensus that metafiction is not confined to a specific medium or genre but could, in principle, be transferred across media (Currie 1995a, 2; Hutcheon 1980, 8, 17–18; Mader 2017, 38). Werner Wolf (2011a) even speaks of a metareferential turn across media, characterized by an increase in the use of metaphenomena in a variety of different media starting as early as the 1950s and a corresponding increase in scholarly attention.[8] Nevertheless, it was to take until the new millennium for dedicated *trans*medial projects to emerge. Among the first endeavours to unite the study of self-reference and metareference in different media under one heading are the edited volumes *Metaisierung in der Literatur und anderen Medien* ("Metaization in Literature and Other Media"; my translation [Hauthal et al. 2007b]) and *Self-Reference in the Media*, edited by Winfried Nöth and Nina Bishara (2007). *Metaisierung* offers a supramedial perspective on techniques and devices that refer to the text in which they appear from a logically higher level and thereby direct the recipients' attention to the constructedness of the text (Hauthal et al. 2007a, 9). The volume features several case studies spanning drama, poetry, film, or cartoons, among them Marion Gymnich's systematic analysis of the forms and functions of metaization in film and TV, which seems particularly relevant since it outlines a repertoire of audiovisual techniques that are also found in videogames, including interferences in the images or soundtracks, anachronistic visual styles, or nods to the presence of a (virtual or actual) camera (2007, 135–144).

The semiotics-based *Self-Reference in the Media,* in turn, counts an entire section on videogames among its case studies. Perhaps due to the anthology's broad definition of self-referential signs as all signs that refer to themselves or to aspects

of themselves (Nöth 2007, 8), most chapters seem to share an understanding that videogames are inherently self-referential. Bernhard Rapp, for instance, argues that game rules "*generally* refer back to the game as a game" (Rapp 2007b, 255) and Bo Kampmann Walther opines that "on a structural and formal level [videogames] are inherently self-referential" because their functionality is built upon recursive loops, including but not limited to the feedback loop between player and game (2007, 219; see also, e.g., Jørgensen 2013, 10; Rautzenberg 2018, 21 for similar arguments). However, most of these inherent self-references are simply down to technological necessity and/or they are executed at the computational level without the player's conscious notice. In other words, they appear devoid of aesthetic ambition (Rapp 2007a, 38–39). It therefore makes sense to limit the scope of this book to marked and aesthetically motivated forms of self-reference as proposed by Rapp (2007a, 39; 2007b, 255). Their overly broad scope notwithstanding, the contributions in the volume also allude to several examples that are immediately relevant to my argument. These include marked forms of intertextual and intermedial references—videogames that "pay tribute" to another videogame, for instance (Walther 2007, 219)—as well as *mise en abyme* (Santaella 2007, 215; Rapp 2007b, 260) or metalepsis (Neitzel 2007, 247–249; Rapp 2007b, 253–255, 259). Overall, however, the intersections between the analyses in *Self-Reference in the Media* and the phenomenon of metareference in videogames as I understand it remain too fleeting for the former to serve as this book's sole theoretical foundation.

The importance of the pioneering role these anthologies fulfil for the study of self-reference and metaization in the media can hardly be overestimated. Yet, both also betray that, in order for a truly transmedial perspective to emerge, it is necessary to consolidate the plethora of (meta-)terms and concepts under a unified framework and terminology. This desideratum was met in 2009, when Werner Wolf, in an extensive introduction to the volume *Metareference across Media*, proposed "metareference" as an umbrella term to encompass all forms of self-reference with a metalevel in the arts and media (2009a, 32). Wolf's theory of metareference is exemplary in its scope and precision. Systematically building his definition from the general to the specific, Wolf first engages with the term reference, thus limiting his scope to phenomena of a semiotic nature, excluding meta-terms from other fields such as physics while remaining open to non-textual or non-representational media. Reference encompasses both heteroreferential signs, i.e., signs that refer to aspects outside the text, and self-referential ones. Analogously to Nöth, Wolf defines self-referential signs as "signs and sign configurations that in various ways refer or point to (aspects of) themselves or to other sings […]" (Wolf 2009a, 19). Like Rapp (2007a; 2007b), Wolf then construes self-referentiality as a necessary but not sufficient condition of metareference and proposes to use the narrower term "self-reflexivity" for strong forms that are not random or accidental, and that trigger a discursive reflection on the text or media system in which they occur (Wolf 2009a, 21–22).

The key element distinguishing metareference from other forms of self-reference and self-reflexivity, however, is the logical distinction between two levels: the object level and the metalevel (Wolf 2009a, 22–23; 2007, 38). The object level essentially

denotes the text itself whereas the metalevel describes the abstract notion of a logically higher level of reflection from whence a text or even an individual sign may view itself and other texts or signs as if from the outside. Metalevel and object level typically use the same means of communication, i.e., the forms and signs that lie within the affordances of the medium in which they occur. The discourse on the metalevel, however, is not narrative but argumentative, commenting on aspects of the work in question, such as its fictionality, its linguistic, pictorial, or audiovisual identity, its use of conventions and techniques, or even aspects of its production and reception (Wolf 1993, 221–222, 229; 2009a, 22–23; see also Currie 1995a). In terms of its functions, metareference elicits a sense of medium awareness in the recipient, which is to say that it actualizes the recipient's conscious awareness of the medial status of the text or system (Wolf 2007, 25; 2009a, 35).[9] With all this in mind, Wolfs full definition of metareference reads as follows:

> It is a special, transmedial form of usually non-accidental self-reference produced by signs or sign configurations which are (felt to be) located on a logically higher level, a 'meta-level,' within an artefact or performance; this self-reference, which can extend from this artefact to the entire system of the media, forms or implies a statement about an object-level, namely on (aspects of) the medium/system referred to. Where metareference is properly understood, an at least minimal corresponding "meta-awareness" is elicited in the recipient who thus becomes conscious of both the medial (or "fictional" in the sense of artificial and, sometimes in addition, "invented") status of the work under discussion and the fact that media-related phenomena are at issue, rather than (hetero-)references to the world outside the media.
>
> (Wolf 2009a, 31; italics omitted)

In short, metareference describes explicit or implicit elements in a text or artefact which comment on said text from a metalevel and make the recipient aware of its medial identity.

To systematize different forms of metareference in a way that works across different media, Wolf then adapts and modifies the four sets of criteria he developed in his earlier studies of literary metafiction (Wolf 1993, 258; see also Ryan 2007 for a similar approach). He thus comes up with four continua that can be used to describe different forms of metareference in virtually any medium. Each continuum defines two poles or extremes ends, though most metareferential elements are envisioned to be located somewhere in-between and to exhibit characteristics of either pole to a greater or lesser degree. Wolf's first criterium is the scope of the metareferential comment. He distinguishes between intracompositional or direct metareference, which points to aspects of the same text in which it occurs, and extracompositional or indirect metareference, which refers to other works or makes more general comments about the media system it is a part of (Wolf 2009a, 38–39; see also 1993, 250–251). Extracompositional forms of metareference retain their *self*-referential core, though, so that they also—albeit indirectly—refer to themselves. This helps explain how even more general comments on storytelling or playing videogames

can be interpreted as metareferential comments. *Spec Ops: The Line* (2012), for instance, has been described as an anti-war wargame that makes use of complex ludic and narrative techniques to formulate a poignant critique of US military intervention (see Jørgensen 2016; Murray 2016 for critical analyses). Inspired by Joseph Conrad's *Heart of Darkness* (1899), *Spec Ops: The Line* has the player step in the shoes of a US Army Captain on a nightmarish rescue mission in postapocalyptic Dubai. The game also addresses the players directly via its loading screens, taunting them with messages such as "[d]o you feel like a hero yet?" or "[t]o kill for entertainment is harmless," thus framing them as willing accomplices to the spectacle of violence. Evidently, the game's critical commentary extends far beyond the individual text and even far beyond videogames to explore the ethical implications of militainment and its role in trivializing warfare and trauma. Nevertheless, the game also problematizes the position of *Spec Ops: The Line* within the genealogy of military-themed shooter games and hence qualifies as indirectly self-referential.

Wolf's second criterium refers to the semantic discernibility of metareference in-between the poles of explicit and implicit forms. Explicit metareference means quotable verbal metareferences as in Hutcheon's matrix model, but also encompasses other signs whose (quasi-) denotational meaning is highly discernible (Wolf 2009a, 39, 45). Implicit forms, by contrast, work with more covert devices of foregrounding, such as the stylized use of language, sounds, or images, as well as with salient deviations from convention (Wolf 2009a, 40). The distinction between implicit metareference and heteroreferential forms tends to be fluid and context dependent. Often, implicit metareference becomes recognizable only because it comes with additional markers such as foregrounding devices, or because it is accompanied by explicit forms of metareference (Wolf 2009a, 40–41, 48). Either way, the "frontier into 'meta-land'" (Wolf 2009a, 48) remains elusive, making implicit metareference dependent on a cooperative recipient.

The third and fourth continua focus on the content and functions of metareference. If a metareferential comment refers to the material or semiotic scaffolding of a text, Wolf speaks of mediality-centred, or *fictio* metareference. Truth-fiction-centred, or *fictum* metareference, in turn, refers to the inventedness of the storyworld (Wolf 2009a, 41). The latter is naturally restricted to games that invoke fictional gameworlds; the former is surprisingly flexible to the point where it can unproblematically account for comments on videogames as simulations systems or digital artefacts. For instance, a videogame may formulate a mediality-centred (or fictio) comment by alluding to the fact that it requires algorithmic rules or computing power to run (e.g., *Baba Is You* [2019]; *Pony Island* [2016]). Wolf concludes his list of continua with a functional criterium, namely whether the metareferential comment is critical or non-critical. Critical forms expose and distance themselves from conventions; non-critical ones may instead fulfil affirmative or explanatory functions (Wolf 2009a, 43; see also Nünning 2004, 32–33). In addition, as indicated by the example of *Spec Ops: The Line*, as well as in many others, including the *Metal Gear* (1987–2015) and *BioShock* (2007–2013) series', videogames may also be critical in the sense of offering a politically-minded critical commentary, which once more that testifies to the "outward-looking" capacity

of metareferential works to formulate a "potentially constructive social criticism" (Waugh 2001 [1984], 12).

The last two continua between critical/non-critical and fictio/fictum metareference may seem somewhat too general since both the content and the function of metareferential comments are often much more diverse than the binary distinction would suggest. Later in his chapter, Wolf himself enumerates several additional functions of metareference, some of which may coincide, complicating the earlier dichotomy (Wolf 2009a, 64–71). However, the high level of abstraction of Wolf's model is less a sign of superficiality than a means to ensure its validity across the widest-possible range of referential media. Various case studies published in two volumes (Wolf 2009b; 2011b)—including a chapter on videogames (Jannidis 2009)—testify to its exceptionally high applicability. Yet, that very same universality limits the usefulness of Wolf's model for my purposes. Though it is perfectly possible to directly map his four continua onto videogames, this also obscures videogames' medium-specific characteristics. While Wolf's work thus remains one of the most important cornerstones of my conceptualization of metareference, it is necessary to supplement this discussion with a review of videogame-specific approaches.

2.2.2 Metareference in Videogame Research

While book-length studies and dedicated anthologies about metareference in videogames are only now emerging (Krampe/Thon 2025; Waszkiewicz 2024), this does not mean that the phenomenon has escaped scholarly attention. Quite the contrary, numerous publications on different subjects identify metaization as a notable trend in videogames or scrutinize related phenomena such as self-reflexivity (e.g., Gualeni 2016; Rapp 2007a), metafiction (Jensen et al. 2016, 22), fourth wall breaks (Conway 2010; Van de Mosselaer 2022; Wang/Jones 2018; Waszkiewicz 2020), and other forms of metalepsis (e.g., Ensslin 2022; Ensslin and Bell 2021; Harpold 2007). What is more, textual analyses of metareferential videogames can be found in the context of topics ranging from perspective (Beil 2010) via emotion and immersion (Marak et al. 2019) to metagaming (Boluk/LeMieux 2017). Not least, the popularity of highly complex videogames like *The Stanley Parable* (2013) and *Metal Gear Solid* (1998) among scholars seems responsible for the honourable mention of metareference in many a game studies publication (e.g., Backe/Thon 2019; Herte 2016; 2020; Rauscher 2018, 74–76; Rautzenberg 2018, 16–18, 21; Ryan 2006, chap. 9). A lively discussion about metareference in videogames and even some theory building can furthermore be found in (online) journals, blogs, and other non-academic resources dedicated to games and gaming (e.g., Adams 2004; Cox 2014; Weise 2008).

Though terminological disagreements and the broad dispersal of the relevant research pose a challenge, it is still possible to trace some main trajectories, starting with a series of papers and panels dedicated to metareferential videogames that were presented at high profile conferences. The "meta-panel," organized by the Italian *GAME* journal and presented at DiGRA 2013 (Caruso et al. 2013), as a case

in point, later evolved into a *GAME* special issue about *Games on Games* (Caruso et al. 2016). The issue's main interest lies with exploring the possibilities of using videogames as a means of doing and communicating research and consequently, it also includes examples of what has been referred to as "playable theory" (Ferri et al. 2016, 5): videogames that are in themselves forms of research in that they offer interpretations or transmit knowledge about videogames. Sometimes accompanied by written articles or explanatory paratexts, these self-aware metagames fulfil overtly didactic or critical purposes not dissimilar to a handbook, an essay, or a lecture (Ferri et al. 2016). *Necessary Evil* (2013), a short game created by philosopher and game scholar Stefano Gualeni, for instance, is "designed to materialize critical and/or satirical perspectives on the ways in which videogames themselves are designed, played, sold, manipulated, experienced, and understood as social objects" (Gualeni 2016, 11). In *Necessary Evil,* the player does not take the role of the hero but controls a disposable "minion of evil," which radically changes the experience and draws attention to the conventions of RPGs and the fundamentally player-centric ideology governing their design (Gualeni 2016). In a companion article to the game, Gualeni emphasizes the need for self-reflexive games to create a degree of analytical distance between the player by means of defamiliarization and by exhibiting the game's constructedness, which echoes earlier theories of metafiction and metareference. He also discusses individual techniques that these games may employ, including the subversion of videogame conventions and player expectations, the explicit discussion of design decisions or gameplay by in-game characters, the visualization of information pertaining to the game's technical setup, or the deliberate use of glitches (Gualeni 2016).

Even more pertinent to this chapter is a small selection of publications that introduce videogame-specific "meta-terms," though none of these coinages has become dominant in game studies thus far. In her analysis of the indie game *The Path* (2009), Astrid Ensslin uses the term "metaludicity" to describe "the ways in which game designers play with, rather than by, rules and other ludic devices to achieve specific aesthetic effects and a genre-critical stance in the player" (2014b, 90). An allegorical walking simulator revolving around the folk tale of Little Red Riding Hood, *The Path* also subverts conventional game mechanics and play styles. Breaking the rules, for instance, is constitutive of gameplay and discovery in *The Path*, even though this will inevitably lead to the demise of the characters controlled by the player. Following the game's primary rule ("stay on the path") and safely arriving at grandmother's house is even rated a failure to complete the game goals. In Ensslin's interpretation, such aspects contribute to the metaludicity of the game in that they demand a critical and reflexive attitude in the player who not only uncovers the metaphorical meanings embedded in the folk tale, but also attains an awareness of aspects of game design. The value of Ensslin's concept is that it points to self-criticism as an important function of metareferential games without losing sight of the game's ludic elements. Yet, because it focusses on the potential of "literary" games such as *The Path* and *The Stanley Parable* to make the player engage with gameplay in a more critical manner, metaludicity seems tailored to a

select group of texts within the larger group of metareferential videogames (Ensslin 2014a; 2015).

Another compelling take on metaphenomena specific to videogames is offered by Bradley J. Fest in his 2016 article "Metaproceduralism: *The Stanley Parable* and the Legacies of Postmodern Metafiction." Contrasting metareferential videogames with postmodern literature, Fest coins the term "metaproceduralism" to denote a "self-reflexive videogame technique that responds to and attempts to exploit (rather than resist or unveil) the informatic, algorithmic logic of cultural production in the digital age" (Fest 2016, 3). Like most critics of metafiction, Fest sees metaproceduralism as a motor of critical engagement and aesthetic innovation, rather than exhaustion. To him, the rise of the phenomenon is a sign of the "aesthetic maturation" (Fest 2016, 5) of videogames as well as of a wider informatic and algorithmic turn in the cultural production of the 21st century. Although Fest's perspective is comparative and draws on theories and concepts from literary and film studies, he urges his readers to consider videogames' material and procedural specificity when trying to understand their metareferentiality. Building on the works of Alexander Galloway and Ian Bogost,[10] he reflects how games are fundamentally action-based and prone to producing meaning not only through narrative, language, and images but also through processes:

> If videogames produce a self-reflexivity specific to their medium, a metatextuality distinct from the achievements of postmodern art, it follows that it will be found in the ways their machinic and operational procedures reflect upon themselves, in their *metaproceduralism*.
>
> (Fest 2016, 9; original italics)

The observation that metaization can arise from "machinic and operational procedures" (Fest 2016, 9) as well as linguistic signs is crucial. Likewise, Fest's conclusion that metareferential games criticize generic, formal, and cultural conventions and "draw productive aesthetic and procedural attention to their status as videogames *and* as objects worthy of serious critical attention" (Fest 2016, 4) captures what I think are the most prevalent concerns of contemporary metareferential videogames. Yet, Fest's aim is not to offer a comprehensive theory of metareference in videogames so that readers interested in the different forms of metareference afforded by videogames are left with the challenge of deducing these from Fest's cogent reading of *The Stanley Parable*.

The most recent proposal of a meta-term, and arguably one of the most extensive analyses of metaphenomena in videogames, can be found in Agata Waszkiewicz's 2024 monograph *Metagames: Games about Games*, in which the author discusses a multitude of (potentially) metareferential strategies, including fourth wall breaks, unreliable narrators, foregrounded interfaces, fragmentation, games within the game, and parody. Maintaining a dual focus on experimental/philosophical games and "political engaged titles," (2024, 171) they then tie their observations to broader contemporary trends such as cozy games and masocore games, exploring how these subvert player expectations or challenge established conventions of

videogame design. Since Waszkiewicz is less interested in developing an analytical model or taxonomy of metareference than in offering "a broader overview of various meta formal devices" (2024, 2) organized according to selected themes, their book's main aims differ from (and complement) my own. The desideratum of a systematic theoretical and analytical approach to the forms and functions of metareference in videogames, in any case, is yet to be met.

As a final reference point in this overview of key texts on metaization in videogames, I would like to mention Rapp's dissertation *Selbstreflexivität im Computerspiel* ("Self-Reflexivity in Videogames"; my translation [2007a]). To my knowledge, his work is not widely known beyond the German-speaking context, but it's aims, scope, and methods are closely related to my own. With the help of several examples, including LucasArt's witty and cultishly revered *Monkey Island* series, Rapp theorizes and analyzes self-reflexive strategies in videogames. His definition of self-reflexivity differs from metareference in that it does not hinge on the presence of a metalevel; otherwise, the two concepts largely overlap so that most of the examples discussed by Rapp fall very much within the scope of this book. What is most interesting for the present purposes is that Rapp tries his hand at a videogame-specific model. Wary of the certainty suggested by closed formal typologies, Rapp instead opts for an open-ended system of ideal types of self-reflexivity based on the criteria of situation and extension (Rapp 2007a, 94, 149). The first criterium considers the situation in which the player comes across the phenomenon. For example, Rapp distinguishes between self-reflexive elements that are encountered while navigating game space (2007a, 101–109) and ones encountered while the player's activities are partially suspended, such as when they are accessing a game menu (2007a, 116–118). Other forms are accompanied by a change in the type of challenge the player is facing (2007a, 118–120) or occur only when the player gets stuck (2007a, 120–121). Extension, by contrast, specifies whether the phenomenon occurs only in a single instance, at regular intervals, or is virtually omnipresent throughout the entire game (2007a, 125–131).

Written at a time when self-reflexivity in videogames constituted a true research gap, Rapp's identification of forms of self-reflexivity according to the player's current position and activity may at times seem to overemphasize the specificity of videogames. In fact, few forms and techniques described in his book—among them references to other games, self-aware characters, or the appearance of real-world designers in the gameworld—are without an equivalent in other media. Still, the criteria of situation and extension allow him to pinpoint the constellations of settings, structural conditions, and player behaviours in which self-reflexive elements are embedded, and in which they are encountered and interpreted by the player. What is more, videogame-typical features such as interactivity and the co-creative agency of the player are no longer a problem but productively integrated into the model. The downside to this approach is its comparatively low degree of abstraction that is not well-suited for comparative perspectives and connections to the transmedial study of metareference, as well as the sense of indeterminacy that comes with the choice of open-ended categories. Rapp's definition of the first criterium (situations) as "moments and constellations in a gameworld that are

communicated by game interfaces via audiovisual and haptic feedback" (2007a, 95), in particular, allows for a near limitless number of different categories and subcategories. Since Rapp deduces these largely bottom-up from the analysis of videogames published for the C64, the Amiga, and the personal computer in the 1980s and 1990s (2007a, 12), some of the forms thus identified seem at once curiously specific and at risk of becoming outdated rather quickly. A case in point is the "integrated pause" (Rapp 2007a, 113; my translation), a subform of suspended player activity that is characterized by the interruption of ludic sequences by non-interactive interludes or cutscenes. In 21st-century games, such clear and disruptive suspensions of player activity have become less common, and so have the corresponding forms of self-reflexivity, as cutscenes and scripted events are often integrated more seamlessly or afford some measure of interaction. Similar signs of age can be seen in the analysis of functions of self-reflexivity, most of which are linked to comic, playful, and affirmative effects, whereas I would argue that, at least in contemporary videogames, metareference frequently and notably fulfils critical functions. In a way, however, this even adds to the relevance of Rapp's study which may now serve as a point of reference from which we may assess subtle changes in the ways in which videogames employ metaization over time.

Let me conclude this section with a word on terminology. In light of catchy and videogame-specific alternatives, it may appear curious to stick with the expression "metareference in videogames." "Metagame" (e.g., Waszkiewicz 2024), for instance, may seem like a more attractive choice because it is shorter and parallels similar coinages in other fields such as metatheatre, metafilm, or metacomic. Indeed, I occasionally use the expression "metagame" as a shorthand for thoroughly metareferential games such as *The Stanley Parable*, *Pony Island*, or *There Is No Game: Wrong Dimension* (2020). However, in its more widespread usage, metagames denote activities that are perceived to be outside of or peripheral to the game, such as using out-of-character knowledge in RPGs, playing sub-games inside a game (e.g., achievement hunts) or engaging with higher-level strategies (Boluk/LeMieux 2017, 12–14). Recently, the various understandings of metagaming underwent thorough scholarly scrutiny at the hands of Stephanie Boluk and Patrick LeMieux. In the monograph *Metagaming: Playing, Competing, Spectating, Cheating, Trading, Making, and Breaking Videogames*, they define the metagame as "a truly broad label for the contextual, site-specific, and historical attributes of human (and nonhuman) play" (2017, 17). Metareferential "games about games" (2017, 29), too, are part of the authors' list of possible meanings. In indie games such as *FEZ* (2013), *Super Meat Boy* (2010), and *Braid* (2008), Boluk and LeMieux find examples of a "metagame that represents, references, or otherwise cites the graphics and gameplay of other games" (2017, 29). However, the metagame could just as well denote a subset of economic game theory, a slippage between in-game and real-world knowledge, or any practices occurring before, during, and after games that are not unambiguously part of the game (Boluk/LeMieux 2017, 10–12). To return to the question of terminology, the terms "metagame" and "metagaming" have multiple meanings, of which "metareferential game" is but one. Other game-specific terms have not (yet) travelled beyond a small number of

scholarly publications and therefore cannot compete with the productive clusters of scholarship and the in-depth theoretical debates that exist around concepts such as metafiction and metareference. Though perhaps less elegant, "metareference in videogames" thus offers the dual advantage of terminological precision and transmedial validity. As a transmedial concept that frees itself from explicitly literary connotations, metareference can easily accommodate the multimodality and even the ludic and technological dimension of videogames without losing sight of the similarities of metareferential strategies across media.

As this literature review has shown, metareference in videogames is not a true research gap in either transmedial narratology or game studies. Though they at times employ different terminology or focus on related but subtly different concepts, transmedial and videogame-specific discussions of phenomena such as self-reference, self-reflexivity, metaproceduralism, or metaludicity offer valuable insights into the use of different metareferential strategies in videogames. Bringing them together and organizing them into a comprehensive theory and analytical model is the main goal of this book. Before I do so, however, it seems necessary to more clearly define the scope of metareference and distinguish it from closely related devices and phenomena. The next subchapter consequently unpacks the interrelations between metareference, *mise en abyme*, and metalepsis. It furthermore evaluates the metareferential potential of references to other videogames (intertextual references) as well as references to other media or genres (intermedial references).

2.3 The Metareferential Potential of Related Devices

2.3.1 Mise en Abyme

The term *mise en abyme*[11] describes a structure of repetitive embedding that, in its pure form, creates an endless regress, as expressed in the image of two mirrors, facing one another (Cohn 2012, 108–109; Dällenbach 1989; Dickmann 2019, 11–12; Wolf 2009a, 56). Since all images are already contained within one another, it becomes impossible to distinguish the real from the mirror images; hence, *mise en abyme*'s association with a sense of vertigo. In the media, the device is frequently used to encourage (real or fictional) recipients to question their sense of reality, suggesting that what they conceive of as stable, extradiegetic reality may yet be another reflection; that they themselves might be less than real (Cohn 2012, 108). In contemporary literary theory and media studies, *mise en abyme* is normally used in a somewhat broader sense, describing a text embedded in another text with which it shares some similarities that make the metaphor of the mirror plausible. These forms can range from the extreme case of a work that seems to contain itself in its entirety, as is the case in *The Neverending Story* (Ende 2009 [1979]),[12] to constellations in which the levels of embedding are finite or the text contains merely a fragment of itself (e.g., de Nooy 1991, 19–22; Wolf 2009a, 56–57; but cf. Dällenbach 1989 for a more restrictive definition). Videogames, too, may play on the idea of infinite regress (e.g., *The Stanley Parable*, Figure 2.1). More often,

Figure 2.1 *Mise en abyme* on the title screen of *The Stanley Parable.*

however, we encounter *mise en abyme* in the broader sense when videogames mirror parts of themselves on a lower level of embedding. To be able to account for this variety of different forms, it is useful to follow the broader understanding of *mise en abyme* as a technique involving vertically stacked levels of embedding that are characterized by relationships of similarity or contrast (Wolf 2009a, 56–57).

A particularly interesting phenomenon in this context is the game within the game (e.g., Backe 2016; Seiwald 2019). While videogames may also appear as non-interactive objects in the gameworld (see intertextual reference, below), games within the game stand out because they can in fact be activated: They are playable versions of a videogame contained within another (Jannidis 2009, 547). Not all games within the game correspond to the figure of *mise en abyme* in its narrow sense. Regina Seiwald (2019), for example, distinguishes between *mise en abyme* and Chinese-box structures, where the former denote embedded games that strongly mirror the main game while the latter remain separate from it. Still, I would maintain that as long as the relation of similarity and contrast between the two games results in a reflexive relation between them, games within the game can be understood as *mise en abyme* in the broad sense. When it comes to possible overlaps between *mise en abyme* and metareference, it seems that the former's reflexivity as well as its "troubling effect" (Cohn 2012, 108) place it in close proximity to the latter. In other words, a videogame that mirrors parts of

itself is necessarily self-referential and likely to comment on and draw the player's attention to aspects of the mediality of videogames. This metareferential potential can be significantly enhanced if the game uses additional markers or neighbouring metareferential devices.

Consider the example of *Uncharted 4: A Thief's End* (2016). In *Uncharted 4*, the player character Nathan Drake can play the game *Crash Bandicoot* (1996), an earlier game by the same developer, Naughty Dog, on his home console. The transition from the frame to the embedded game is introduced by a cutscene during which the camera almost lovingly lingers on the hardware of the PlayStation 1 console before zooming out to show Nathan's TV screen which now displays the PlayStation™ logo, followed by the start menu of *Crash Bandicoot*. We then briefly return to Nathan, who fumbles with the controller buttons, a puzzled expression on his face, before finally managing to start the game. As he gains control over the titular Bandicoot, the player does as well, effecting a change in game mechanics. What is embedded in *Uncharted 4* is thus not merely a representation of another game, but literally *is* (a demo version of) *Crash Bandicoot,* complete with a fully functional game system. At the same time, its position within *Uncharted 4* changes the meanings attached to it because *Crash Bandicoot* now serves as a nostalgic nod to an earlier era of gaming. The attention *Uncharted 4* devotes to the dated hardware technology is telltale in this respect. The recontextualization is further emphasized by the visible edges of Nathan's TV set and his verbal commentary on his gameplay experience, which reminds the player of the *mise en abyme* situation and enforces a certain distance from the world of *Crash Bandicoot*. All of the above support a metareferential reading of this particular example of a game within the game.

Yet, *mise en abyme* is not identical to, nor a mere subform of, metareference. For one, it is perfectly possible for games to appear within videogames in an unobstrusive way, such as when characters happen to play videogames, in which case the mirroring is unmarked and diegetically motivated (see also Wolf 2009a, 57–60 for a similar argument). Even playable minigames need not be metareferential; in fact, they are habitually used to symbolize activities such as hacking. The lockpicking minigame in *BioShock* (2007)*,* for instance, seems to be a version of *Pipe Mania* (1989) but if this causes the player to reflect on the mediality of the game at all, these concerns will certainly be less prevalent than the suspenseful task of picking the lock. Conventionalization and habituation play a major role as well. The embedding of historical gameworlds within a contemporary one in the *Assassin's Creed* games, for example, is both habitual and legitimized within the diegesis: The player characters within the first-order gameworld use pseudoscientific technology in order to access genetic memories which are then presented in a second-order gameworld. Especially in the later entries in the series, the layered structure is too well established to elicit significant measures of medium awareness in the player unless the game specifically marks the presence of multiple levels (e.g., in the case of the ambiguous fourth wall break in *Assassin's Creed 2* [2009]; see Section 3.1 in this book). To make a long story short, *mise en abyme* remains relevant to the study of metareference because it offers a favourable environment

for reflections on mediality to occur, which are in turn conducive to metareference. Whether or not this "metareferential potential" (Wolf 2009a, 50) is actualized, however, depends on additional factors such as the degree of conventionalization and the context in which the device appears, and will thus need to be analyzed for each case individually.

2.3.2 Metalepsis

Another device that is closely related to metareference, and that shares the prefix "meta," is metalepsis, the "paradoxical transgression of the line that separates the inside from the outside of a storyworld" (Thoss 2015, 7). Like *mise en abyme*, metalepsis is associated with self-referentiality and the ability to lay bare the artifice of the storyworld (e.g., Wolf 2005, 102–104, 50), though recent research also points to more differentiated functions, including the possibility of strengthening the aesthetic illusion and facilitating immersion (Fludernik 2003b, 383; Klimek 2010; Wolf 2009a, 50–56; 2011a, 46).[13] In its contemporary, narratological sense, metalepsis was first used by Gérard Genette to describe the intrusion of the extradiegetic narrator or extradiegetic addressee into the diegesis, or the inverse, i.e., the intrusion of diegetic elements into the extradiegetic level (Genette 1980 [1972], 235). Genette's original terminology and concept have since been subject to much critical engagement and refinement (e.g., Bell/Alber 2012; Cohn 2012; Fludernik 2003b; Klimek 2010; Pier 2009; Thon 2009). While some debates remain unresolved to date,[14] there seems to be some consensus in contemporary narratology on three central characteristics: (1) Metalepsis occurs in texts or artefacts that represent possible worlds; (2) metalepsis involves at least two distinct levels or worlds, and (3) it involves the paradoxical transgression, contamination, or mixing of these levels (Wolf 2005, 89–91; Klimek 2009, 170). From a transmedial perspective, it certainly seems appropriate to de-emphasize the role of the narrator and to conceive of metalepsis as a paradoxical crossing between (sub)worlds (Bell 2016a). Moreover, it is important to acknowledge that, in multilayered storyworlds, metalepsis occurs not only between the extra and intradiegetic levels (or rather, the textual-actual world and that of the recipient) but also between first, second, and at times even third-order storyworlds (Bell/Alber 2012, 169–175).

When it comes to subdividing different types of metalepsis, three distinctions seem immediately relevant. First, we may ask which boundary exactly is being crossed? Possibilities include the boundary between ontologically different subworlds, between the gameworld and the narrator (if there is one), between the gameworld and the extradiegetic graphical user interface (GUI), or between the game and the actual world of the players and designers (see also Krampe et al. 2022). The (rhetorical) transgression of the latter boundary is sometimes referred to as a fourth wall break, using a metaphor derived from the theatre (e.g., Conway 2010; Wang/Jones 2018; Waszkiewicz 2020).[15] Second, we can differentiate between ascending metalepsis as the movement from a lower to a higher level of embedding and descending metalepsis as the opposite movement from a higher to a lower level. These two possible directions are already implicit in Genette's original

definition but were later made explicit (Kukkonen 2011b, 3–9; Nelles 1992, 93; Ryan 2006, 204). Third, we may distinguish between rhetorical and ontological metalepsis. Ryan describes the former as opening "a small window that allows a quick glance across levels" (Ryan 2006, 207; see also Kukkonen 2011b, 9). Rhetorical metalepsis, that is, describes instances in which the boundary between distinct levels seems temporarily porous due to a character's ability to speak across world boundaries, or their impossible knowledge of another (sub)world, or their awareness of their own fictionality (but cf. Thon 2016; Wolf 2009a for alternative distinctions).[16] However, no actual, physical transgression takes place and ultimately the distinction between the levels remains intact. A well-known example of rhetorical metalepsis occurs in the third-person shooter *Max Payne* (2001), when the titular character realizes that he is a character in a videogame:

> The truth was like a green crack through my brain. Weapon statistics floating in the air, glimpsed out of the corner of my eye. The repetitious act of shooting, time slowing down to show off my moves. The paranoid feeling of someone controlling my every step. I was in a computer game. Funny as hell, it was the most horrible thing I could think of.

In a moment of clarity, Max is not only hit by the realization that he is a fictional character but even retrospectively notices aspects of the game's presentation that had not been part of the gameworld, such as extradiegetic information about weapons and bullet counts shown via an overlay that is part of the GUI. The game's famous time slowing mechanism ("bullet time"), which the game had previously framed as a means of approximating the subjective experience of time in the face of danger, is now defamiliarized. Max furthermore notices the control the player exerts over his body, which introduces a critical perspective on the player's empowered position in the game and vis-à-vis the player character.

Ontological metalepsis, finally, occurs when characters, narrators, or objects physically cross the boundaries between ontologically distinct (sub)worlds (Kukkonen 2011b, 1–2, 9). Ontological metalepsis is comparatively unproblematic to identify and describe if it takes place between hierarchically different subworlds within the same game. In *Persona 5* (2016), for instance, a group of Japanese high school students happen upon a mobile phone application that grants them the ability to physically enter other people's subconscious, which is represented in the form of a second-order gameworld (first descending ontological metalepsis). In one of these subworlds, they find themselves in a museum-like space filled with paintings, some of which they can even step inside, resulting in a second descending ontological metalepsis from the second to the third level of embedding. Conversely, in a jump scare in *Layers of Fear* (2016), food items from a still life spill out into the gameworld (ascending ontological metalepsis).

The question of whether metalepsis permits transgressions between the gameworld and the world of the player is somewhat more difficult to answer. Jeff Thoss argues that while ontological transgressions between storyworld and actual world can be suggested by a work of fiction, for instance by means of representing

a fictional version of the reader or the author who then enter the storyworld on the next-lower level of embedding, literal transgressions of that boundary are impossible:

> [S]cholars […] have rightfully argued that metalepsis can also involve the level of the real-world author or reader. Naturally, they have been not so naïve as to postulate that the boundary between reality and fiction can be crossed in a literal, physical way but merely pointed to the fact that narratives can very well suggest this, that it can be part of the game of make-believe that the border between reality and fiction is transgressed.
>
> (Thoss 2015, 11)

The argument seems intuitive. Saving theatre and life action games, fictional characters can hardly be expected to become flesh and blood, and neither can the recipient physically enter a book or computer. In most instances in which media texts suggest the possibility of ontological transgression, we are thus dealing with an elaborate illusion, rather than a genuine physical transgression. Having said that, the specific affordances of videogames, and the fact that they run on a computer, do permit metaleptic movements that are different from most other mainstream media. In the words of Marie-Laure Ryan:

> Computer games offer a particularly favorable environment for metalepsis: as programs that produce fictional worlds, they can play with the levels of world and code; as worlds that invite the player to play the role of a character, they can exploit the contrast between the player's real and fictional identities; and as fictional worlds, they can resort to many of the metaleptic tricks of standard literary fiction.
>
> (Ryan 2006, 224)

Ryan's statement draws attention to two distinguishing characteristics of metalepsis in videogames. First, in addition to metalepses familiar from other media contexts, in videogames we may also find various forms of transgressions between the gameworld and the game system, such as intrusions of extradiegetic interfaces, of gaming hardware, or even of computational code into the gameworld. Such is the case when Max suddenly recalls the "[w]eapon statistics floating in the air" in *Max Payne* or when Deadpool grabs his own health bar to use it as an improvised weapon in *Marvel vs. Capcom 3* (2011). Ryan's argument goes considerably further than that, however, as she suggests that it may be possible for metalepsis in videogames to "*really* spill into the real world and affect it *physically*" or, in any case, for a game to "destro[y] the user's system" (Ryan 2006, 226; original emphasis). In that case, the boundary crossing would take place between the levels of the gameworld (or game system) and the real world, or at least the player's real computer. Indeed, there is at least one example of a game that has such an invasive and destructive effect on the player's system, namely Zach Gage's *Lose/Lose* (2009), which deletes random data files while it is played. In a kind of reversal of

the same technique, several videogames require the player to interact with the operating system (OS) or the hardware to achieve effects in the gameworld. Since these kinds of phenomena differ considerably from more familiar, transmedial forms of metalepsis, I will discuss them at some length in Chapters 3 and 6.

Second, Ryan's argument that videogames "can exploit the contrast between the player's real and fictional identities" for metaleptic effect is linked to debates around the player's often ambiguous relation to the game as well as to the player character's dual nature as a fictional being on the one, and a vehicle for the player's embodied presence and agency in the game on the other hand (Klevjer 2022 [2006]; Vella 2016, 79–80). Ensslin, for example, speaks of the player's "dual embodiment" (2022, 416) or "double-situatedness" (2009, 158), split between virtual self and player self. Even though immersed players may imaginatively recentre to the gameworld where they are reembodied in the player character, their body before the screen remains so that players are simultaneously participants in the gameworld and operators of a computer who can reach across the material boundary of the screen with the help of keyboard or controller (Ensslin 2022, 415; see also 2009, 158; Bell 2016b, 297; Klevjer 2012, 25–31).

The player's liminal position in and across two "realities" at once has interesting implications for metalepsis (Weise 2008). If we are to perceive their interactive agency in the gameworld and/or their embodiment in a player character as a paradoxical crossing of boundaries, this would be congruent with commonly accepted definitions of ontological metalepsis and would lead us to the conclusion that videogames always entail metaleptic elements. This is the position adopted, a.o., by Alice Bell and Astrid Ensslin, according to whom ergodic texts indeed always occasion a special form of descending ontological metalepsis, which they call "interactional metalepsis" (Bell 2016b; Ensslin/Bell 2021, chap. 2). In digital interactive media, the player gains access to the gameworld via hardware interface devices and is reembodied in some form of visible or invisible avatar, such as a player character, a cursor, or simply a camera perspective they can control (Ensslin 2009, 158). Ensslin and Bell interpret this as the reader's or player's ontological crossing from the real world into the gameworld (Bell 2016b, 297; Ensslin/Bell 2021, chap. 2). Needless to say, interactional metalepsis occurs in the overwhelming majority of videogames due to their interactivity. While the concept is certainly intriguing with respect to the player's dually embodied relation to the game, it thus seems that there is no inherent relation between interactional metalepsis and metareference as I understand it. Quite the contrary, interactional metalepsis describes the player's default interaction with the game and serves as a "medium-specific convention that normalizes ontological transgression and has immersive rather than defamiliarizing effects" (Ensslin 2022, 416; see also Bell 2016b, 307; Ensslin/Bell 2021, chap. 2).[17]

What this shows quite clearly is that not all forms of metalepsis are metareferential because not all of them evoke the player's medium awareness. Overall, metalepsis thus emerges as a device that is likely to coincide with metaization, but whose metareferential potential can be mitigated by generic conventions, habituation, or double coding (Wolf 2009a, 53–56). Metalepsis, in other words, is not synonymous

with metareference in the sense that not all forms of metareference enact metaleptic border crossings and not every metalepsis is metareferential. Interactional metalepsis, as a case in point, is conventional and habitual to the point where it does not usually elicit medium awareness. Nevertheless, metalepsis remains one of the most central devices to consider here, not least because videogames seem to offer favourable conditions for the development of highly experimental and clearly metareferential forms of metalepsis that I will return to in subsequent chapters.

2.3.3 Intertextual and Intermedial References

What seems furthermore likely to draw the player's attention to mediality are references from one videogame to another, as well as references to other media. Videogames exist within a complex network of intermedial relations. Not only do we often find different media such as books within their gameworlds but their audiovisual aesthetics also borrow from and remediate earlier videogames as well as other media such as comics and films (see, e.g., the contributions in Duret/Pons 2016; Fuchs/Thoss 2019; Rauscher et al. 2021). These kinds of phenomena are often discussed under the umbrella of intertextuality or intermediality, though for my present purposes, I adopt a somewhat narrower focus on intertextual and intermedial *references* in videogames, that is, on the ways videogames represent, cite, imitate, parody, thematize, or otherwise refer to another text (Rajewsky 2002, 16–17, 25–27; Schröter 2012, 26–28; Wolf 2017 [2014], 193–202). The expression intertextual references is used for references from one videogame to another, whereas intermedial references cross media boundaries, for example, from videogames to novels, films, or comics.[18] Note, however that terms and definitions differ across the relevant literature and that both terms have been used to describe a wide range of relations and interactions between texts and artefacts, many of which have no inherent relationship to metareference.[19]

The narrower focus on intertextual and intermedial references still leaves a rather diverse set of phenomena, which have been systematically described by Irina O. Rajewsky. First, drawing on the well-established distinctions in the German tradition between "Einzel(text)referenz" (Broich 1985) and "Systemreferenz" (Pfister 1985), Rajewsky distinguishes between references to another text vs. references to a media subsystem (2005, 52–53). Both of these occur rather frequently in videogames; a notable cluster of examples being the point-and-click adventures created by Ron Gilbert (e.g., *Maniac Mansion* [1987]*; The Secret of Monkey Island* [1990]; *Thimbleweed Park* [2017]), which are famous for their in-jokes and constant referral to one another as well as the parodic reversal of adventure game genre conventions (Bonello Rutter Giappone 2015; Rapp 2007a, chap. 3). Second, Rajewsky notes that intertextual and intermedial references can be expressed in various ways that range from naming or explicitly quoting from another text to subtler forms of imitation and evocation (Rajewsky 2002, chap. 5; see also Isekenmeier et al. 2021, 3–17; Wolf 2017, 195–202). In part due to the computer's ability to (re)produce a vast variety of languages and modes as well as to simulate various existing media (Kay/Goldberg 2003 [1977]; Manovich 2013,

44), an astonishing variety of techniques for creating intertextual and intermedial references can be found in videogames. Phenomena that have been common since the early days of videogaming include the use of explicit verbal and pictorial references to other games, often as a form of in-game advertising (Rapp 2007b) or self-canonization. Homage and parody are particularly common functions of intermedial references, as can be seen in the *Saints Row* (2006–2020) or the *South Park* series (2014–2017). What speaks for the metareferential potential of these videogames is that it is hardly possible to play any one of them without taking note of the preceding works that inspired them, the conventions and discourses they cite, or their embeddedness in the media landscape and the (popular) culture of their respective contexts of production. Rajewsky's third distinction pertains to the difference between intertextual and intermedial references (though her terminology differs from mine; see Rajewsky 2005, 54–59). Importantly for my upcoming consideration of their metareferential potential, she highlights that, unlike intertextual references, intermedial ones "imply a crossing of media borders, and thus a medial difference" (Rajewsky 2005, 54; see also 2009; 2010) that underscores the gaps between media. By emulating elements or structures of a different medial system through their own medium-specific means, intermedial references in videogames create an elaborate but necessarily imperfect illusion of the other medium being present, which reveals the specific affordances and limitations of both of the different media involved.

Clearly, the reflexive potential inherent in the visible gaps and seams between media texts or the foregrounding of mediality through processes of remediation coincide with the functions of metareference. Nevertheless, it is important to question whether intertextual and especially intermedial references are in fact metareferential.[20] More often than not, they permit both a gameworld-consistent and a metareferential reading, or simply integrate seamlessly with the gameworld, in which case they can hardly be expected to elicit medium awareness in the player (Beil 2021, 180; Jannidis 2009, 550; Juul 2005, 132; see also the discussion of *mise en abyme* above). Libraries and books, for instance, can be found in many videogames as part of the world or setting, though some games infuse their books and libraries with self-reflexive meanings so that they become sites for negotiating videogames' position vis-á-vis the literary canon (e.g., in *Alan Wake* [2010] or *What Remains of Edith Finch* [2017]). We can therefore assume that the metareferential potential of intertextual and intermedial references, like that of metalepsis or *mise en abyme,* increases with the degree of explicitness of the device and the saliency with which it breaks with generic conventions or player expectations, and decreases with the degree of conventionalization or diegetic legitimization (see also Jannidis 2009, 554). Not least, it may simply depend on the recipient's familiarity with the source text, which determines whether they recognize the reference at all.

How videogame elements may tiptoe the line between "mere" intermedial reference and metaization can be shown through the brief analysis of a theatre play that occurs in *Nier: Automata* (2017). The game is set in a post-apocalyptic world in which humanity has gone extinct, and Earth has become the scene of a proxy war between two factions: the human-like androids and the allegedly less

advanced machine lifeforms. As the story progresses, the player happens upon a group of machines who, in an attempt at imitating human behaviour, perform the play "Romeos and Juliets" in an abandoned theatre. The play starts with a comparatively faithful adaptation of the balcony scene from Shakespeare's *Romeo and Juliet* (1597, Act 2, Scene 2). However, since *Nier: Automata*'s machine lifeforms understand themselves not so much as individuals than as interchangeable parts of a collective, the audience is soon faced with three Romeos and three Juliets. The ensuing confusion prompts the actors to depart from the script ("O Romeo, Romeo, which one of thou art Romeo?") and the performance spirals into chaos, ending in a bloodbath as the Juliets attempt to eliminate all but one of the Romeos and vice versa: "O Romeo, Romeo, then let us cull thy numbers!" The parodic emulation of Shakespearean language and the actors' clumsy and emotionless recitation are wildly entertaining in their absurdity. Yet, the scene also betrays the game's intense preoccupation with the link between creativity, art, and human nature (see also Jansen 2019). The performance shows a classic Shakespearean play in an entirely new light at the hands of unlikely interpreters who use it to understand what it means to be human but get it wrong rather spectacularly (Gerrish 2018). It is precisely this failure that reflects the conventions and cultural functions of the theatre back to the player, problematizing its supposedly stable meanings. The arguably strongest argument for a metareferential reading of the scene, however, is that the perpetual destruction and substitution of the actors on stage parallels *Nier: Automata*'s own recursive loops. Romeo and Juliet, just like the player characters 2B and 9S, are trapped in a circle of life and death, or rather death and respawn. In this sense, "Romeos and Juliets" is not only a nod to Shakespeare's (almost) eponymous play but serves as a critical companion piece to *Nier: Automata*. The representation and partial imitation of another medium, in this case the theatre, forms a metareferential subtext beneath the game's surface layer of meaning that is implicit, but can be teased out by means of close reading and interpretation.

Hans-Joachim Backe has furthermore suggested that certain in-game images can fulfil metareferential functions, using two case studies to argue his point. In the first case study, *Dishonored 2* (2016), a magical painting serves as the dystopian mirror image of the (textual) actual world; in his second example, *Prey* (2017), the player character's reality is revealed to be a VR simulation. In Backe's compelling interpretation, both case studies blur the line between reality and representation and "defamiliariz[e] not only those images themselves, but by extension the whole apparatus of the games they are embedded in" (2018, 2). Acting as metaphors of representations, or rather simulations, in general, these in-game images comment on their nature and functions, their relation to reality, and the emotional responses they elicit in the recipient (Backe 2018, 10). Note, however, that in both examples, metaization is as much the result of metalepsis and *mise en abyme* as that of intermedial reference. This suggests that, while the mere presence of images in videogames is not an indicator of metareference per se, they can serve as vehicles of metaization once they are foregrounded by means of additional (audiovisual) markers or integrated within complex *mise en abyme* structures and metaleptic movements.

To summarize, intertextual and intermedial references encompass elements that cite, incorporate, or allude to other texts. The examples and readings discussed in this section suggest that, in addition to intertextual references to another videogame or game genre, intermedial references to media and artefacts other than videogames can also serve metareferential functions. However, it is important to keep in mind that intertextual and intermedial references are not subforms of metareference, and neither are metalepsis or *mise en abyme*. Whether or not the devices discussed in this subchapter are metareferential can often only be decided on the basis of a close analysis of the videogame in which they occur, and by asking whether they entail a self-reflexive comment and whether they elicit medium awareness in the player.

2.4 Definition, Problematization, Delimitation

In the introduction to this book, I have proposed a working definition of metareferential videogames as videogames that speak about themselves. Building on the literature reviewed in this chapter, I can now offer a more detailed and refined conceptualization. Metareference in videogames is a phenomenon with three basic defining characteristics: self-reflexivity, metaization, and medium awareness. Self-referentiality and self-reflexivity describe the content of the utterance or comment, namely, that metareferential videogames refer to themselves and thematize their own "game-ness," which may include comments on their various communicative layers—i.e., the gameworld, the game system, or the hardware and software of the platform—or on their multimodal means of communicating information within either of these layers to the player. References to other videogames, potentially even to other media, as well as to the larger context of videogame production, distribution, and reception may also qualify as self-reflexive utterances as long as they also at least indirectly refer to the game in which they occur. The prefix meta, in turn, refers to the logical position of metareference on a higher communicative level. Derived from the concepts of metalanguage and metarepresentation, the split between metalevel and object level enables the game to comment on itself as if from above or outside itself (Fludernik 2003a, 15–16; Wolf 2009a, 2–3). The effect, as the third and final defining characteristic, is to elicit medium awareness in the player; to draw their attention to the mediality and/or fictionality of the game and/or to the fact that they are currently operating a computer or console.

Building mainly on Werner Wolf's (2009a) definition of metareference, this more differentiated understanding provides a good idea of the defining characteristics of metareference in videogames. And yet, it remains rather broad and leaves several questions unanswered. Where, for instance, do we draw the line between (implicit) forms of metareference and non-metareferential phenomena? Or between metareference and unintentional exposures of the game's mediality caused by errors or technological limitations? Confronting similar questions, Ilona Mader argues that, in principle, there are three perspectives that can be adopted when setting up the limits of metareference: authorial intention, reception, and text-immanent criteria (Mader 2017, 23). It is certainly tempting to build a theory of metareference on text-immanent criteria only, which, in a study that is not rooted

in empirical methodologies, are by far the most knowable and reliable and which will indeed be my main focus in the chapters to come. Still, I would argue that a comprehensive account of metareference in videogames cannot afford to ignore any of the three perspectives. In fact, the dimensions of design intention and reception are already implicit in Wolfs (2009a, 31) criteria of the non-accidental character of metareference and the effect of medium awareness, respectively, but they can be further developed to yield a set of additional parameters that help distinguish metareference from related phenomena.

2.4.1 Hypothetical Design Intention

Arguments relying on authorial intention are typically met with suspicion in narrative theory and (ludo)narratology, and with good reason. Not only is the intent of a work's creator(s) unknown in some cases, but it is also unclear why their reading of a work should be more valid than that of any other interpreter. In videogames, the situation is further complicated by "cooperative, collaborative, and collective" constellations of authorship (Thon 2016, 134): There seldom is an author figure in the traditional sense of a single individual to whom authorial intention could be attributed. AAA games, in particular, are often created by teams of at times several hundred developers, programmers, artists, writers, and so forth, with varying contributions to and degrees of responsibility for the final product, and whose roles may change over time (Thon 2016, 134–138). To further complicate matters, videogames' interactivity seems to imply at least some measure of co-creative power on the part of the player. What happens in the gameworld, and thus what is represented to the player, is partly contingent on input and on decisions beyond the developer's immediate control.[21] This suggests that creation and reception are closely interlinked and that the "game as intended" encompasses a range of different actualizations.

A viable solution for dealing with the pitfalls of authorial intention is to work with a version of the implied author (Booth 1961). Since it would go well beyond the scope of this book to reconstruct the concept's complex and not uncontroversial history (see Kindt/Müller 2006 for a comprehensive discussion), I will instead refer to the videogame-specific reworking of said concept by Nele Van de Mosselaer and Stefano Gualeni (2020). The latter propose to speak of the implied designer who, like the implied author, is not so much a person or group as an abstract idea "that the player constructs on the basis of their dynamic interpretation of the game" (Van de Mosselaer/Gualeni 2020, 3; see also Thon 2016, 134–138 for a conceptualization of author collectives as intersubjective communicative constructs). While playing the game, the player infers hypotheses about the intentions behind the elements they encounter based on the textual cues provided by the game, as well as on contextual ones such as the social, cultural, and economic context of the game's production (see also Mader 2017, 26–28). These reconstructed hypothetical intentions are then ascribed to the implied designer (Van de Mosselaer/Gualeni 2020, 3).

Jan-Noël Thon additionally notes that (hypothetical) author figures may appear in varying degrees of abstraction and need not be constructed exclusively on

the basis of the media text itself. The "author figures that are represented (with varying degrees of detail and 'accuracy') in a work's paratexts" (Thon 2016, 134), for instance, may significantly influence the image of authorial intention in the minds of recipients. Methodologically speaking, this also suggests that, even when bracketing real, biographical authors, it is nevertheless useful to consult relevant paratexts such as interviews or developer's commentary when considering a videogame's hypothetical design intention. Considering that arguments built around the notion of design intention are suspected of "policing" meanings and creating a hierarchy of interpretations (Ruberg 2019, 82),[22] it is important to note that the idea of the game as intended by its implied designer does not prescribe a single, default interpretation. Rather, "a narrative representation supports multiple comprehensions with equal degrees of plausibility" (Thon 2016, 56). The game as intended therefore encompasses all elements that are assumed to be aesthetically motivated and non-accidental in the sense that their integration in the game is within the scope of the implied designer's hypothetical intention.

This makes it possible to distinguish between an "official" version of the game and accidental phenomena such as technological malfunctions as well as between plausible and implausible interpretations. Without any means of ruling these out, one would be hard-pressed to differentiate metareference from accidental disturbances such as bugs and glitches, technical defects, and other unavoidable traces of mediality and materiality.[23] In videogames, these unavoidable traces often include elements dictated by the limitations of technology. If a computer or console needs some time to load a new area of a videogame, play must be suspended. Some videogames camouflage loading times as long elevator rides or ladder climbs, but most employ conventional loading screens that typically show progress bars or gameplay tips. While these are certainly self-referential and prone to exhibiting the game's mediality, their purpose is to bridge loading times and hold the player's attention, not to formulate a metareferential comment. Hence, even though technological malfunctions, performance issues, and other constraints in principle carry indications of the constructedness of the videogame, they hardly qualify as metareferential since their presence cannot be ascribed to the hypothetical intention of the implied designer, and players usually accept them as necessary parts of a videogame (see also Juul 2005, 5, 130–132; Thon 2016, 104–107 on external explanations).

The difference can be demonstrated when looking at examples of videogames that foreground the necessary elements of the game's mediality with the (hypothetical) intention of formulating a metareferential comment as when *Spec Ops: The Line* uses loading screens as a means of formulating a critical self-commentary. The short parodic game *Loading Screen Simulator* (2017) is even built entirely around the idea of loading screens as players are pretty much restricted to watching the excruciatingly slow movement of a progress bar. *Monkey Island: Escape from Monkey Island* (2000), finally, draws attention to the presence of the computer screen as a physical threshold between the player and the game when a character launches a dart in the direction of the player (see also Rapp 2007a, 201). As the dart hits the "screen," there is a sound of glass breaking, and a visual overlay that

looks like a chip in the glass of the computer screen appears. Even though the real-world computer screen remains very much intact, the simulated breakage still draws attention to the hardware interface as an additional layer of mediation between player and gameworld, forcing them to look at rather than through the screen. All three examples are framed in such a way that the implied designer's intention can be reconstructed: Salient cues such as the use of parody, exaggeration, unreliability, or explicit critical statements and direct address of the player suggest a metareferential reading. It appears, then, that Wolf is right to caution against discarding authorial intention as a defining factor of metareference. In their form and disruptive effect, accidental phenomena can be nearly identical to metareferential ones, but "actual metaization is the product of an intentional act on the part of an *author*" (Wolf 2009a, 26; original emphasis).[24] For the study of metareferential videogames, the figure of the implied designer can represent such a hypothetically reconstructed concept of design intention, and thus serve as a heuristic for differentiating between metareference and accidental self-reference.[25]

2.4.2 Hypothetical Players

Videogame reception, in turn, can be made useful for distinguishing implicit metareferential elements from related but ultimately non-metareferential phenomena on the basis of whether or not they elicit medium awareness in the player. Unsurprisingly, the construction of a sufficiently concrete player figure seems no less complicated than that of the designer. Not only do contexts of reception vary, as do the personal dispositions of individual players, but unlike in most other media, the textual cues provided in videogames need not remain stable either. If, how, and in what order narrative events are presented to the player can be contingent on their choices or be randomized. Ludic events, in particular, are often emergent and arise from the player's moment-to-moment interaction with the game (Salen/Zimmerman 2003, 282–284). When speaking of "reception" in conjunction with videogames, I therefore refer to a variety of complex and active processes, including but not limited to mental modelling, immersion, interpretation, performance, and interaction.

One possible way of coming to terms with videogame reception is to refer to the gameworld as a subjective construct and thus to analyze the individual player's experience.[26] However, even representative empirical studies can hardly account for every single player there is. Not only are players situated in specific material and sociocultural realities, but they also have different personalities and cognitive dispositions, varying degrees of media literacy and gaming experience, and so forth, all of which influence their actualization and interpretation of the game. In any case, what is more important for my present concern is to be able to reconstruct plausible hypotheses about the forms and functions of metareference as they are experienced by an average or ideal player.

Analogously to the implied designer, I therefore propose the concept of an implied player as a generalized, yet historically and culturally situated player figure that can be used to reconstruct a playing experience that is stable across players

and playthroughs. In game studies, the "cooperative" player has been discussed as a videogame-specific version of this figure (Van Vught 2016, 186–192). Like the implied reader in narratology,[27] implied cooperative players are assumed to possess the skills and background knowledge necessary to reconstruct the game's narrative, to draw from relevant contexts such as related cultural artefacts, and to interpret their experience largely in line with textual and authorial intention (Van Vught 2016, 186–192). They also behave cooperatively towards the game: They follow its cues and goals and strive for ludic success and progress in the game, resulting in a play style that is "appropriate" (Van Vught 2016, 196) regarding the functioning of the game's formal components (Van Vught/Glas 2018, 218). The main advantage of using the implied player as the basis for arguments related to reception is that it now becomes possible to limit the range of permissible interpretations to the ones that are intersubjectively valid. In doing so, let me once again emphasize that intersubjective validity does not seek to enforce a default interpretation but always retains some leeway for a text's inherent ambiguity as well as for individual variations among the experiential backgrounds of recipients (Thon 2016, 54–56).

Even when assuming that the recipient of a metareferential videogame is an average, idealized, cooperative player, then, the question of whether we can assume them to read an element metareferentially cannot always be answered clearly and unambiguously. This is particularly true if elements are double coded to yield at least two equally plausible interpretations,[28] or if markers of metareference fail due to "noise" (Hübschmann 2025, 61). It may furthermore be helpful to consider the sociocultural and historical context when reconstructing a profile of the implied player. Whether or not the context of production differs from that of reception and whether or not a specific device is used habitually may affect the actualization of medium awareness, the assumption being that players will get used to metareferential elements over time, making them less and less noteworthy and therefore less likely to draw attention (Mader 2017, 50–52; Wolf 2013, 25).[29]

The role of genre conventions is evident in the use of tutorial characters that are part of the gameworld but address the player outside the game with instructions of how to play. While tutorials are inherently self-referential and tutorial characters are inherently metaleptic, they do not normally fall within the scope of metareference since they are a commonplace in videogames and therefore unlikely to elicit the player's medium awareness (Barnabé 2022, 65; see also Weise 2008, n.pag.). Conversely, videogames can exploit the mechanisms of conventionalization and habituation by subverting and parodying them or by defying player expectations. A humorous take on tutorial conventions is offered by *Conker's Bad Fur Day* (2001). After a night of heavy drinking, the player-controlled character Conker wakes up confused, disoriented, and still not entirely sober. Trying to find his way home, Conker asks the equally inebriated scarecrow Birdy for directions, leading to the following dialogue:

Birdy: "You see those buttons. Actually, you'll find that eh, they're called context sensitive. And eh, well, actually they, eh, press B."
Conker: "Press… B."

Birdy: "Oh yeah. The light comes on, and it makes the noise. Ting! Ting noise… [a lightbulb appears above Conker's head with an audible "ting"; TK]. There you go, Ting. That's it.
Conker: That's it?
Birdy: Yeah.
Conker: I'll press B.

Neither Birdy nor Conker seem to entirely understand what is happening or what they are doing since there is no gameworld-internal referent for "B." Hence, Birdy can only answer Conker's attempt to make sense of the situation ("So what does that mean?") tautologically: "It means context sensitive. It's sensitive to context." In its parodic version, *Conker's Bad Fur Day* emphasizes the videogame tutorial's paradoxical straddling of multiple ontologically distinct levels. From the characters' position inside the gameworld, the conversation simply does not make any sense, which draws attention to the highly stylized nature of conventional videogame tutorials and invites the player to recognize their limitations and absurdities.[30]

2.4.3 Medium Awareness

As a final point regarding reception, it is worth unpacking the notion of medium awareness. Though the idea that metareference should make players aware of the mediality of the game and direct their attention onto its formal aspects seems intuitive, medium awareness it is also notoriously difficult to grasp from a theoretical standpoint.[31] In the relevant literature, metaization is typically associated with the disruption of aesthetic illusion or, to use a term that is more widespread in game studies, the disturbance of player immersion,[32] which seems to position medium awareness and immersion as polar opposites (e.g., Hutcheon 1980; Nelles 1992; Waugh 2001 [1984]; Wolf 1993; 2013). Immersed players are believed to pay close attention to the gameworld while blocking out competing stimuli such as their real-world surroundings, the formal and semiotic aspects of the text, or the ergodic effort needed to handle the human interface device (e.g., Calleja 2011, 41–42; Jacobs/Lüdtke 2017; McMahan 2003, 77). Videogames that aim to increase player immersion thus tend to operate according to the logic of transparent immediacy (Bolter/Grusin 1999) and foreground what is represented in the gameworld while hiding semiotic, structural, and conventional "building blocks" (Currie 1995a, 7; Wolf 2013, 41). Metareferential videogames, by contrast, reintroduce these aspects into the conscious perception of the player and flaunt their own constructedness by means of a variety of attractors, among them visual and sonic cues, metalepsis, *mise en abyme*, narratorial comments, repetitions, and other foregrounding devices (Hutcheon 1980, 24; Waugh 2001 [1984], 2).[33] Since attention resources are limited, it is indeed likely that the recipient's active awareness of aspects of the game's mediality will momentarily disrupt immersion.

However, this does not mean that immersion and medium awareness are mutually exclusive. Already in his seminal study on aesthetic illusion, Werner Wolf acknowledges that certain forms of metareference may be fully compatible with

aesthetic illusion or permit the construction of a secondary illusion (1993, 248–255). This point is taken up and expanded by scholars such as Ansgar Nünning or Sonja Klimek, who emphasize that certain forms of metanarration (Nünning 2004, 40–41) and metalepsis (Klimek 2009; 2010; 2011), two devices closely related to metareference, can in fact be conducive to immersion. Indeed, and somewhat contrary to what the metaphor of being fully immersed (in water/another reality) suggests,[34] immersed players retain a latent awareness that their experience is mediated (e.g., Jacobs/Lüdtke 2017, 110; Voss 2008, 71; Welsh 2016, 54; see also Hutcheon 1980, 5; 27–28; 150 for a similar argument). Although immersion typically entails the backgrounding of one's actual surroundings and a propensity towards agreeing with the ideas put forward in the story (Buselle/Bilandzic 2009; Green/Brock 2000), it is therefore not wholly incompatible with critical distance or medium awareness (Wolf 1993, 68; 2013, 7–9, 16). Rather, medium awareness and immersion are more accurately imagined as two coexisting cognitive frames, each of which can be actualized so as to dominate reception at a given moment (Waugh 2001 [1984], 6; Wolf 1993, 68; 2013, 18–19).

To make matters even more complicated, the notion of immersion as a holistic experience does not quite seem to capture the nature of the phenomenon either. Arguably, immersion in videogames is multifaceted and may involve several different dimensions, ranging from narrative and emotional engagement with the events and characters via the player's a sense of (spatial) presence in the gameworld to ludic and kinaesthetic forms of engagement that are directed towards the game system (see, e.g., Calleja 2011; Ermi/Mäyrä 2005; McMahan 2003; Ryan 2015; Thon 2008 for multidimensional models of immersion).[35] Not all of these are necessarily affected by metareference in equal measure. Once again, an example from *Metal Gear Solid* may serve to illustrate the point. In the so-called "torture sequence," the player character Snake is subjected to a series of electrical shocks. In order to keep him conscious, the player has to repeatedly mash the circle button at such a pace that they are likely to experience some discomfort or even soreness; player testimonies confirm that this is often the case (e.g., "My entire arm hurt" [YamiZero 2020]; or "pure agony" [Rip Ravage 2020]). Once the torture is over, Snake not only receives pain killers but is also advised to "put the controller up against your arm." The dual shock controller's vibrating function then activates, rewarding players with a massage if they put the controller against their own arm. As in the Psycho Mantis example, the reference to the controller is clearly metareferential; nevertheless, it would appear reductive to speak of a clean disruption of immersion because the game places considerable emphasis on the congruence between the experiences of player and player character, arguably strengthening kinaesthetic and emotional engagement even while eliciting an acute awareness of the mediality of the game.

In light of recent scholarly finding as well as the observation of complex interplays of seemingly opposed reception effects in games like *Metal Gear Solid*, there are thus several important qualifications to understanding medium awareness as a polar opposite to immersion. The first qualification is that not all forms of metareference in videogames are anti-illusionist in the sense that they irrevocably destroy the

player's belief in the gameworld or instil a strong sense of rational distance in them. There are many metareferential videogames with considerable narrative depth and whose characters invite strong affective responses. As I will show in later chapter, games such as *OneShot* (2016), or *Break the Game* (2019) use devices such as metalepsis to expose the fictionality of their gameworlds, and yet, they do not disavow the authenticity of the player's emotions (Backe 2018, 10). Quite the contrary, the players' awareness and reflection of their role vis-à-vis the gameworld may actually increase their attachment to the characters and the range of emotions they experience while playing: Frequently, these games highlight the consequences of the player's decisions and actions and make them feel a real sense of responsibility for the fate of the world and its inhabitants (see also Krampe 2021; Van de Mosselaer 2018; Waszkiewicz 2020). Even thoroughly metareferential games can thus maintain or enhance specific dimensions of immersion, such as character illusions and emotional engagement. The disruptive effect of metareferential elements furthermore depends on their position within the game and the context in which they occur (e.g., Wolf 1993, 239–247; 2009a). For instance, the potential to disturb is generally considered to be much weaker if a metareferential element is positioned at the margins of the work (Wolf 1993, 240), which in the case of videogames includes the beginning and end as well as menus, title screens, side quests, or DLCs. A good example is *Detroit: Become Human*, which restricts its use of (overt) metareferential elements to the title and chapter menu while encouraging immersion in each chapter.[36] Metareference also often permits the construction of a secondary illusion (Wolf 1993, 233), which is to say that the exposure of the fictionality of a hypodiegetic gameworld does not necessarily affect the aesthetic illusion on the next-higher, diegetic level. As mentioned earlier, the game-ness of the embedded game *Crash Bandicoot* in *Uncharted 4* is clearly marked, but this does not fully disrupt the player's immersion in the gameworld of *Uncharted 4*.

A second qualification is that videogames may actually use metareference to safeguard player engagement. Such an argument is put forward by Rapp (2007a, 149–154), who explains how self-reflexivity in videogames can be used to provide coherence, glossing over gaming situations that threaten immersion. That adventure games such as *Monkey Island* or *Thimbleweed Park* openly signal their artifice often serves to soften the player's experience of their limitations while also making the writing appear clever and humorous. In a similar vein, Terry Harpold (2007) argues that metalepsis can function to "recapture" the game's technical situation:

> In an obvious way, medial determinisms of a videogame's expression will be marked in boundaries of its computational and mechanical elements […]. Play is subject also to contingencies of its performance: keys jam, controllers fail, hard disks crash, network communications are interrupted.
>
> (Harpold 2007, n.pag.)

The purpose of recapture is to mask the disruptive potential of interfering technological or systemic aspects so that the player can focus their attention on the

gameworld.[37] Often, this can be achieved by means of the aforementioned mechanisms of diegetic legitimization or conventionalization (e.g., loading times are often bridged with elevator rides or conventional loading screens). However, as Harpold observes, particularly difficult design challenges tend to be marked by self-conscious and metaleptic forms of recapture. *Zork* (1977), for example, engages humorously with insults or player commands that the parser cannot process but, arguably, the purpose of directly addressing the player in these instances is not so much to disrupt immersion but to acknowledge the parser's technological limitations in a humorous manner, and thus keep the player engaged (Bonello Rutter Giappone 2015; Harpold 2007). If the player has already suspended their engagement with the game, metaleptic addresses can also motivate them to return to it, which is presumably the main function of Sonic's impatient foot tapping in *Sonic the Hedgehog* (1991) (see also Rapp 2007a, 114–115).

As a final point, and to address a potential misunderstanding, the redirection of the player's attention to game mechanics or to the formal and semiotic building blocks of the gameworld need not reduce the intensity of their engagement with the game even if it disrupts or alters their immersion in the gameworld, but it may simply favour different kinds of immersion-like states. Challenge-based immersion, for example, is characterized by an intense focus on gameplay, and the mastery of controls and strategies and thus seems more closely related to flow (e.g., Ermi/Mäyrä 2005; Thon 2008, 36–37; on flow, see Csíkszentmihályi 1975). In the context of film studies, Ed Tan (2011 [1996]) argues that the pleasurable engagement with a text's formal features, which is characteristic for metareference, can provide an immersion-like experience that he calls "artifact absorption" (Kuijpers et al. 2017, 35; 39–41). Note, however, that artefact absorption differs from immersion in a gameworld in its direction of attention and does not entail a sense of "being there."

While I would still maintain that medium awareness is a defining characteristic of metareference, a more complicated picture of metareference's effects on the player emerges from this discussion. There is ample indication that medium awareness retreats from conscious perception during states of immersion and can be activated by means of techniques and devices that foreground mediality, defamiliarize forms that have become "unseen," or defy player expectations. However, to conceive of medium awareness and immersion as dichotomous seems overly simplistic since certain functions of metareference—such as the self-ironical glossing of technological limitations or the crossing of the ontological boundaries between the player and the fictional characters—can be surprisingly compatible with certain forms of immersion, or even enhance the coherence of the gameworld. The preservation or disruption of player immersion, in other words, is not a reliable indicator of medium awareness and we would be wise to also consider possibilities of oscillation, coexistence, or mutual reinforcement when analyzing the functions of metareference.

To conclude this deep dive into theories of metareference, let me briefly summarize the main arguments. As a transmedial umbrella term, metareference denotes a form of self-reflexivity that can occur in various media and that is characterized by the presence of a logically higher metalevel. The criterium of medium awareness

specifies that metareference actualizes the player's latent awareness of the mediality and/or fictionality of the text and encourages corresponding metareflections. Examining the dimensions of hypothetical intention and reception, represented by the figures of the implied designer and implied player, helps to further delimit the scope of phenomena considered in this book. The implied designer's hypothetical intention allows me to distinguish metareference from accidental forms of medium interference and from unmotivated forms of self-reference; the figure of the implied player makes it possible to talk about intersubjective reception experiences, chief among them the actualization of medium awareness, and to assess the role of context and genre conventions on processes of reception. Having thus reached a sufficiently concrete understanding of metareference, I move on to introducing systematic distinctions between the different forms of metareference that occur in videogames, and to proposing a model for their analysis.

Notes

1 See, for example, *Gertie the Dinosaur* (McCay 1914) or *The Enchanted Drawing* (Blackton 1900) as early examples that showed the animated scene framed by and engaging in a metaleptic relation with its animator.
2 Not all scholars of metafiction necessarily use the term. Robert Alter, for instance, writes of the "self-conscious novel"; other terms and concepts include "self-reflexivity," "auto-reflexivity" (e.g., Scheffel 1997), or "self-conscious narration" (e.g., Booth 1952). The phenomena under investigation, however, tend to be congruent with theories of metafiction proposed by Linda Hutcheon (1980) and Patricia Waugh (2001 [1984]).
3 Namely the formal, structural, behavioural, and philosophical perspectives of criticism (Scholes 1995). To Scholes, metafiction is both fiction and criticism, and characterized by an intense self-awareness on the part of the writer who experiments with these critical perspectives in his/her writing. For a similar view, see also Currie (1995a).
4 Foregrounding refers to the idea that "the form of the message draws attention to itself" (Appel et al. 2021, 178). Specific techniques associated with foregrounding include parallelism, linguistic density (Appel et al. 2021), or fragmentation (Emmot et al. 2006). In addition, breaks with the norms and conventions of a media form or genre are also assumed to attract the recipient's attention (Emmot et al. 2006, 2).
5 Defamiliarization is a concept with roots in Russian formalism, in particular Viktor Shklovsky's term "ostranenie," which he introduces in the essay "Art as Technique" (1988 [1919]). "The technique of art," he writes, "is to make objects 'unfamiliar,' to make forms difficult, to increase the difficulty and length of perception [...]" (Shklovsky 1988, 20). In a review of the concept's evolution, Holger Pötzsch, positions defamiliarization as the central function of art "to refresh the senses by de-habitualizing what convention has made mundane and therefore invisible" (2017, n.pag.). Defamiliarization resembles metareference especially when drawing attention to artistic form, "laying bare" the device, and exhibiting its artifice (Shklovsky 1990 [1921]).
6 Though there certainly are examples of metareferential videogames that do verge on an almost scholarly kind of criticism. *The Beginner's Guide* (2015), a game that purports to curate, present, and contextualize the oeuvre of an auteur game designer nicknamed "Coda," can be considered a commercially successful example of playable (self-)criticism (see also the analyses in Backe/Thon 2019; Beil 2021). Games like *Necessary Evil*

(2013) and *Doors* (2021), in turn, present videogame scholarship in game form (see also Gualeni 2016; van de Mosselaer 2021).

7 Currie's volume on *Metafiction* (1995b) brings together a collection of key texts on the matter. Notable book-length studies in the German-speaking context include Michael Scheffel's (1997) *Formen selbstreflexiven Erzählens: Eine Typologie und sechs exemplarische Analysen* and Werner Wolf's (1993) *Ästhetische Illusion und Illusionsdurchbrechung in der Erzählkunst*.

8 Examples for analyses of metaization in the context of different media include, for metadrama: Hauthal (2009); for metafilm and TV: Ames (1997), Gymnich (2007), Kirchmann (1994), Roche (2022), and Stam (1985); for metacomics: Inge (1991) and Kukkonen (2011a); and for metamusic: Bernhart/Wolf (2010).

9 Wolf here draws, a.o, on cognitive science and frame theories, especially Erving Goffman's (1986 [1974]) influential study. A full discussion of frame theory exceeds the scope of this book (but see Wolf 2006 for an overview). Suffice it to say, here, that in the context of their application to literature and media artefacts, Wolf understands frames as "culturally formed metaconcepts" that act as "basic orientational aids that help us to navigate through our experiential universe, inform our cognitive activities and generally function as preconditions of interpretation" (Wolf 2006, 5). Wolf then uses frame theory to explain how frames allow recipients to process media as media, i.e., to retain some awareness of their mediality and/or fictionality (Wolf 2009a, 27–28). Medium awareness, as a secondary cognitive frame, usually remains latent in the reception process but can be activated by metareferential elements, in which case the recipient's attention shifts to the secondary frame so that they become actively aware of and engage in reflections about mediality and/or representationality (Wolf 2009a, 28). The notion of metafiction as a frame break (though in a slightly different sense connoting mainly literary conventions) is already used by Patricia Waugh (2001 [1984]) and subsequently expanded by Ilona Mader, who argues that if fiction is understood as a cognitive frame, then metafiction is concerned with the disruption, manipulation, and transgression of this frame (2017, 42). See also Brown (2025) on frames and metareferential potential in comics games.

10 Ian Bogost argues that videogames are actually "non-fictions about complex systems bigger than ourselves" (2015, n.pag.). In Bogost's view, games are in a unique position to simulate, represent, and thus make us understand systems: They create meaning and unfold their persuasive power by means of enabling the player to experience a model of a system via computational processes, which then helps them to understand similar aspects of the world. Hence the famous expression of videogames' "procedural rhetoric" (2010 [2007], 1–64; 2015). From Alexander Galloway, Fest borrows the argument that videogames are actions because they "come into being"—turn from "static computer code" into games as we know them—through the actions of operator and machine (Galloway 2006, 2).

11 A possible etymological origin can be traced to the Greek "abyssos," and the Old French "abîme," which roughly translate to "bottomless pit." The device was adopted from heraldry, where a coat of arms would contain a smaller version of itself in its centre, and famously applied to the arts by French writer André Gide in 1889 (Gauger 2019, 14–15; Snow 2016, 8).

12 This possibility can be suggested in a work but not fully realized since such a work would have to contain itself literally in its entirety and would thus indeed be neverending. The *Neverending Story* circumvents the problem of the infinite loop by gradually substituting what starts out as a verbatim reproduction of the beginning of the text with shorter

paraphrases until the protagonist Bastian manages to break the cycle and move the story forward again (Ende 2009 [1979], 187–190; see Hopfgarten/Krampe 2022).

13 Sonja Klimek, for instance, makes a strong case for the immersive functions of metalepsis in fantasy fiction because metalepsis can enhance the plausibility of its fantastic elements, stabilize the fictional world, and draw readers deeper inside (2010, 24, 47–48). This is especially true for descending metalepses, as evidenced by the numerous examples of children's books in which the protagonist enters an embedded fantastic world through some kind of threshold, thus mirroring the reader's (mental) recentring into the storyworld.

14 Such as whether lateral metalepses, i.e., "jumps" between parallel universes rather than between worlds in a vertical hierarchy, are to be counted among true cases of metalepsis. See Thoss (2015) and Wolf (2005) for arguments in favour, and Genette (1980), Klimek (2009), and Kukkonen (2011b) for arguments against such an inclusion.

15 Scholars such as Conway (2010) and Waszkiewicz (2020) identify a need to reformulate the concept of the fourth wall for videogame studies. In the article "A Circular Wall? Reformulating the Fourth Wall for Video Games," Conway contests the adequacy of the concept to represent the specific relationship between work and recipient in videogames and emphasizes the already tenuous separation of gameworld and actual world. More often than straightforwardly breaking the fourth wall, he argues, videogames relocate it, expanding and contracting the magic circle enclosing the gameworld so as to include the player and their lifeworld in the diegesis, or to expel them from it (Conway 2010, 147–149; see also Waszkiewicz 2020).

16 Thon instead uses the term "epistemic metalepses" to describe characters' "'impossible knowledge' of 'higher-order' subworlds" (2016, 66). Wolf (2009a, 52–53) adopts a tripartite distinction between rhetorical (speaking across levels), epistemological (characters' impossible knowledge), and ontological metalepsis. For the analyses in this book, however, the distinction between physical and non-physical crossings suffices.

17 Even in games that deliberately try to dissolve the boundary between player and game, one would be hard-pressed to come up with a metareferential interpretation unless the game uses additional foregrounding devices to draw attention to mediality. In games like *Nintendogs* (2005), a kind of pet simulator allowing players to keep and care for virtual dogs, the virtual dogs react to the player as if they were real, expect to be fed every day in real time, and can obey voice commands picked up by the microphone of the handheld console. The hypothetical intention of these attempts at collapsing the distinction between the gameworld and the world of the player is precisely to hide mediality and fictionality for the sake of creating a pleasurable illusion of caring for a real pet.

18 As with most other devices and phenomena discussed in this book, the debate around intertextuality and intermediality is characterized by a plurality of (partly contradictory) approaches and divergent terminology. Rajewsky, whose understanding of "text" is narrower than mine, instead uses the terms intramedial and intermedial references, where the former denotes references between two works of the same media genre while the latter cuts across media borders (Rajewsky 2002, 69–76; see also Wolf 2017, 185). Intertextuality is in this sense a literature-specific subform of intramedial references (Rajewsky 2002, 14). However, insofar as videogames are understood as texts in the wider sense (see, e.g., Fernández-Vara 2019, 5–9), intertextuality seems applicable to relations between two videogames as well. In addition to the clearer phonological distinctions, this terminology bears the advantage of the prefix "inter," which more clearly marks that there is some interaction between at least two different texts.

19 To unpack the different forms and understandings of intertextuality and intermediality would go far beyond the scope of this book. Suffice it to say that both terms have been used to describe a wide range of relations and interactions between texts and artefacts, most of which have no inherent relationship to metareference, including multi- and mixed-media constellations as well as, albeit more controversially so, phenomena such as ekphrasis or remediation that strictly speaking take place within a single medium but represent or evoke the presence of another (e.g., Rajewsky 2002, 15–27; 2005, 51–53; Rippl 2015, 10–14; see also the contributions in Broich/Pfister 1985; Helbig 2009 [1998]; Paech/Schröter 2008). Some even conceive of intertextuality and intermediality as symptoms of a universal condition of interrelatedness that characterizes any and all media, building on a wide understanding of intertextuality (see the discussion in Rajewsky 2002, 46–52; see also Isekenmeier et al. 2021, 19–29).

20 Rajewsky's subcategories differ in their functions and the degree to which they can be ascribed metareferential potential. A videogame's reference to another game, for instance, seems more immediately self-referential than, say, allusions to Hollywood film. For Jens Schröter, mere mentions or representations of other media for "scenic" (Schröter 2012, 27) purposes would even fall outside understandings of intermediality altogether; Rajewsky (2002, 80–82) instead distinguishes between intermedial references that are only relevant to the story, and those that come with a metareferential dimension.

21 Some perspectives even attribute authorial functions to the player that may override those of the developers (see the discussion in Zierold 2011, 149). However, since all choices and affordances for interaction with the game have been implemented in the design process, the transfer of authorial intention from the developer to the player is hardly tenable. In many ways, the game is a finished work, and the development team is responsible for creating a game system that defines the affordances and limitations of player activity within the gameworld.

22 Ruling out certain meanings as implausible may for instance discount any readings that go against the grain of the text. In this vein, see Backe's criticism of Werner Wolf's conceptualization of metareference (Backe 2016, 53–54); on the political value of "over-analyzing" and on too close playing as a queer methodology, see Ruberg (2019, 81–83).

23 Mader speaks of a works *Machart*; its 'make' or 'design' (2017, 48–56). In the case of novels, this includes the bound pages of the printed book, which the reader touches and flips while reading without attributing metareferential meaning to this process. See also Schröter (2013) on the traces of materiality such as lens flares, film grain, or noise in film and photography. This argument also ties in with the aforementioned distinction between the inherent self-referentiality of videogames and forms of aesthetically marked and motivated self-reflexivity (see Rapp 2007a, 83–89; Walther 2007).

24 Wolf of course is not blind to the fact that the intention of the creator(s) of a work can at best be inferred but usually not verified with absolute certainty, hence the rather cautious formulation of the "non-accidental" character of metareference in the sense that an "author (performer) is usually thought to be responsible for the metareferential message" (Wolf 2009a, 26). Faced with the same challenge, Mader refrains from using authorial intention altogether and instead works with the idea of textual intention. Textual intention can be inferred by means of a close analysis of the forms and structures of the text itself in conjunction with the consideration of its context(s) of production and reception (Mader 2017, 27). Markers that foreground mediality are not metafictional "if they are not deployed consciously in the sense of the text's intentionality" (Mader 2017, 28). This is a possible alternative of framing the above argument; however, in the end, textual

intention does not seem all that different from or yield any advantages over the implied designer as the "sum of [perceived] creative intentions" that underlie a text (Van de Mosselaer/Gualeni 2020, 3).

25 As a caveat to hypothetical design intentions as a way to narrow down the scope of metareference, Mark Currie offers the pertinent observation that metaization can in principle be "located at the conscious and unconscious level of the text" (Currie 1995a, 17). It therefore seems at least possible to offer a metareferential interpretation despite the represented author's intention as communicated through paratexts or promotional materials (Thon 2016, 134). What is more, the greater the degree of a works ambiguity, the more difficult it becomes to rule out certain interpretations as less plausible (Thon 2016, 54–56). To determine whether a metareferential reading falls within the range of interpretations sustained by the game, it is necessary to pay close attention to textual cues as well as to analyze its functions, first and foremost that of eliciting medium awareness in the recipient.

26 This perspective is often central to qualitative and quantitative inquiries (e.g., Ermi/Mäyrä 2005) but may also become an important consideration for narrative theories of games (Domsch 2013). Methods of accessing actual player experiences include interviews, introspection, (historical) reception testimonies, and indeed the content of the metareferential comments themselves, which often provide a kind of theory of their own effects and reception (Wolf 2013, 29–30).

27 The implied player is partly derived from the model of the implied reader in narratology, which can be defined as an "image of the *ideal recipient* who understands the work in a way that optimally matches its structure and adopts the interpretive position and aesthetic standpoint put forward by the work" (Schmid 2014 [2013], para. 7). It is an abstract and idealized model of an "average" recipient who possesses all cognitive abilities required to understand the text, and who is able and generally willing to immerse themselves in the gameworld (Wolf 2013, 31; 1993, 128, 139).

28 As is the case in *Detroit: Become Human* (2018), when a soapbox orator addresses the player character Markus or in *Hellblade: Senua's Sacrifice* (2017), when Senua pleads with the Goddess Hela. In both cases, the characters look directly at the virtual camera, suggesting that they might be addressing the player, and in both cases, the metareferential and heteroreferential interpretations are equally plausible.

29 Having said that, Werner Wolf attests relative similarity to the frames governing the (Western) reception of illusionist art over the past 300 years (Wolf 2013, 26). Since this time frame easily encompasses the entire history of videogames, it seems safe to assume some level of similarity between the reception of metareferential phenomena in early and contemporary videogames.

30 Further examples of videogames that defamiliarize or outright parody tutorial conventions include *Deadpool* (2013), *The Hex* (2018), or *EarthBound* (also known as *Mother 2*; 1994). Deadpool nonchalantly informs the player that he does not recall how to play, instead referring them to the interface: "Hey, there's some text. Player, read that shit, do whatever High Moon says!" The "text" is similarly offhand, advising player to "see what 'A' does" (*Deadpool*). In *The Hex*, the player repeatedly kills the tutorial character—arguably itself a parody of the guiding character in the *Legend of Zelda* games (1986–2017)—in order to avoid listening to tedious instructions. *EarthBound*, finally, is well-known for its humorous takes on tutorial information, as when a character, having just provided directions to the player, reminds himself that "No, no. I'm not a billboard." *Undertale* (2015) frequently pays homage to these and other elements of the *Mother* series.

31 The work of Werner Wolf (e.g., 1993; 2004; 2013) is a rare exception of an in-depth consideration of medium awareness as metareference's signature effect on the recipient. To my knowledge, medium awareness has yet to be studied in the empirical humanities. However, meta awareness, a state of awareness of one's own experience that acts as a kind of umbrella term to medium awareness in that is not necessarily tied to media reception, is an established concept in the cognitive sciences (Chin/Schooler 2009; see also Wolf 2009a, who outlines how the concept travelled from the cognitive sciences to transmedial narratology).

32 Immersion denotes the holistic experience of being transported into the world of the game, or, in Janet Murray's influential wording, "the sensation of being surrounded by a completely other reality, as different as water is from air, that takes over all of our attention, our whole perceptual apparatus" (1997, 98). Wolf speaks of aesthetic illusion to describe an essentially very similar phenomenon, though his term places more emphasis on the textual/aesthetic means by which the illusion is constructed as well as on the recipient's voluntary and active participation in its construction (Wolf 1993, 31).

33 A remarkable example of how videogames can metareferentially manipulate the player's attention can be found in the indie game *Pony Island*. In one of the boss battles, the antagonist Asmodeus.exe seeks to defeat the player by means of disrupting their attention. His strategy is based on the exploitation of perceptual biases and the use of ever-stronger foregrounding devices. At one point, the screen shows a sparkly pink bouncing pony, upon which Asmodeus remarks: "That one looks friendly. Look at it jump." The movement, colour contrast, and explicit references by Asmodeus all signal the player to redirect their attention. If they look at the pony, however, they miss the appearance of a password elsewhere on the screen and lose the battle. At another point, the game even goes so far as to simulate a crash. The game window freezes and a pop-up notification appears, informing the player that "Pony Island.exe has stopped working," which compels them to attend to the supposed malfunction instead of fulfilling the original game goal.

34 As Murray herself argues, immersion is therefore more aptly described as a willing and active creation of belief (1997, 110), an idea that recalls, and is indeed derived from, Samuel Taylor Coleridge's famous "willing suspension of disbelief" (Coleridge 2014 [1817], chap. XIV). In contradistinction to Coleridge, however, Murray stresses the active role of the recipient: "Because of our desire to experience immersion, we focus our attention on the enveloping world, and we use our intelligence to reinforce rather than to question the reality of the experience" (Murray 1997, 110).

35 Presence has its origins in research on telepresence and VR (e.g. Minsky 1980) and captures the sensation of being in the presence, or "in front of" (Ryan 2015, 52) an entity represented in the virtual world. Videogames facilitate presence through the experience of movement as navigation (Calleja 2011, 67) and by the gameworld's dynamic reactions to player actions, communicated mainly through audiovisual or haptic feedback (Calleja 2011, 18). Ludic engagement is here understood as the player's engagement with the game system, including the player's understanding of rules and affordances or activities such as strategizing; the term kinaesthetic involvement (Calleja 2011, 55–65) emphasizes the use and mastery of controls. For instance, Calleja distinguishes different modes of game controls along a spectrum between symbolic and mimetic. While symbolic controls rely on conventionalized button presses (e.g., the use of WASD for movement), mimetic controls are made to resemble the virtual actions (2011, 63).

36 This is not to say that metareferential elements that occur at the margins have zero impact on the rest of game. *Spec Ops: The Line* can be deployed as an effective counterexample

since the game's metareferential elements, which are mainly limited to the loading screens, will nevertheless impact the player's interpretation of the entire game as a militainment-critical work.

37 The concept of recapture also points to a more general observation, namely that the quality of the videogame player's latent medium awareness differs from other media. Players are acutely aware that gaming technology can fail and can be expected to tune in to the technical plane with some regularity, noticing the risks of not having saved their game in some time, or suspecting a bug if they cannot find the solution to a quest or puzzle. What is more, the devices on which the game is played typically support multiple applications, some of which may interrupt immersed play with notifications which may cause players to switch between applications as a form of hyperattentive multitasking. It therefore stands to reason that players of videogames remain somewhat more attuned to the levels of hardware and software technology than the average reader to the materiality of the book so that intrusions of these levels are somewhat expected.

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3 Metareferential Elements in Videogames

Proposal of an Analytical Model

In this chapter, I propose a systematic model of metareference in videogames that may serve as a heuristic for game analysis. To do so, I first outline the model's main theoretical and methodological premises (3.1). This is followed by an introduction of systematic distinctions between different metareferential elements according to the dimensions of form (3.2) and content (3.3): the layer of communication an element is situated on, and the layer to which its metareferential comment refers. The resulting analytical model not only helps to map individual metareferential elements, making them easier to describe and compare, but also forms the basis for the detailed videogame analyses in later chapters. The final part of this chapter summarizes the model, discusses its analytical value, and addresses additional aspects to be taken into account in the analysis of metareferential videogames (3.4). Emphasizing the complex communicative situation in videogames, which after all encompasses not only the gameworld but also the layers of the game system and the platform as well as the interactions between them, the model offers a comprehensive and medium-specific approach that facilitates the analysis of a wide range of different metareferential techniques and devices in videogames. In the present chapter, and for the sake of illustrating the model, the focus remains largely on individual instances of metareference. In the case study chapters (Chapters 4–6), the focus then shifts to the analysis of videogames in their entirety, and consequently to the interactions among different metareferential elements within the same videogame as well as their relation to its heteroreferential parts.

3.1 Theoretical and Methodological Premises

The model is the result of both top-down and bottom-up considerations: It draws on the conceptual and theoretical foundations developed in the previous chapters, which are then brought into conversation with the actual instances of metareference that can be found in videogames. The first major challenge in this endeavour is to compile a representative corpus of metareferential videogames. To capture as broad a range of techniques and devices as possible, I did not constrain my initial survey to a specific historical period, platform, or target audience and also considered isolated metareferential occurrences in otherwise heteroreferential videogames

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as well as devices with high metareferential potential such as intertextual and intermedial references, metalepsis, and *mise en abyme*. To analyze these games and their metareferential elements, I relied mostly on methods of close "instrumental play" (i.e., pursuing actions, choices, and strategies that are encouraged by the game's formal components and thus approximating the behaviour of the implied player [Van Vught/Glas 2018, 214–216; see also e.g. Bizzocchi/Tanenbaum 2011]), followed by textual analyses (Fernández-Vara 2019, 6). Having said that, some limitations to the scope of my corpus were inevitable. Multiplayer modes, for one thing, are generally considered beyond the scope of this book because their social dynamics would significantly complicate the analysis of metareferential elements. So are transgressive play styles like cheating, hacking, or modding that, in their creative and meaningful departure from the "original" game, require differentiated analyses of the broader context of videogame culture and user practices (e.g., Boluk/Le Mieux 2017; Consalvo 2009). Nevertheless, I occasionally consult paratexts such as Let's Play videos, interviews, reviews, posts, and promotional materials for additional information about the game. In some cases, specific paratexts such as dedicated websites, guidebooks, or the game's packaging are even analyzed as a potential source of metareference because they metaleptically become part of the game (see also Wolf 1993, 222), as is the case when characters refer directly to paratexts or when they contain information without which the player cannot progress (see the examples in Section 3.2).

In light of the vast number of videogames released every year,[1] the corpus, comprehensive though it may be, cannot hope to exhaust all videogames that use metareferential elements. Nevertheless, the sheer scope of the examples collected—which span not only the greater part of videogame history but also multiple genres, platforms, and markets—reveals the popularity of the phenomenon well beyond what we might call the "avant-garde."[2] Though metaization remains more frequent and also more conspicuous in indie games, AA and AAA titles such as *Metal Gear Solid* (1998), *Borderlands 2* (2012), *Layers of Fear* (2016), and *Death Stranding* (2019) have also introduced metareferential elements to the mainstream. In the case of *Monkey Island* (1990–2022), *Deadpool* (2013), or *South Park* (2014–2017), metareference even seems to be a staple of entire transmedia franchises. This ties in with the main argument of the edited collection *The Metareferential Turn in Contemporary Arts and Media* (Wolf 2011) that over the past decade or two, metareference has come to pervade virtually all (representational) media and all areas of high and popular culture.

The second major challenge when constructing an analytical model is to find suitable dimensions that can serve as its basis. This is where the extensive body of literature reviewed in the previous chapter proves particularly useful. As I have shown, researchers in literary theory, transmedial narratology, game studies, and other disciplines have proposed different sets of criteria, typologies, or analytical models for the study of metareference: Linda Hutcheon's matrix model for instance, which distinguishes between diegetic vs. linguistic and overt vs. covert forms of metafiction (1980); or Werner Wolf's four continua for the transmedial study of metareference (2009); or Bernhard Rapp's game-specific model, which

focusses on the situation in which the element occurs (2007). Furthermore, Ansgar Nünning's (2004) poetics of metanarration seems worthwhile revisiting here because of its exceptionally detailed system of classification. Fine-tuning the typology of metafiction proposed by Werner Wolf (1993), Nünning comes up with no less than 18 different types of metanarration, sorted into the four main descriptive categories of form, structure, content, and reception (2004; see also Fludernik 2003). Taking my cue from these approaches and models, I briefly revisit the dimensions of discernibility, structure, function, content, and form, and then move on to proposing a model that I deem particularly useful for the twofold purpose of describing individual metareferential elements in videogames while also supporting more holistic game analyses.

The first aspect that deserves further explication is the discernibility, or degree of explicitness, of a metareferential element. Comments that can be quoted or are otherwise obviously metareferential as per their (quasi-) denotational meaning are considered explicit, or overt (Hutcheon 1980, 7, 23; Wolf 2009, 45). Implicit or covert elements, by contrast, are less obvious and typically become noticeable because of their "salient deviation" (Wolf 2009, 47) from generic contentions or player expectations. Covert forms pose a challenge to the analysis because they often afford both metareferential and heteroreferential readings (see also Hennig 2025; Hübschmann 2025). An early example that illustrates this rather well can be found in the side scroller *Katakis* (1988). *Katakis* is set in outer space, except for one level in which the background art and the visual design of the objects form a bizarre hardware landscape instead. Like the asteroids, planets, and spaceships before them, computers and hardware components act as obstacles that players must destroy or circumnavigate to avoid taking damage. To Rapp, this level constitutes a self-reflexive allegory for the player's progress in the game and increasing control over the system: "Within the fictional frame of *Katakis*, the player's accumulative conquest of game space is mirrored on the visual level, in the accumulative deconstruction of game technologies" (Rapp 2007, 103–104; my translation). Such a reading, however, presupposes a cooperative recipient who is also highly receptive to metaization. More often, implicit forms of metareference rely on additional markers such as paratextual primers or more overt neighbouring devices to elicit medium awareness in the player (Wolf 2007, 42–43).

This brings me to a second important aspect, namely, the structural distribution of metareference within a given videogame, in the sense of the quantitative and qualitative relation of metareferential elements to the text as a whole. This, too, is identified as an important analytical dimension by several researchers (e.g., Nünning 2004, 25–28; Rapp 2007, 124–128; Wolf 1993, 231–247). Metareferential elements may be positioned at the margins (beginning, ending, side quests) or at key moments in the game (plot twists, boss battles, or the narrative climaxes). They may be ubiquitous, recurring, or restricted to a single moment. Their duration varies, as does the degree to which they can be integrated and made plausible within the gameworld, all of which influences how they are perceived by the player. Even indirect and comparatively inconspicuous self-references can elicit sufficient medium awareness if they are frequent, occur in key positions in the

game, or combine with stronger forms of metareference in mutually reinforcing ways (e.g., in *What Remains of Edith Finch* [2017]). The opposite effect takes place if devices that first seem clearly metareferential retrospectively receive a diegetic legitimization. In *Assassin's Creed 2* (2009), a fourth wall break in hindsight turns out to have been consistent with the logic of the gameworld all along. At the end of the game, the goddess Minerva appears in the second-order gameworld and at first seems to directly look at and talk to the player, but then suddenly addresses Desmond, a fictional character in the first-order gameworld. Desmond, in turn, can see and experience the events on the hypodiegetic level because he uses pseudoscientific technology that allows him to relive the memories of his ancestors, a mechanism that is perfectly plausible in the world of *Assassin's Creed.* Therefore, while the contact between Minerva and Desmond still involves an ascending rhetorical metalepsis, the boundary between the gameworld and the world of the player as well as the secondary illusion of Desmond's story are restored. Structure and context are thus certainly important to consider when studying metareference in videogames but are arguably better captured through a close textual analysis, rather than while mapping individual instances of metaization.

I come to a similar conclusion when looking at the functions of metareference, which likewise seem vital to consider, but more easily and accurately interpreted in a holistic, close-reading-style analysis. In the previous chapter, I have contemplated the role of medium awareness as a defining function of metareference, arguing that metareference always draws the player's attention to aspects of mediality, though this need not prevent them from also becoming immersed in the gameworld. However, there are many other potential functions that metareference can fulfil and which may differ between videogames. Patricia Waugh accordingly proposes a continuum between forms of metareference that have a strongly anti-illusionist effect and more naturalizable ones (2001 [1984], 116). Meanwhile, in his study of metanarration, Nünning lists a plethora of different functions, among them anti-illusionist, comical, didactic, and authenticating ones (2004, 38–48). It appears, then, that the functions of metareference are diverse, open-ended, and may only reveal themselves in a detailed analysis that considers the design of the entire game, the interaction among metareferential elements, and possibly even the specific historical and cultural configurations of its production and reception.

When mapping different kinds of metareferential *elements*, it seems more helpful to focus on the content of the utterance, in the sense of the object level that the metareferential comment refers to (Wolf 2009, 22).[3] Indeed, this dimension is also quite attuned to the medium-specificity of videogames. As the analyses by Ensslin (2014) and Fest (2016) indicate, metareferential comments in videogames are overall much more in sync with digital culture and computer technology than those in other media, not least because they often reflect on algorithmic rules, computer processes, and player agency. This is perhaps unsurprising since self-reference in videogames may not only include references to the gameworld and the narrative elements, but also to hardware and software, to game rules, mechanics, and interfaces. With regard to the communicative situation in videogames outlined in Chapter 1, it therefore seems useful to distinguish the

content of a metareferential comment according to the layer of communication it predominantly refers to: the gameworld, the game system, or the hardware and software environment of the platform. Yet, with a view to what Wolf has referred to as "extracompositional" or "indirect" metareference (2009, 38), we can also expect videogames to comment on processes of their production and reception as well as the media system more generally, which is why it makes sense to expand the communication model's dimension of the platform to a game-external dimension that can in principle also include the broader technological and cultural environment the videogame is embedded in.

Distinctions according to the content of the metareferential comment have the considerable advantage of providing great explanatory power while remaining comparatively intuitive. They are thus a particularly helpful starting point for building a framework that can meet the twofold goal of describing individual metareferential elements and supporting the interpretive work of the case studies. Yet, content alone seems insufficient to precisely describe the metareferential elements we find in videogames. Most pressingly, it does not shed light on the means by which metaization is achieved. Why this makes a difference becomes evident when comparing *Pony Island* (2016) to *Doki Doki Literature Club!* (2017). Both indie games challenge the player to delete parts of the game data to defeat an antagonist that has taken control of the game. The respective content of the metareferential comments is virtually identical, too: Both examples thematize their mediality as a software application by explicitly referencing the game data that is stored on the computer while also appealing to the player's real-world self before the screen. However, the layers of communication on which the comment is *produced,* as well as the layers the player must interact with to delete the game files, differ significantly between the two examples. In *Pony Island*, the process of deletion takes place wholly within the game. The game folders appear as virtual objects in the gameworld which the player can destroy with the help of combat mechanics, using their in-game laser weapon. The transgression of the boundary to the actual world remains a mere suggestion; the game files that are being deleted in *Pony Island* are representations of representations that signify, but are not identical with, the data files on the computer's operating system (OS). This is a far cry from *Doki Doki Literature Club!* in which the player must "kill" the fictional character Monika by deleting her character file from the actual computer. The player, that is, must temporarily suspend their engagement with the game window of *Doki Doki Literature Club!* and continue the game by interacting with the interfaces of the Windows OS and manipulating the game data stored on their computer. In cases such as this, the metareferential comment's origin lies at least partly beyond the game, on communicational layers that pertain to the platform rather than the "game proper." *Doki Doki Literature Club!* is thus much more radical in that it genuinely transcends its own boundaries on a formal level.

In addition to the question of content, therefore, the question of the form of metareference stands out as immediately relevant for analyzing the differences between individual metareferential elements found in videogames as well as how they resemble or differ from metareferential techniques and devices found

in other media. Where content describes the layer of communication that an element comments on, form identifies the layer of communication on which the element is situated. Having selected form and content as the most suitable dimensions for distinguishing and describing different metareferential elements, I will now move on to introducing a model for the systematic analysis of metareference in videogames.

3.2 Form

3.2.1 Gameworld-Centred Forms

Form asks on which layer of communication the metareferential element is situated, a question that can usually be answered by analyzing how the element in question is created. With reference to the communication model introduced earlier, we may distinguish between (1) elements that originate from the layer of the gameworld, (2) elements that originate from the game system, and (3) elements that extend beyond the game and onto the platform. I refer to these as gameworld-centred, system-centred, and game-transcending forms of metareference, respectively. The gameworld, as I have explained in Chapter 1, is here understood as a medium-specific kind of storyworld that encompasses the characters, settings, and events, and is imagined as a holistic world by the players. Unlike the storyworlds of most other media, gameworlds may also afford and dynamically react to player actions. Gameworld-centred forms of metareference may be produced by aspects of the gameworld, such the narrative events and existents, or by means of its audiovisual aesthetics, i.e., the use of images, sounds, or animations. This corresponds to established narratological distinctions between story and discourse or, perhaps more appropriately for non-literary media, between what is represented, and how it is represented (Chatman 1980, 19–26). Since gameworlds are very similar to storyworlds in most respects, many gameworld-centred forms of metareference are familiar from other media. To name but a few, videogames may use allegory, parody, impossible loops, metalepsis, or metanarration, though these sometimes come with a medium-specific twist due to videogames' interactivity (e.g., Hutcheon 1980; Mader 2017; Waugh 1984; Wolf 1993, 234). Games furthermore borrow visual techniques from cinematic metafiction (Gymnich 2007), from animation (Feyersinger 2011), or from metapainting (Backe 2018; see also Wolf 2009, 5, 45–49), or use glitch aesthetics reminiscent of self-reflexive net.art (Ryan 2007).

The most explicit metareferential elements are usually to be found in dialogues and utterances by the characters. Videogame characters may for example speak directly to the player, address the artificiality of the world that surrounds them, highlight gaps and inconsistencies in its worldbuilding, or complain about their lack of free will to draw additional attention to aspects of mediality. In the point-and-click adventure game *Thimbleweed Park* (2017), the player character Delores dreams of becoming an adventure game designer at the development company "Mmucas flem," itself a mock version of LucasFilm Games, the real-world former employer of *Thimbleweed Park*'s lead designers. In a conversation with

her uncle Chuck, Delores points out that "there is only one house in town," that "the highway ends by the bridge," and "the sheriff and the coroner are the same actor." Chuck furthermore notices the limited number of dialogue options available to the player: "Delores, you have only three things you can say." Through the explicit comments of the fictional characters, *Thimbleweed Park* draws attention to the conventions of adventure games, especially to those aspects that rely on the player's suspension of disbelief and their charitable interpretation, such as the gaps in the gameworld or the narrow confines within which the player's agency unfolds. Fittingly, the game's final plot twist revolves around the revelation that the characters are, indeed, caught in a simulation. Other videogames mirror the gameplay situation inside the diegesis, creating a metareferential plot allegory (Hutcheon 1980, 23). *Bedlam* (2015), for example, is a first-person shooter about a woman stuck in a first-person shooter, in which she becomes a playable character controlled by the actual player. In *Deadpool*, meanwhile, Deadpool plays himself in a videogame that he has bullied High Moon Studios into creating.

A notable characteristic shared by *Bedlam*, *Deadpool,* and *Thimbleweed Park* is their metaleptic quality.[4] Indeed, gameworld-centred metareferences frequently take the form of rhetorical metalepses when characters or narrators speak across the boundaries of their worlds or signal an awareness of the fictionality of the gameworld,[5] as well as ontological metalepses when characters or objects physically move between different subworlds. The arguably most common manifestation of rhetorical metalepsis in videogames is the fourth wall break, i.e., instances in which characters look at the (metaphorical) camera and/or speak directly to the player. This is often used to position the player as an ally helping the fictional characters accomplish their mission (e.g., *Break the Game* [2019]; *Deadpool*; *EarthBound* [1994]; *The Hex* [2018]). Fourth wall breaks thus allow for complex dynamics of player engagement where the player's relation to the characters prompts strong emotional responses despite their evident fictionality. In *Doki Doki Literature Club!* and *OneShot* (2016), characters even use the computer's login name to talk to the player, which creates a moment of rupture and suspicion towards the uncannily knowledgeable game, and yet, this also forms the basis for a more intimate relationship between the player and the characters.

Videogames' repertoire of metareferential elements produced by means of the audiovisual aesthetics of representation, for its part, encompasses all manner of unconventional and defamiliarizing uses of images and sounds—or even the lack thereof (see the analysis of *The Magic Circle* [2015], Chapter 5 in this book). Recurring strategies include the use of glitch aesthetics and retro styles. The former refers to imperfections or anomalies that look as though they were caused by failures of the hardware or software (Janik 2017, 68)[6] and can be found in numerous games, from the frozen screens in *Batman: Arkham Asylum* (2009) and *Pony Island* to the almost total failure of graphics and sound in *Break the Game*. In *There Is No Game: Wrong Dimension* (2020)*,* glitches are personified as a character named "Mr. Glitch," who appears from time to time to sabotage aspects of the game's functionality or wreak havoc upon its audiovisual surface of representation. Retro styles, in turn, may find expression through the "recycling"

of tropes, the anachronistic use of pixelated graphics as well as electronic sounds and chiptune-style music. The overall impression is that of a "low tech" audiovisual style, even when the game actually uses cutting-edge technology (Juul 2019, 35). While there are obvious pragmatic reasons for using dated graphics and technologies especially when making low-budget indie games, many games use retro style deliberately and thereby create a "hyperreferentiality" (Boluk/LeMieux 2017, 16) that allies them with metareference.[7] Part nostalgia, part critical examination, games like *Undertale* (2015)*, To the Moon* (2011)*,* or the *Evoland* series (2013; 2015; see Figure 3.1) harken back to earlier genres, conventions, styles, or specific titles, commenting on genealogies and interconnections between different games and the (media) cultures they are embedded in (e.g., Boluk/LeMieux 2017, 17, 28–32; Juul 2019, chap. 2; Thibault 2016; Thon 2020). Others emulate recognizable elements from "classic" titles like the platforms of the *Super Mario* franchise in *Braid* (2008) or the rescue-the-princess trope in *Super Meat Boy* (2010).

A very salient example that combines retro aesthetics and glitch-like effects with other attractors to maximize the player's medium awareness can once again be found in *Deadpool.* As the player character walks into a room located in a sewer system, the perspective suddenly changes from the game's regular third-person over-the-shoulder perspective to a top-down view; textures and graphics become pixelated, and chiptune music sets in. The change in the game's aesthetics alone qualifies as an overt gameworld-centred form of metareference because it sharply contrasts with the earlier presentation of the game and refers to the style of late 1980s and 1990s console games. In addition, Deadpool himself amplifies and contextualizes the unexpected changes with the help of an explicit verbal comment: "Oh! I love old 8-bit games!" Shortly after, a metaleptic message appears on the extradiegetic

Figure 3.1 Use of retro style reminiscent of early Nintendo games in *Evoland.*

interface: "Mr. Deadpool, we ran out of money, and this is what you get." Players then play through a short level in which they must kill enemies and solve simple puzzles that likewise cite conventional mechanics of earlier videogames (see the upcoming section on system-centred metareference). Next, colourful, pixelated 2D objects and characters begin to fill the room and move about erratically, mimicking the chaos and loss of control associated with the glitch (Menkman 2011, 29, 31). This causes a fed-up Deadpool to call the president of High Moon Studios, the company that developed *Deadpool*, creating an impossible loop: "Peter! Hey! I was just running around my game and all of a sudden, I noticed that, uh, some shit was fucked up. What's up with that?" The level ends shortly after in a paradoxical entanglement of temporalities as High Moon Studios apparently manages to fix the game in real time and the graphics, sound, and mechanics go back to normal. In addition to demonstrating that different metareferential elements may reinforce one another,[8] *Deadpool* shows how aspects of the gameworld's audiovisual representation can draw attention to the game's mediality and formulate a metareferential comment on the historical situatedness of videogame aesthetics and conventions. In addition, the low-tech aesthetics underscore the comments on the economics of videogame production entailed in the dialogue between Deadpool and Peter.

Videogame sound and even non-diegetic music can contribute to metaization principally by accentuating certain elements, shaping the mood of a scene, or as part of the abovementioned retro aesthetics. In a ludomusicological analysis of the soundscapes of the indie RPG *Undertale*, music theorist Stephanie Lind (2020) points out how the game plays with 8-bit sound[9] as part of its self-reflexive engagement with the conventions of late 1980s and early 1990s Nintendo RPGs. Using the game's "tutorial" as an example, Lind maps a transcription of the game's music and sound effects onto the narrative and ludic events happening at the same time. *Undertale*'s tutorial scene is famous for its unreliability and subversion of player expectations. Pretending to be a conventional helper character, the game's antagonist Flowey offers to show the player character "how things work around here." However, rather than providing a safe environment in which players can learn how to use the game mechanics, Flowey attempts to murder the player character. What Lind's analysis reveals is that in the precise moment in which Flowey drops all pretence, the music abandons RPG conventions: It "is distorted through deceleration and transposition down a semitone, then stops" (Lind 2020, slide 3). The sounds that accompany the appearance of Flowey's dialogue in the text box also shift to a higher pitch and additional sound effects, such as a rapid heartbeat and Flowey's maniacal laughter, set in (Lind 2020, slide 3).[10] These aesthetic and sonic distortions serve as additional markers of the metareferential disruptions that occur in the game's narrative and the subversion of the conventions of the videogame tutorial. *Undertale* thus exemplifies how videogames may use non-diegetic sounds and music as markers of metareference, albeit ones that are usually paired with more overt elements.

There is one more technique of creating gameworld-centred metareference that I would like to draw attention to, both because of its surprising frequency and the way its use in videogames differs from that in other media: the metareferential use

of a narrator figure.[11] Consider the following example. *Hades* (2020) is a roguelike[12] RPG game set in the Greek underworld in which the player assumes the role of Zagreus, the rebellious prince and son of Hades himself. The narrative events are commented on by a loquacious narrator who also reacts to certain ludic events. He may, for instance, offer opinions on some of the player's discoveries while exploring the gameworld, or take offence if the player skips through his monologue. Moreover, the narration has metaleptic tendencies since Zagreus can hear the narrator's voice and sometimes even offers a reply, leading to a number of humorous interactions such as when Zagreus complains: "[L]ower your voice, old man, I'm trying to be sneaky here…!" While these exchanges usually serve as little more than witty banter, there is one instance in which they lead to a paradox because the narrator accidentally gives away the secret of Zagreus's parentage. In a flashback presented as an embedded gameworld, the player plays through one of Zagreus's memories in which the prince snoops around the house at night. The analepsis is accompanied by a voice-over narration in which the narrator, revelling in the prospect of being able to present a climactic scene, adds every bit of flourish to his narration: "He [Zagreus] ventures toward the stately throne of his Lord Father, half-expecting to be caught, but ill-expecting what he is about to find."[13] When rifling through the paperwork in Hades's study, Zagreus then discovers a letter signed by Persephone, upon which a conversation with the narrator ensues:

Narrator: "Thus did Prince of the Underworld Zagreus absorb the contents of this hidden letter, written in his mother's hand."

Zagreus: "His mother's hand, my mother's hand, wait, what…? You're saying this Persephone, that she's… my mother...? […]"

Narrator: "Uhhh erm thus did the Prince discover, inadvertently, the well-kept truth about his lineage. Entirely by chance, this did occur…"

Contrary to the conventions of reliability and objectivity, in *Hades*, the narrator is flawed. More than that, his verbal slip-up paradoxically becomes a part of the gameworld because the newly gained information motivates Zagreus to try and escape the Underworld to meet his mother and thus sets the plot in motion in the first place. Moreover, the overtly impossible position of the narrator and his fallibility expose the artifice of the conventional (omniscient) narrator whose impossible knowledge of the world of which they speak is normally naturalized in narrative media. The effect of the narrator's blunders is thus primarily comic but also draws attention to the constructedness of narratorial representation.

With Ansgar Nünning, we can identify *Hades*'s narrative voice as a metareferential case of metanarration, which refers to "the narrator's commenting on the process of narration" (Nünning 2004, 12) in order to discuss aspects of narration and narratorial discourse (2004, 16). The self-conscious narrators of videogames often additionally foreground medium-specific narrative techniques and discuss the challenges posed by the player's agency and the interplay between the ludic and narrative modes. Particularly, the moments of tension that arise between the narrator's script and the player's moment to moment interaction with the game

put a medium-specific spin on the metanarrative and metareferential comments we may find in videogames. The arguably most well-known example of a game concerned with this particular tension is *The Stanley Parable* (2013) in which the narrator attempts to coax the player into following his directions by presenting a prefigured story in past tense (see, e.g., Backe/Thon 2019; Fest 2016; Herte 2016; Schubert 2021 for detailed analyses). Another can be found in *Bastion* (2011), the first commercial title by *Hades*'s developer Supergiant Games (see also Thon 2016, 215–219; 2014, 44). In *Bastion*, the hero's journey is accompanied by a narrator[14] who also comments on the outcomes of the player's ludic actions. At the beginning of the game, the player must guide the protagonist, simply named "the Kid," across perilous walkways, using the mouse and keyboard to avoid gaping holes and crumbling edges. If the player does not manage to do so and the Kid falls off the walkway and tumbles into the bottomless abyss, the narrator continues without any signs of distress: "[T]hen, he falls to his death." The Kid then reappears, out of thin air, right above the walkway and falls to the ground unharmed, upon which the narrator dryly remarks: "I'm just fooling." Rather than attempting to disguise the inconsistencies caused by the respawn, the narrator comments on them ironically and thus defamiliarizes gameplay conventions that rub against the logics of the gameworld. In *Bastion*'s "new game plus" mode,[15] the narrator additionally expresses a sense of déjà vu, as if subconsciously recalling previous playthroughs, and thus marks the challenge that replayability poses to world coherence.

In this section, I have used a variety of examples to illustrate how videogames may use their narrative and worldbuilding strategies as well as their (mainly audiovisual) means of representing the gameworld for metareferential effect, showing how specific techniques such as explicit comments, metalepses, the use of retro styles, or metareferential narrators can draw attention to the mediality of the videogame and the fictionality of its gameworld. Let me once again emphasize the medium-specificity of gameworlds which, unlike storyworlds, also offer a space for the player to exert ludic agency. If and when metareferential elements occur is often contingent on the player's behaviour while the fictional frame of reference bestowed upon ludic events can also be a source of metareferential phenomena, albeit one that is not always stable across playthroughs. This is foregrounded by the metareferential narrators of games like *Bastion* which comment on emergent aspects, including paradoxical events such as character deaths that result from the player's poor performance. Gameworld-centred forms of metareference can therefore hardly be understood without also considering the ludic and computational dimensions of videogames. In the subsequent section, I will show how the game system can itself become a site of metareference.

3.2.2 System-Centred Forms

System-centred forms of metareference can be attributed to the game's ludic system and/or its software and programming. However, since the software operations themselves are not normally visible to the player, most system-centred elements are communicated via more immediately perceptible parts of the game

system, especially the game mechanics and the extradiegetic graphical user interface (GUI) that translates system-relevant information to the surface of representation. As a consequence, system-centred metareference may in fact be presented to the player by way of the same visual, sonic, linguistic, and haptic signs that are also used to represent the gameworld. This makes them difficult to distinguish from gameworld-centred forms on a purely semiotic basis. The difference, rather, is whether a specific element is logically part of the gameworld or the game system. To further complicate things, elements may be double-coded, i.e., certain objects in the gameworld may also communicate system-relevant information and thus constitute what Kristine Jørgensen refers to as "gameworld interfaces" (2013). In some cases, the question of whether a specific element is (predominantly) part of the gameworld or the game system can therefore not be answered unambiguously and may depend on the interpretation of individual players in relation to the context in which they encounter said element. As in the previous sections, I find it helpful to illustrate the range of system-centred metareference with the help of examples from different videogames.

Although I have previously emphasized the role of the GUI as the main communicator of system-centred metareference, a videogame's rules and game mechanics can in themselves become metareferential if they draw the player's attention and elicit medium awareness. This is usually the case when they go against established conventions, defy player expectations, change abruptly, or clash with the presentation of the gameworld. In contrast to unconventional or even frustrating mechanics that are part of a gradual evolution of a particular game genre or simply down to flawed design, metareferential mechanics are non-accidental and sufficiently marked to justify the assumption that they will draw the implied player's attention to aspects of the game's mediality. *Undertale*'s combat system, which incidentally also showcases a retro style GUI,[16] affords unconventional game mechanics that underscore its critical, self-reflexive comment on videogame violence. The game's combat interface automatically opens if the player encounters a monster in the gameworld. However, it not only includes options to fight the monster but also an "ACT" button that allows the player to "strike up a friendly conversation" instead of attacking, and a "MERCY" option through which they can spare the monster (Figure 3.2). These "smalltalk" mechanics not only subvert conventions of turn-based combat in RPGs but also encourage reflections on morality in videogames. It is possible to complete *Undertale* without killing a single NPC, though this is in many cases more difficult to accomplish since most monsters still attack until the player manages to calm them down and sparing enemies does not yield any experience points with which the player could increase the player character's hit points. Nevertheless, using the "Act" mechanic is rewarding because it often leads to humorous or surprisingly tender interactions, compared to which combat seems overly simple and aggressive. The mere affordance of an alternative to killing one's opponents thus leads to a more rounded representation of enemy characters and introduces a self-critical comment on the conventions of the RPG genre as well as on the morality of in-game violence.

Figure 3.2 The retro-style combat interface in *Undertale* with "Act" and "Mercy" options that afford non-violent conflict resolution.

Moreover, game rules and mechanics are likely to draw attention to themselves if the type of challenge or the mechanics change abruptly (Rapp 2007, 118–120). Changes in the game mechanics commonly occur in the context of minigames, embedded games, or in anthology-like videogames composed of several short games (e.g., *The Hex* or *There Is No Game: Wrong Dimension*). Often, the main function is not to elicit medium awareness but to increase the challenge of a boss fight or add some variety to the gameplay. Nevertheless, the moment at which a game mechanic changes certainly provides fertile ground for metaization; in any case, the player must temporarily devote more attention to keeping track of the game mechanics available to them and to operating the controls.[17] The player's medium awareness can furthermore be actualized if game mechanics are suddenly suspended, inverted (e.g., left becomes right), or conspicuously absent.[18] In *EarthBound*, the player is required to do nothing for several minutes, and in *Metal Gear Solid 3* (2004), players can simply wait for the opponent "The End" to die of natural causes.[19] In *The Beginner's Guide* (2015), finally, there are moments in which forward movement is not permitted or gradually slows down to almost nothing, and the only time the player gets hold of a gun, it cannot be reloaded. As a result, the game system's affordance (or suspension) of game mechanics

"appears more clearly as what it essentially is—a calculated, artificial restriction of the player's ability to interact meaningfully with the game spaces" (Backe/Thon 2019, 17). Rather than experiencing their interaction with the game as the diegetic actions of a player character, the player recognizes that they are pushing (or rather, no longer pushing) buttons.

Finally, the game rules and mechanics may call attention to themselves if they clash with the logics of the gameworld. Such mismatches between gameplay and narrative, also known as ludonarrative dissonance (Hocking 2007), are often a byproduct of game design challenges not yet overcome. However, they can also be used intentionally in metareferential videogames to amplify tensions between the ludic and the narrative. A notable example is, once more, *Spec Ops: The Line* (2012), which exploits the "friction between the stated narrative contract"—a rescue mission—and "the contract implied by its game-playing mechanics"—shooting NPCs on sight—to encourage reflection on the ethics of real-world military intervention on the one, and on the ethics of shooter games on the other hand (Murray 2016, 41).

Aside from the mechanics themselves, system-centred metareference is often produced using what we have elsewhere called "metareferential interfaces" (Krampe et al. 2022). Perhaps best summarized in the shorthand "interfaces about interfaces," the term describes interfaces that are foregrounded in a way that encourages medium awareness and reflection. Note, however, that not all metareferential interfaces are situated within the layer of the game system. The use of the hard- and software interfaces of the platform, for instance, is best described as a game-transcending form of metareference (see below). The system-centred forms of metareference I am interested in right now use the game's extradiegetic GUI. *Spec Ops: The Line's* aforementioned self-critical messages displayed during the loading screens may serve as a prototypical example, but as the following discussion shows, the ways in which videogames use metareferential GUIs can be much more complex.

Let me first return to *Undertale*. I have so far discussed how *Undertale* combines retro styles with metareferential mechanics. Moreover, there are moments in which game characters signal their awareness of the player. However, the game's metaleptic transgressions do not stop at fourth wall breaks but also cross the boundary between the extradiegetic interface and the gameworld. In one of the game's boss fights, the opponent Asgore begins his turn by piercing the game menu with his trident, breaking the button labelled "MERCY." Not only does Asgore accomplish the ontologically impossible feat of striking an extradiegetic overlay that, by definition, does not exist in his world, but he also eliminates an important game mechanic. With the "MERCY" button destroyed, the player can no longer try to spare Asgore and must instead fight him until his hit points drop to zero, or hope that Asgore will at some point end the fight non-lethally. This is a very salient, because still uncommon, form of system-centred metareference. As I have argued earlier, extradiegetic interfaces are not normally considered to be part of the gameworld but act as an intermediary between the player and the game system. Therefore, if they intrude upon or mingle with the gameworld, the result is an overt ontological metalepsis that is very likely to increase the player's medium awareness.

The more light-hearted indie metagame *There Is No Game: Wrong Dimension*[20] uses metaleptic crossings between gameworld and extradiegetic GUI as well as other kinds of metareferential interfaces for creative puzzle challenges. It is about a videogame that does not want to be played, and consequently hides beneath multiple layers of interfaces, minigames, and other obstacles. When players first open the game, they are presented with a title screen that resembles a makeshift theatre stage. The game then makes a point of showing several textual overlays and signposts emphasizing that this is "not a game" and advises the player to "exit the program immediately." The menu design is also inverted in the sense that the button to close the game is labelled "THIS WAY!" and the chapter selection menu can be accessed via the option "NO GAME HERE." The proliferation of interfaces and the mismatch between the textual information and the actual function of the clickable areas draws attention to videogame interfaces and their functionality. The player can then select the first chapter, aptly titled "Mise en abyme." After several moments of what sounds suspiciously like last-minute construction works, a theatre curtain opens to reveal a billboard spelling out the message "THERE IS NO GAME!" If the increasingly impatient player starts randomly clicking in different places on the screen, they will notice that their clicks cause small tremors which eventually cause the title screen's exclamation mark to fall off. Subsequently, the two parts of the exclamation mark can be used as a paddle and a projectile to be launched at the other letters (Figure 3.3), mimicking the gameplay of *Breakout* (1976). The conventional title screen as well as the linguistic signs displayed on it have undergone a significant change as they have been transformed into objects in

Figure 3.3 Playing *Breakout* with the metaleptic interfaces of *There Is No Game: Wrong Dimension;* the paddle that used to be an exclamation mark is visible on the bottom left.

the gameworld; objects, no less, that form part of a minigame that intertextually refers to one of the "classics" in videogame history.

This logic, according to which signs and symbols of the extradiegetic interfaces are suddenly revealed to lead a double life as objects for the player to interact with in the ludic and narrative spaces of the gameworld, repeats in different versions throughout the first chapter of *There Is No Game: Wrong Dimension*. There, these metareferential interfaces underscore the conscious artifice that weaves through the entire game. A gear-shaped loading icon, for instance, can be unscrewed from its position in a pop-up notification to become a cogwheel that players can then use to fix the mechanism of a safe, the pointer can be used to pop in-game balloons, and the loading screen's progress bar can be tilted so as to load faster or empty out again. Exploiting the visual similarity between the symbols conventionally used in interface design and real-world objects, *There Is No Game: Wrong Dimension* creates innovative puzzles based on processes of defamiliarization, deconstruction, and metalepsis. The challenge consists in thinking in unconventional terms and across communicative levels; in looking attentively at, rather than through, the windows, icons, and pointers of the GUI. Indeed, the game's first chapter seems preoccupied with deconstructing the metaphors on which the design of most WIMP interfaces is based and restructuring the player's perception of and interaction with them. In Bolter and Grusin's terms, the game does not permit the digital medium to "erase itself" (1999, 45) but encourages the player to recognize the logic of hypermediacy behind the multilayered interfaces as well as to consciously register the oscillation of their attention between different ontological levels.

There Is No Game: Wrong Dimension can be counted among a sizable group of videogames in which players spend part of their time playing on and with fake game menus and other types of metareferential interfaces.[21] Often, these kinds of games reproduce entire software environments *en abyme,* into which games, film clips, or other media and applications can be embedded. An elaborate example of an embedded (retro) OS can be found it *Superhot* (2017 [2016]), a first-person shooter in which time is slowed down as long as the player does not move, allowing them to carefully plan each step towards completing the level. Before launching players into its concept-based shooter levels, however, *Superhot* begins on the desktop interface of a simulated OS which, according to a review by *Polygon*, "looks like what would have happened if DOS evolved as the primary input mechanism for computing" (Kollar 2016; Figure 3.4). Thematically as well as formally, this retro OS refers to the aesthetics, technologies, and cultures surrounding early computing and gaming; it even includes nods to the (hacker) communities, markets, and specialized skillsets that developed around legal and illegal copies of popular games. Filled with files, folders, and applications that the player can interact with, this interface provides many of the functionalities of the GUI of a real OS, such as starting and quitting the game, a settings menu, several apps, and a games folder with a fully playable version of a minigame called "Tree Dude."

Contrasting sharply with the sleek, modern shooter levels, the limited colours and pixelated look of the retro OS seem mismatched and anachronistic, creating significant ruptures whenever it forces itself into the foreground. It also increasingly

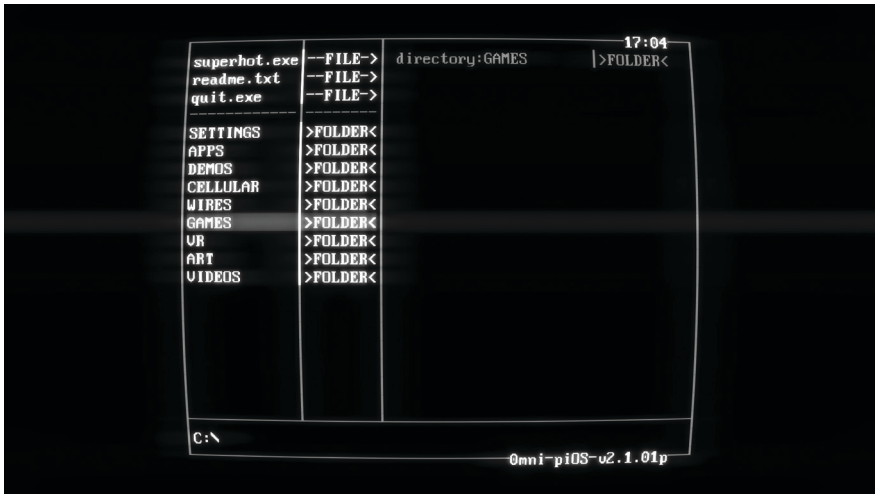

Figure 3.4 The interfaces of the fake DOS-style OS in *Superhot.*

develops into a veritable first-order gameworld when narrative events are added: First, the player is alerted to an incoming message of a fictional acquaintance who offers them a cracked version of a new videogame called "Superhot," which they can subsequently play by selecting "superhot.exe." After a few levels of playing the shooter "Superhot" in the second-order gameworld, a glitch occurs, and the game notifies the player that they are using an unauthorized copy. Players are then taken back to the first-order gameworld of the fake OS where they receive a chat message with an updated crack circumventing the game's copyright protection. Thereafter, the relationship between the player and the fictional game "Superhot" becomes increasingly antagonistic. Players are repeatedly kicked out of the game or find themselves unable to quit, the chat messages they write via the fake OS are edited, and the game repeats, in different iterations, the same message: "[Y]ou are not in control."[22] *Superhot* reaches its climax in a paradoxical loop when the player character controlled in the second-order gameworld of the shooter game approaches the diegetic player figure (i.e., the one who downloaded the cracked game) perched before a computer screen and is ordered to kill them.[23] Like *There Is No Game: Wrong Dimension*, *Superhot* shows how metalepsis and *mise en abyme* but also retro styles and glitch aesthetics, can be employed as part of a metareferential interface.

As the examples in this section have demonstrated, videogames may use a variety of techniques to produce system-centred metareference. These include unreliable, subversive, or unconventional game rules and mechanics as well as ones that call attention to themselves by virtue of their absence. Since the game system often requires the GUI as an intermediary that communicates system-relevant information to the player and translates their input back to the system, extradiegetic

interfaces are particularly productive when it comes to system-centred forms of metareference. For one thing, they can communicate explicit metareferential comments by means of textual overlays or game menus; for another, videogames can initiate metaleptic crossings between the gameworld and the extradiegetic GUI. Finally, the GUIs audiovisual presentation can draw attention to interfaces, game mechanics, or the conventions associated with them, as can be seen in the case of retro-style and/or reduplicated interfaces.

3.2.3 Game-Transcending Forms

What remains to be discussed are game-transcending forms of metareference, by which I mean metareferential elements that formally extend beyond the game. I have already mentioned some examples in previous chapters, including *Doki Doki Literature Club!,* in which the player must delete a certain file via the folder on the real computer's OS to kill the fictional character Monika (Figure 3.5), or *Metal Gear Solid*, in which the player must interact with the hardware of the platform and unplug the controller to interrupt the antagonist's ability to foresee the player character Snake's every move. Typically, these games manipulate, or require the player to manipulate, aspects of the computer's OS or its hardware. Insofar as we understand the hardware and OS of the actual computer to be part of the "real world," these metalepses "spill into the real world and affect it *physically*" (Ryan 2006, 226; original emphasis). In contrast to the forms of metareference discussed so far, and also in contrast to what is possible in (most) other media, game-transcending forms of metareference thus enact what Marie-Laure Ryan has

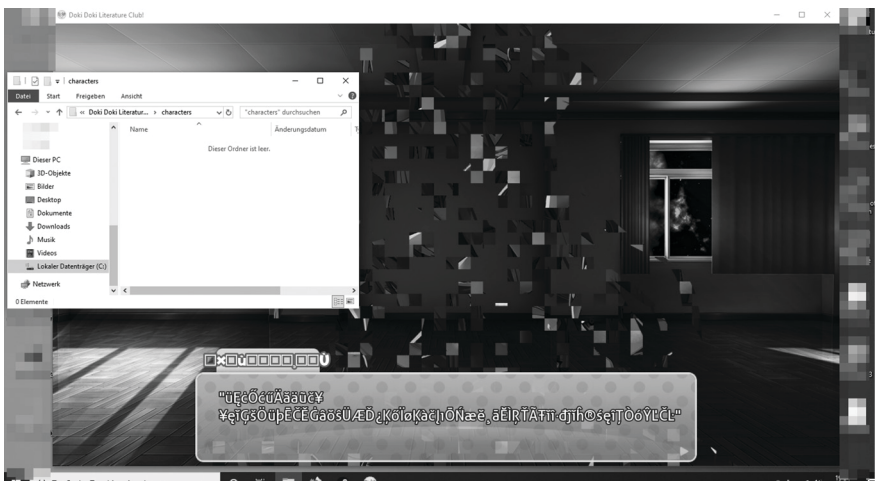

Figure 3.5 "Killing" Monika by deleting her character file in *Doki Doki Literature Club!.*

referred to as "genuine" ontological metalepsis between the game and the actual world (Ryan 2006, 118).

Like system-centred forms, game-transcending forms of metareference often make use of metareferential interfaces. This time, however, the interfaces in question are not part of the game but refer to the WIMP interface of the OS or to input devices such as the keyboard, mouse, or controller. A particularly wide reach and variety of genuinely metaleptic, game-transcending play that extends to the GUI of the OS is demonstrated by the horror game *Mirror Layers* (2016). Developed for the Asylum Jam 2016, *Mirror Layers* is a short freeware game centred around the eponymous leitmotif of the mirror.[24] The gameworld consists of two possible realities; a primary world set in an abandoned apartment, and a darker, monster-infested version of the same apartment that the player character can access through a large mirror. Throughout the game, the player must move back and forth between the two worlds, recovering cues and items. Each crossing of the threshold is marked by a notable audiovisual glitch-like effect (gameworld-centred form of metareference).

The game then juxtaposes this duality of worlds with yet another layer, namely the videogame's computational architecture on the player's actual computer. Like the two diegetic worlds, the gameworld and the game data act as mirror images of one another and the boundary between them must be crossed and recrossed during the game. The real computer's file system can for instance be accessed via an in-game computer running the fictional "mirror OS" operating system and typing "dir" into the diegetic command window opens the actual computer's documents folder. Most notably, the game introduces a threshold that allows the metaleptic passage of objects between the game and the actual computer's file system. In the gameworld, the threshold is marked by a statue, behind which large letters inform the player of the presence of a "connection between this world and the one you are living in." Within the interfaces of the actual computer's OS, meanwhile, two folders labelled "statue_input" and "statue_output" can be found under "documents: MirrorLayers." Throwing certain in-game objects at the statue causes them to disappear from the gameworld while a corresponding file appears in the folder "statue_output." Conversely, depositing files in the folder "statue_input" causes a new object to appear before the statue in the gameworld. This mechanic, which relies on a genuine ontological metalepsis between the gameworld and the platform, is needed to solve in-game puzzles since the game creates some of its objects randomly. To give a concrete example: Players may be given a key labelled with the number "4" but find a chest labelled "1." The correct key to open the chest (key 1) cannot be found in the game. Typing "help" into the command window of the fictional in-game computer opens the Browser and directs the player to the game's dedicated *Facebook* group, where they can trade keys with other users by outputting "their" key (key 4) through the statue, which generates a file representing key 4, and swapping it for a file representing key 1. The latter can then be placed into the folder "statue_input," causing the key 1 object that unlocks chest 1 to appear in the gameworld.

The porosity of the boundary between the gameworld and the OS in *Mirror Layers* effectively questions, if not wholly dissolves, any discernible distinction between the fictional object in the gameworld and in its "actual" existence as data on the computer. What looks like a key in the gameworld is revealed to be a string of code. While from the point of view of game design and computer programming, it is a truism that that the manipulation of code and data changes the presentation of the gameworld, it is also a commonplace that games obscure this connection in the interest of worldbuilding and immersion. *Mirror Layers,* by contrast, shows that the structures of the gameworld "are bound to states of hardware and software that have no direct correlates in other forms of play" (Harpold 2007, n.pag.) and thus unmasks how the layers of what is represented are mirrored by the underlying program.

While this strategy is still comparatively rare, *Mirror Layers* is by no means the only videogame to use genuine ontological metalepses between gameworld and platform, and it is certainly no accident that this most often occurs in psychological indie horror games, including *Archimedes, Doki Doki Literature Club!*, and *Imscared: A Pixelated Nightmare* (2016 [2012]). After all, if the videogame deposits new files on the player's computer, manipulates their data, or otherwise violates the sacred boundary to "real life," this conveys a sense that the player before the screen is not safe from the horrors presented in the gameworld (Krampe 2025; Marak et al. 2019). Other videogames focus on the idea of introducing real-life consequences by deleting their save files or even the entire application and thus tread a thin line between creating metaleptic art and compromising the player's computer (Ryan 2006, 226).[25] The art game *Lose/Lose* (2009) even breaks with the rule of refraining from actually destroying the user's system and thus becomes difficult to distinguish from a computer virus.[26] In this space-themed shoot'em up, killing aliens comes with a twist as *Lose/Lose* deletes a random file from the player's computer for every alien shot. According to the information included on his webpage, the game's developer, Zach Gage, understands *Lose/Lose* as an experimental artistic project that encourages reflections on choices and consequences (Gage 2009). The game's core concept—losing data when shooting virtual aliens—relies on the assumption that, given the opportunity, players will engage in violent behaviour even though the aliens never actually antagonize them. "Why do we assume that because we are given a weapon and awarded for using it, that doing so is right?" (2009, n.pag.), Gage writes. He also ponders the importance of data in contemporary society:

> At what point does our virtual data become as important to us as physical possessions? If we have reached that point already, what real objects do we value less than our data? What implications does trusting something so important to something we understand so poorly have?
>
> (Gage 2009, n.pag.)

The videogame itself and the authorial interpretation offered in its paratextual material (e.g., Gage 2009; 2010) position *Lose/Lose* as a critical comment on game

culture as well as digital culture more broadly, which offers an alternative reading that stresses the game's critical and didactic functions rather than identifying it as malware.

All examples discussed so far focus on the software environment of the platform, often via the desktop GUI, but as I have indicated at the beginning of this section, the hardware of the computer or console can also play a role in the production of game-transcending metareference. Through the metareferential use of the controller, videogames may address the player in their role as the operator of a computer so that the player attributes their interaction with the game to their real selves before the screen rather than to the player character. Two of the scenes from *Metal Gear Solid* discussed so far—the disruption of Psycho Mantis' powers through the switch of controller ports and the arm massage administered to the player through the vibrating function of the dual shock controller in the "torture sequence"—are examples of playfully metareferential uses of hardware. In both cases, the game uses the controller to draw connections between the fictional situation in the gameworld and the player's self before the screen and in both cases, diegetic events and experiences metaleptically spill over to the real world and physically affect the player's body. An even earlier case in point is the game *X-Men* (1993), which requires players to reset their actual console, the Sega Genesis, in order to eliminate a fictional virus within the gameworld (see also Conway 2010, 149).[27] Player must interact with the hardware in unconventional ways that demand a temporary suspension of their engagement with the gameworld and that have material consequences in the real world. All three examples thus instil a strong sense of self and medium awareness in the player.

In addition to the boundary between the gameworld and the hardware or software of the platform, it seems worth inquiring whether metaleptic crossings between the game and another text or media object can be considered instances of game-transcending metareference. *Archimedes, Mirror Layers,* and *Not Tonight 2* (2021), for instance, require players to retrieve information from webpages and software applications outside the game, which then becomes relevant within the gameworld. Importantly, all texts or media artefacts involved retain their own mediality and materiality, i.e., the website, blog post, etc., remains separate from the videogame so that the moment of crossing happens at least partially outside the game. Mere intertextual and intermedial references to other texts as well as forms of remediation that represent another medium within the game, by contrast, are not considered to be game-transcending *forms* of metareference (but may very well be instances of gameworld-centred or system-centred metareference).

The kind of extension of play across multiple texts and media artefacts that we find in these experimental metagames is already familiar from alternate reality games (ARGs), which often use real-world websites or social media platforms as sites of play or interaction between players while emphasizing that "this is not a game" (Labitzke 2014, 4). Indeed, some metagames, notably those created by indie developer Daniel Mullins (*Pony Island, The Hex,* and *Inscryption* [2021]) have become famous for their ARG elements (Caracciolo 2025; Thorne 2025).[28] However, unlike actual ARGs, game-transcending metareference typically occurs

in single-player games that can be stopped, saved, or played again and in which the transgression of media boundaries is highly unconventional (though, admittedly, games like *Inscryption* severely challenge this distinction). Consequently, the player is very likely to interpret these kinds of strategies as metareferential transgressions and as comments on the game's digital materiality and its embeddedness in a complex network of interfaces and software technologies.

Aside from websites or software applications, physical (para)texts such as handbooks or materials included in the packaging of a videogame can metaleptically become part of the gameworld and/or the gameplay. In the late 1980s to early 1990s, the packaging of PC games and interactive fiction titles sometimes included "off-disk" anti-piracy measures as an arguably more playful variant of the activation code (Kelly 2020, n.pag.). Gameworld-relevant information was for example included in handbooks and other print-based materials (Bohunicky/Milligan 2019, 62).[29] The packaging of *StarTropics* (1990) even included a physical letter, signed by the player character's (fictional) uncle Steve. At a certain point in the game, the player character then receives a message from Steve, advising him to "DIP MY LETTER IN WATER." Dipping the physical letter in actual water then reveals a previously hidden message written in invisible ink that includes a secret code needed to continue the game (see Kotaku 2018 for a recording). Similar to games that require the player to consult files on their OS, the player must engage with media objects in the real world and retrieve information that can then be imported into the gameworld; only in this case the game uses print-based materials rather than software.[30] The principal purpose of examples such as this was to protect against theft by making illegally obtained copies unplayable. That some videogames chose to do so in a playfully metaleptic manner on the one hand makes copyright control feel less rigid and thereby recaptures the potential disruption of the player's immersion (Harpold 2007) but on the other hand makes them potentially interesting for the study of game-transcending metareference. The slippage between a videogame and another text or artefact is not a typical example of genuine ontological metalepsis in which the game physically affects the player's machine. However, what the examples discussed in the last few paragraphs have in common is that they go beyond the game and require the player to engage with and divide their attention between at least two different media texts, which then affects the game state in a paradoxical way and draws attention to mediality. At least in some cases, such combinations and crossings between texts can therefore be considered game-transcending forms of metareference in the broad sense of the term, i.e., as instances of metaization that extend to aspects beyond the game and into the real world.

In this section, I have described forms of metareference that extend beyond the game, and onto the hardware or software of the platform. Unlike the fourth wall breaks or fake error messages discussed earlier, game-transcending elements genuinely cross the threshold between the game and the world of the player, a boundary that is normally impervious to ontological crossings except in live action (Bell/Alber 2012; Ryan 2006, chap. 9; Thoss 2015, 11). These games can thus very effectively thematize the relation between fiction and reality by engaging the player's

split identity as a participant in the gameworld and a user before the screen. I have furthermore argued that instances in which a videogame requires the player to engage with another media object distinct from it, such as a digital or print-based paratext, can in some cases be fruitfully analyzed as game-transcending forms of metareference. To briefly refer back to the earlier discussion of medium awareness, there is some reason to believe that game-transcending forms of metareference are conducive to immersion. They can extend the "magic circle" of play to the real world (Conway 2010) as in the case of the arm massage in *Metal Gear Solid* or preserve the spirit of playfulness in the face of non-playful issues such as copyright protection. However, because these forms always engage the boundary between the game and what is outside it, they necessarily draw the player's attention to aspects of mediality as well. Having explained how metareference can be produced on and between different layers of communication, and having introduced heuristic distinctions between gameworld-centred, system-centred, and game-transcending forms of metareference, I now turn to the dimension of content.

3.3 Content

3.3.1 Gameworld-Centred Comments

Content describes the object level of a metareferential comment, asking what exactly—which aspects of which layer of communication—it refers to. From the definition of metareference as well as the communicative situation in videogames outlined in previous chapters, it follows that such a comment must refer to aspects of the game itself or the system it is a part of. This allows me, analogously to the form of a metareferential element, to also distinguish between (1) gameworld-centred comments on the gameworld, (2) system-centred comments on the game system, and (3) game-transcending comments on aspects that go beyond the individual game, as long as these also imply a comment on the videogame in which they occur. Gameworld-centred metareferential comments refer to the gameworld and/or the way in which it is presented. Not unlike other media, metareferential videogames habitually thematize their mediality and/or fictionality[31] or refer to individual aspects of their gameworlds. The latter may include comments on narrative elements such as events and existents, as well as on the images, sounds, linguistic signs, and worldbuilding strategies the game employs for the purpose of representing the gameworld (see, e.g., the examples from *Thimbleweed Park* above).

To briefly elaborate on the possible relationships between form and content: Gameworld-centred metareferential comments can in principle be formulated on any of the three layers of communication, though some seem to be more obliging than others. Gameworld-centred forms, as well as metareferential elements that are communicated via the game's GUI, are particularly versatile because they can use verbal or written language. *Deadpool* illustrates this point rather well because the game's dialogues and internal monologues as well as text boxes, game menus, and overlays continually comment on the use of narrative elements and conventions.

System-centred forms of metareference such as metareferential mechanics and non-verbal interface elements, by contrast, cannot refer to other layers of the game quite so easily. Yet, there are multiple exceptions, as when metareferential mechanics draw attention to the ethics of killing fictional characters (see, e.g., the discussions of *Spec Ops: The Line* and *Undertale*), or to how the representation of the gameworld depends on the organization of files stored on the computer (see, e.g., the discussions of *Mirror Layers* above). The relations between form and content are therefore flexible, and the concrete manifestations of gameworld-centred comments can be quite diverse.[32] In the following, I concentrate on different variations of gameworld-centred content by discussing some examples that I find particularly interesting with regard to thematic trends in contemporary videogames.

As I have briefly mentioned above, gameworld-centred comments often expose the fictionality, or inventedness of a gameworld in addition to highlighting its mediality. In fact, fictionality seems to be one of the most prominent themes in the videogames mentioned in the previous sections of this chapter—only remember the realization of videogame characters such as Max (in *Max Payne*), Monika (in *Doki Doki Literature Club!*), or Delores (in *Thimbleweed Park*) that they are fictional characters in a videogame. These kinds of rhetorical metalepses may also lead to longer and more complex metareferential sequences, for instance when characters that have become aware of the fictionality of their world rebel against their creator (*The Hex*), use their knowledge of game design or genre conventions to their advantage (*Thimbleweed Park*), try to escape the game (*Break the Game*), or adopt a nihilistic outlook (see also Klimek 2010, 252–254). Videogames may furthermore present the player with mindgames that explore impossible world structures, including paradoxical loops, impossible spaces, reversed time and causality, unreliability, and other ontological and epistemological problems.[33] *BioShock: Infinite* (2010), as a case in point, confronts the player with a complex multiverse whose counterfactual histories become entangled with one another in impossible looping storylines (Figure 3.6). Constructing a multilevel stack of worlds, all of which are equally possible, yet equally constructed, the game deprives the player of the comfort of trusting and settling into any one of them (Waugh 2001, 90, 102–103). The consequent destabilization of all worlds mobilizes the player's latent awareness of the fictionality of *BioShock: Infinite.* In addition, it can invoke the kinds of anxious realizations that seem typical of (ascending) metalepsis and *mise en abyme,* namely that what we perceive as objective and extratextual reality might be a mere construct, or even worse, the product of someone else's imagination (Klimek 2010, chap. 5; see also Harpold 2007; Waugh 2001, 18–19, 55).[34]

The blurring of fact and fiction, actual word and gameworld, can easily channel into philosophical reflections on the truth value of simulated experience and the ontological status of videogame characters as either mere fiction, or as possible people towards whom players can develop real feelings (Ryan 2015, 107–108; for a comprehensive discussion of videogame characters, see Schröter 2021). Such a problem lies at the heart of *Break the Game,* an indie platformer that overtly communicates the constructedness of its gameworld from the outset. Its environments are empty and pervaded by glitches, inverted colour schemes, and other

Figure 3.6 Elizabeth entering a portal between worlds in *BioShock: Infinite*. Note the additional markers of mediality such as the visual imitation of overexposure and cracks in the glass.

interferences in the audiovisual presentation. The game's characters, by contrast, appear as beings with motivations and emotions, even though most of them look like simple geometric forms with eyes. The mismatch between the respective depiction of gameworld and characters sets the stage for *Break the Game*'s metareferential plot when the protagonist Kevin enlists the player's help to escape the game. Trusting that the deconstruction of the world will finally enable him to go out "[i]nto the real world," Kevin proceeds to destroy (the diegetic versions of) the game's sound, physics, and graphics engines. This worsens the gaps and glitches in the gameworld, eventually making the game unplayable. Despite his efforts, Kevin finds himself unable to leave and at the end of the game, a voice-over, presumably the voice of the game itself, intervenes: "You're just a character, Kevin. Do you have a body? Do you have a voice? Can you make choices? Everything you've done is fake. It's all made up." It is at this point that Kevin begins to doubt himself: "Maybe I'm not real." Then, addressing the player, "[a]m I real to you?" The screen fades to black as the game ends, showing the notification "ESCAPE_SIMULATION_2934823984293.EXE–COMPLETE."

Kevin's final question alludes to the paradox of fiction in its videogame-specific variety (Radford/Weston 1975; Van de Mosselaer 2018).[35] That the player can be moved by Kevin's fate testifies to fiction's ability to elicit powerful affective responses and to inspire the creation of mental models of characters as possible individuals that exist beyond the text. The player's complicity in Kevin's (presumed) destruction, meanwhile, is likely to provoke "self-reflexive emotions such as guilt and shame" (Van de Mosselaer 2018, 280; see also Travers 2022, 176–178). After all,

the player has at this point ignored several in-game warnings that they would destroy the game and harm its characters if they continued playing. While *Break the Game* does not resolve the tension between Kevin's inventedness and his fictionally-real existence as a possible individual, it leaves little doubt that the ethical implications of the player's virtual actions in, and emotional response to, the gameworld are significant. The voice over, in any case, severely doubts the player's virtue: "OR MAYBE YOU JUST LIKE SEEING MADE-UP CHARACTERS DIE."

The reflection on the ethics of fiction and the morality of player actions as a prevalent theme in the metareferential comment of videogames is perhaps strongest in the aforementioned *Undertale*, whose main themes include choice, responsibility, and videogame violence (Seraphine 2018; Travers 2022, 179–188). Since *Undertale* does not afford a clean restart mechanic, it forces the player to acknowledge the consequences of their actions (see also my discussion of Toriel's death below). In the genocide run—i.e., if the player kills all creatures they encounter in the gameworld—the game punishes the player with a difficult boss fight that is framed as a moment of reckoning. The boss, the (usually) likeable skeleton Sans, criticizes the player for deriving pleasure from "consuming" (Sans, *Undertale*) the stories and fates of possible persons. That combat metaleptically extends to the spaces of the extradiegetic game menu reinforces the impression that Sans means to attack the player rather than the player character. Even the audiences watching others play the genocide run rather than playing it themselves, are subjected to piercing words: "At least we're better than those sickos that stand around and WATCH it happen... Those pathetic people that want to see it, but are too weak to do it themselves. I bet someone like that's watching right now, aren't they" (Flowey, *Undertale*).[36] Clearly, then, *Undertale*'s metareferential plot, mechanics, and interfaces provide strong support for the game's ethical reflections.

Although the number of examples I can discuss within these pages is necessarily limited, I hope to have shown that gameworld-centred metareferential comments can have a variety of different thematic foci. They include directly self-referential comments on the game's narrative elements as well as comments on the means by which the gameworld is represented. Many metareferential games also flaunt the inventedness of their characters, events, and environments. In addition, when considering games such as *Break the Game* and *Undertale,* we can see that gameworld-centred metareferential comments may also extend to more general reflections on storytelling (see also my analysis of *What Remains of Edith Finch,* Chapter 4 in this book) or even on ontological and/or moral questions related to the truth-value of fiction or the ethical implications of (ab)using fictional characters for fun (see also my analysis of *OneShot*, Chapter 6 in this book).

3.3.2 System-Centred Comments

In addition to the gameworld, metareferential comments in videogames can also refer to aspects of the game system, including its rules and mechanics, the game's software, and its extradiegetic interfaces. In several of these cases, the content of a system-centred metareferential comment follows from its form because a

metareferential element *situated* on the layer of the game system is likely to draw attention to that same layer. In *The Hex,* for example, the successive affordance of the genre-typical mechanics of RPGs, shooters, or platformers exhibits precisely the conventionalized uses of specific game mechanics in their relation to videogame genres. In *Calendula* (2016)*,* meanwhile, the fact that players play the game almost exclusively by interacting with an unconventional menu interface directs the focus of attention to the extradiegetic GUI and its role as a mediator between player and game system. However, form and content need not cohere, and it is perfectly possible for a system-centred comment to follow from an element that is formally gameworld-centred or game-transcending. In many videogames that ask the player to manipulate the game data (game-transcending form), we find a twofold metareferential comment on the platform as well as the game system. In *Imscared,* as a case in point, the player can change the number of bullets in their inventory by editing a .txt document via the real computer's OS. This shows how the game data on the actual computer relates to the state of the system (system-centred comment), though, admittedly, the main focus remains on the boundary between the game and what is outside it (see game-transcending comments, below).

Examples of formally gameworld-centred elements that formulate system-centred comments are much easier to find. Videogame characters may for instance explicitly discuss "their" videogame's rules, mechanics, software technologies, and programming (e.g., in *Doki Doki Literature Club!*, *Undertale*, and *Thimbleweed Park*). Tutorial characters even do so habitually, though as I have pointed out earlier, players likely accept them as a necessary and conventional part of the game so that they do not elicit medium awareness unless accompanied by additional markers. Parodic versions of tutorial characters, by contrast, can encourage the player to become aware of and reflect on game rules and mechanics, as well as on the conventions of tutorials themselves, by discussing them in a humorous or metaleptic manner (e.g., in *Conker's Bad Fur Day* [2001]; *The Hex*; *Deadpool*). Likewise, aspects of the gameworld's audiovisual presentation may draw attention not only to the constructedness of the gameworld but also to the underlying game system. In *Break the Game,* software components are represented as objects in the gameworld that the player character destroys or dismantles one by one. This causes the presentation of the gameworld to fall apart in meaningful ways. The destruction of the graphics core effects visual glitches, the destruction of the physics core affects the simulation of collision and gravity, and so forth. The game's very plot can thus be read as a tale of reverse worldbuilding that shows how the game's surface layer of representation as well as the rules that govern the behaviour of the simulation are built and managed on the level of the system.

A particularly interesting way of reflecting on parts of the game system, specifically the game's coded rules, can be found in the award-winning puzzle game *Baba Is You* (2017). Developed by Arvi Teikari a.k.a. "Hempuli" in the context of the 2017 Nordic Game Jam and released for PC and Nintendo Switch in 2019 (Couture 2018), *Baba Is You* is a game about the manipulation of game rules. Its representational surface is minimalist. Each level consists of a set of objects and

other elements such as walls, rocks, and lava before a dark background. The rules that apply to each level are spelled out in game space according to the formula "X is Y." For example, if the game specifies the conditions "Baba is You," "Flag is Win," "Wall is Stop," and "Rock is Push," the player (You) is in control of the rabbit-like creature Baba, the goal (Win) is to reach the flag, walls are not permeable (Stop), and rocks are movable objects (Push). Each of the words that make up the rule is also a block that can be moved around by the player, allowing them to manipulate the rules. If one of the words is removed, the rule no longer applies; conversely, once three blocks are aligned in the formula "X is Y," they form a new rule. In the example (Figure 3.7), breaking up the rule "Wall is Stop" allows Baba to move through all blocks that represent a wall. Spelling the phrase "Wall is Win" changes the victory condition so that the player wins once Baba reaches the Wall, and "Wall is You" would change the player character from Baba to the Wall. This simple principle allows for the creation of several complex puzzles, most of which can be solved in several different ways. To succeed, the player must attend to and comprehend the logics according to which the game and the objects on display operate, i.e., they must recognize that the wall, as a virtual object *sensu* Aarseth (2007), is a combination of a visual representation and a coded constraint that prohibits the avatar's movement through the area occupied by textures that look like a wall. In the absence of such a constraint—if the player disables the rule "Wall is Stop"—Baba can simply move through the image of the wall. Players, in other words, must distance themselves from imagining the game as a holistic world and instead perceive the game as a system whose algorithmic rules and logics can be manipulated in systematic ways.

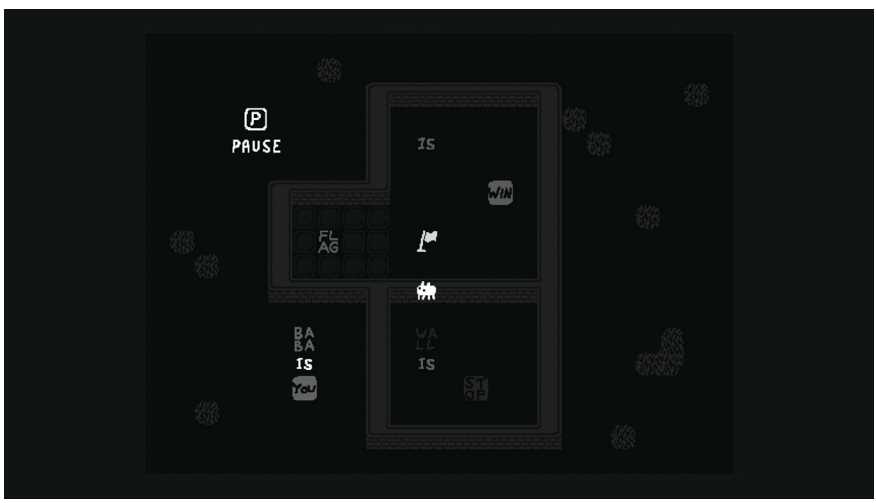

Figure 3.7 Pushing away the green block to break up the rule "Wall is Stop" lets Baba pass through walls in *Baba Is You*.

Comments on the game as a system are not necessarily divorced from comments on the game as a world. Indeed, a closer look at the main examples in this chapter demonstrates that the laying bare of the game's systemic building blocks often coincides with comments on fictionality. Returning to *Undertale,* we can see how the game draws attention to the player's expectations regarding conventional game mechanics, especially saving and reloading. Having spent some time exploring (and dying in) the gameworld, players will notice that *Undertale's* affordance for saving and reloading is unreliable, to the effect that the game system records certain events even if the player reloads a previous save point. In my own first attempt at completing *Undertale*, I accidentally[37] killed the friendly character Toriel. After quitting and restarting the encounter to close it non-lethally, I was greeted by the antagonist Flowey, gloating: "I know what you did. You murdered her. And then you went back because you regretted it." Despite reloading a save point prior to Toriel's demise, the game system seems to have recorded my misstep, which then continues to impact the gameworld. Flowey's verbal comments highlight the unusual behaviour of the game system and challenge the player's expectation of being granted control over the game: "Do you think you are the only one with that power. The power to reshape the world […]. The ability to play God! The ability to 'SAVE'." The player is encouraged to reflect on conventional game mechanics precisely because of their unconventional appearance in *Undertale* and because of the game's overall refusal to comply with the set of expectations associated with the RPG genre. Revoking their ability to reliably save and reload the game, *Undertale* significantly limits the player's control over the outcomes of their actions and reminds them that it is in fact the game system that governs affordances and limitations.[38] The introduction of permanent consequences furthermore touches upon the kinds of moral questions covered in the previous section, encouraging reflections on the ethics of player agency over the game as both simulation and fictional world.

From simple verbal and pictorial references to game rules and mechanics to the more complex symbolic engagement with the game software in *Break the Game* or *Baba Is You*, the content-based instances of metareference discussed in this section encompass metareferential comments that shift the emphasis onto the game system—to its rules and mechanics, and more generally to its identity as a software application. They thus draw productive attention to medium-specific aspects of videogames: their ludic mode, their functionality as simulations responsive to player input, the algorithms that govern them. Yet, as the more complex reflections in *Undertale* show, metareferential comments may also cut across layers of communication, which serves as an important reminder of the contingency and heuristic nature of the model's distinctions. Taken together, gameworld and game system-centred metareferential comments make up the directly self-referential end of the spectrum, in the sense that they comment on aspects of the game in which they occur (though the examples also showed that these may channel into more general reflections on the ethics or cultural functions of storytelling and simulation). I will now move on to metareferential comments that by definition refer to aspects beyond the individual game, notably to other media as well as the context of videogame production and reception.

3.3.3 Game-Transcending Comments

Among the content-based instances of metareference, game-transcending comments are perhaps the most challenging to describe because they can cover a particularly wide range of themes related to the media system more generally. In accordance with the conceptualization of metareference offered in Chapter 2, these comments fall within the scope of this book as long as they also entail (indirect) comments on the videogame in which they occur. In several cases, a game-transcending comment follows from forms of metareference that cross the boundary between the game and the hardware and software components of the platform, which almost always draws attention to the platform. When Psycho Mantis asks the player to put their controller on the floor in *Metal Gear Solid*, and it subsequently appears to move on its own as the game activates the vibration function, this serves as a potent attractor of player attention. Subsequently, the game nudges the player to unplug the cable and change the controller port to disrupt Psycho Mantis's telepathic powers, forcing the player to consciously attend to the materiality of the hardware system and its role as an intermediary between themselves and the gameworld. The same principle seems to be at work in those metareferential strategies that require the player to engage with other media such as websites or physical items, and which highlight the mediality and materiality of said other text as well as the paradoxical slippage between it and the game.

In addition, game-transcending metareferential comments on the platform can be produced by means of gameworld and system-centred forms of metareference. Videogames can explicitly discuss the platform or visually represent gaming hardware and software in ways that foreground the materiality of the computer or console on which the game is played (e.g., in *Katakis* and *Impossible Mission* [1984]). In *La-Mulana* (2006), these references are quite pervasive as the game pays homage to the MSX2 by means of imitating platform-typical aesthetics and representing hardware components such as cartridges (Camper 2009). Often, the gaming technology represented is considerably older than that on which the game is played, like the PlayStation console in *Uncharted 4: A Thief's End* (2016) or the arcade machine in *Pony Island*. Likewise, if games simulate menus or entire software environments such as the GUI of older operating systems like MS-DOS, GEOS, or Windows 95 in *Superhot*, *Pony Island*, and *OneShot*, they consequently draw attention to precisely these platforms and interfaces. Often, this is also meant as a nostalgic reference to platforms that are no longer used but act as symbols of a "golden age" of videogaming. Recent entries in the *Pokémon* franchise employ similar strategies for the purpose of in-game advertising. In *Pokémon: Let's Go Pikachu* (2018), the game's opening shows a Nintendo Switch setup, complete with controllers and a TV screen out of which Pikachu emerges and metaleptically enters a fictional player's living room in the first-order gameworld. According to the two-way pull of metalepsis discussed in the previous chapter, this can draw the player's attention to the hardware setup on which they are playing the game while

also making their buddy Pikachu seem more real, hence supporting the game's claim of offering particularly immersive player experiences.

Finally, some games even go as far as to simulate game crashes or other malfunctions, which are frequently communicated via fake error messages. In *Eternal Darkness*: *Sanity's Requiem* (2002), the sanity effects—i.e., the effects that occur when the character's "sanity" resource representing their mental stability depletes—include a fake "controller disconnected" error message and an equally simulated blue screen system error (see also Beil 2010, 241–243). Another fake blue screen occurs in *Imscared: A Pixelated Nightmare* (see the analysis in Krampe 2025). In *Pony Island*, the antagonist Asmodeus uses a fake error message to distract the player: The game window freezes, and a notification informs the player that "Pony island.exe is not responding" (Figure 3.8). These simulated malfunctions draw attention to the fact that players are currently engaging with a program running on an error-prone hardware system. Especially if they use elements that imitate the interfaces of the OS, they can thus be interpreted as metareferential comments on the platform.

Like game-transcending forms, game-transcending comments may thus pertain to the hardware and software environment of the platform, but their scope can be much broader than that. Since metareferential comments need only be indirectly self-referential, content-based instances of metareference may furthermore address aspects of the media system the videogame is a part of. This includes videogame production and reception, intertextual references to other games, and intermedial references to other media. When it comes to videogame production and reception, game-transcending comments may refer to the processes and

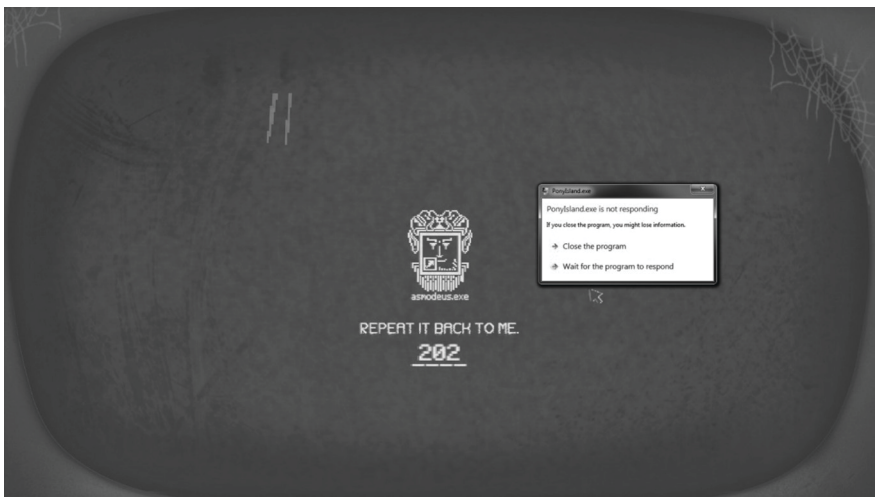

Figure 3.8 Fake error message in *Pony Island;* note the visible edges of the represented screen of the Arcade machine, complete with cobwebs, on which the fictional "Pony Island" runs.

(economic) conditions of videogame design, to the consumer cultures, identities, and critical discourses that have developed around videogames and their players, or even to the "videoludification of culture," i.e., to the "institutionalization of video games practices, experiences, and meanings" across contemporary culture (Muriel/Crawford 2018, 2). Some metareferential videogames provide insight into game design and the videogame industry (*Game Dev Tycoon* [2012]*; The Magic Circle; Dr. Langeskov, the Tiger, and the Terribly Cursed Emerald: A Whirlwind Heist* [2015]); others present humorous or critical versions of their own reception in the form of fictional reviews and user comments (*The Beginner's Guide; The Hex; The Stanley Parable: Ultra Deluxe* [2023]); others still use game mechanics that simulate activities such as level design, programming, modding, and hacking (*Hacknet* [2015]; *Pony Island*).

There Is No Game: Wrong Dimension offers a particularly interesting take on the economic factors determining a videogame's life cycle. In the game's third chapter, entitled "The Good, the Bad, and the Princess," the player first gets to play a fantasy RPG named "The Legend of the Secret," in itself a parody of fantasy RPGs. In the subsequent "Chapter 4–Free2Pay," the same intradiegetic game then returns as a free-to-play version called "The Legend of the Secret: Ultimate Clicker VIP Edition Deluxe 4" that satirizes the monetization schemes of free-to-play business models. Contrary to what the label might suggest, free-to-play games are known to impose severe restrictions on gameplay after the starting phase to incentivize players to "spend as much money as possible" on in-game purchases, as one of the characters in *There Is No Game: Wrong Dimension* puts it. The game furthermore emphasizes how these business models rely on collecting and monetizing the user's personal data. Among other things, "The Legend of the Secret: Ultimate Clicker VIP Edition Deluxe 4" asks the player to share their "photos, documents, bank accounts and DNA sequencing." In the words of the game's characters, "being turned into a free2play is the worst thing that can happen to a game." The point that methods and mechanics associated with free-to-play models stand in direct oppositions to an enjoyable user experience is promptly confirmed by the singularly tedious gameplay of "The Legend of the Secret: Ultimate Clicker VIP Edition Deluxe 4." To earn enough in-game currency to activate even the most basic game mechanics like character movement, the player must repeatedly click on random objects, making gameplay slow, uninteresting, and effortful. Supplementing its explicit and sustained verbal commentary with the metareferential mechanics of the hypodiegetic RPG, *There Is No Game: Wrong Dimension* not only tells but shows how certain monetization schemes can work against ideals of good game design.[39]

Another major direction of game-transcending metareferential comments to discuss are intertextual and intermedial references. Since I have considered their metareferential potential at some length in the previous chapter, I limit the discussion here to some illustrative examples that fall squarely within the metareferential end of the spectrum. Let me begin by returning to the use of retro styles—characterized by pixel graphics, chiptune sounds, the citation of well-known tropes, and many other techniques—as a means to draw intertextual connections and pay homage to earlier videogames. Titles like *Evoland* stand out in this regard

because they essentially offer a playable history of videogames.[40] The game starts out with pixelated graphics, a reduced colour scheme, limited mechanics, a minimal narrative premise, and chiptune sound. While playing, players gradually acquire additional mechanics, colours, or sound effects; the graphics evolve to 3D, and the world fills with details and NPCs, mirroring the evolution of RPGs during the 1980s and 1990s. Moreover, *Evoland* emulates the aesthetics of popular titles such as *The Legend of Zelda* (1986) or *Final Fantasy* (1987), both of which are explicitly listed in the end credits, and positions them as milestones of videogame development. The player's progress through the game thus doubles up as a showcase of videogames' technological and artistic evolution into a mature medium with its own history, canon, and conventions.

In *The Hex,* too, references to the conventions of different game genres constitute the very concept behind a game that is essentially a collection of short games tied together by a frame narrative. The game starts with a setup somewhere in-between a joke and a murder mystery: Six characters, all of them videogame archetypes, meet at a bar when suddenly the barman receives a call informing him that someone is about to be murdered. To solve the murder before it even happens, the player plays through each character's memories, which is realized as a succession of embedded minigames. The games are representative of different videogame genres—a jump and run, a top-down RPG, a turn-based shooter, and so forth—but usually come with a parodic twist that draws attention to tropes and clichés. Part homage and part parody, *The Hex* indulges in the attractions of each genre but is also not squeamish about exhibiting their flaws and derivativeness, or even about criticizing their designers and audiences. Inter alia, while the player plays the fictional game "Super Weasel Kid," the user ratings on Steam suddenly appear in the gameworld and double up as platforms for Weasel Kid to jump on, which underlines the game's critique of fan communities whose rude and destructive reviews become literal obstacles (but also stepping stones) for the game's character.

Last but not least, I have argued in the section on intermedial references that references to other media or entire genres can be considered metareferential if they are sufficiently marked to register with the implied player and also entail at least an indirect comment on the game in which they occur. (Psychological) horror games are particularly interesting in this regard because they are often works of pastiche that adhere to well-known scripts, consciously position themselves vis-à-vis literary and filmic predecessors, or seem preoccupied with the uncanny effects of media technologies such as film projectors, typewriters, cassette tapes, or radios. *Control* (2019) and *Resident Evil Village* (2021) are among the latest titles in which older media technologies not only add to the atmosphere of the gameworld, but become constitutive of the game's very "fabric" (Kirkland 2009, 116). In *Control*'s predecessor *Alan Wake* (2010), too, the bricolage of media technologies—radio, tape recorder, manuscript, typewriter, TV—is part of the game's exploration of the forms that precede it, as well as its own cultural meaning (Kirkland 2009, 115–116). The game starts out with what could be described as a short poetics of the horror story:

> Stephen King once wrote that "Nightmares exist outside of logic, and there's little fun to be had in explanations; they're antithetical to the poetry of fear." In a horror story, the victim keeps asking "why?" But there can be no explanation, and there shouldn't be one. The unanswered mystery is what stays with use the longest, and its' what we'll remember in the end. My name is Alan Wake. I'm a writer.
>
> (*Alan Wake*)

In the introductory comments, the narrative voice draws attention to the game's literary influences and ambitions and firmly positions the game within a transmedial tradition of self-reflexive horror. The opening thus sets the player's expectation regarding the conventions to which *Alan Wake* adheres and activates the corresponding frame of reception. In a context in which videogames' ability to present engaging story experiences was contested, the citation of literary influences furthermore aids the game's self-presentation as a narrative game and functions as a strategy of self-canonization and nobilitation. Upon this metanarrative frame, *Alan Wake* then builds a multilayered pastiche whose "textual monstrosity" (Fuchs 2016, title)—the sheer abundance of different media included in the game, the metaleptic recursions, and the multiple allusions to writing and storytelling—constantly requisitions the player's medium awareness.[41] Within the game's highly self-reflexive environment, intermedial references become part of a metareferential comment on media and mediatedness that position *Alan Wake* squarely within a complex web of intermedial entanglements (see also Fuchs 2016; Thon 2016, 113–116).

To summarize, the content-based instances of metareference discussed in this section range from metareferential comments on the platform to more general comments on the media system in which the game is embedded. In more concrete terms, I have discussed examples of game-transcending metareferential comments that refer to the hardware of the computer or console, to the OS, to videogame production and reception, or to other videogames and media. Due to their broad scope and often indirect relation to the texts in which they appear, game-transcending comments are particularly likely to inhabit a borderland in-between metareference and non-metareferential comments on media-related topics. Whether or not their metareferential potential is actualized may therefore depend on the (con)textual environment in which they appear.

3.4 The Model

Now that I have described the different forms of metareference in their dimensions of form and content, it is possible to revisit the model in its entirety and to discuss its heuristic value for the analysis of metareferential videogames. The model considers (1) the form of a metareferential element in the sense of the layer of communication on which it is situated, and (2) the content of a metareferential comment in the sense of the layer of communication to which it refers. The resulting distinctions derive, on the one hand, from the communicative situation in videogames outlined

in Chapter 1, and on the other hand from the survey and analysis of metareferential elements in a comprehensive corpus of videogames, examples from which I have used throughout this chapter to illustrate my argument. The model can be summarized as shown in Figure 3.9.

To recapitulate, form describes a metareferential element's origin in relation to the communicative situation in videogames, asking on what layer of communication the metareferential comment is produced and (perceived to be) situated. With a view to the communicative situation in videogames, these layers include the gameworld and the game system; in addition, the survey of metareferential elements in videogames revealed that videogames can also formally cross the boundary between the game and the platform. This yields a total of three different forms of metareference, namely, gameworld-centred, system-centred, and game-transcending ones. Gameworld-centred forms of metareference use aspects of the gameworld as well as the audiovisual means by which it is represented to elicit the player's medium awareness. Due to videogames' multimodality and the versatility of the metamedium computer, gameworld-centred forms can use many techniques and devices that are familiar from other media, including fourth wall breaks (*Deadpool*), plot allegories (*Dr. Langeskov, the Tiger, and the Terribly Cursed Emerald*), and metanarration (*Hades*). More videogame-typical examples, meanwhile, include the use of glitch aesthetics (*Pony Island*) as well as retro and indie styles (*Undertale*). What is more, medium-specific aspects of gameworlds, such as the use of branching narratives, emergent or environmental storytelling, and the game's overall interactivity can also shape the character of a metareferential element and at times substantially alter its appearance and functions (*Bastion*). System-centred forms of metareference, in turn, are particular to videogames, though it is not wholly unthinkable that some of these techniques might also occur in other media texts. Chief among them are unconventional or abruptly

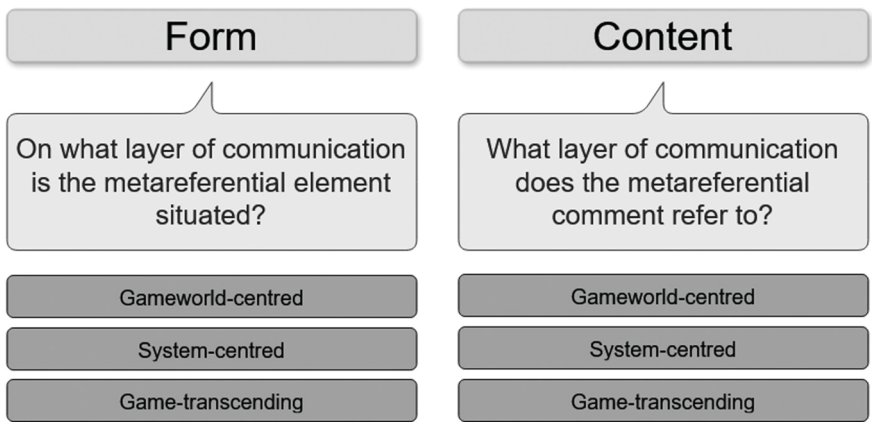

Figure 3.9 Model for the analysis of metareferential elements in videogames.

changed rules or game mechanics (*Undertale; The Beginner's Guide*) as well as metareferential interfaces. The latter encompass extradiegetic GUIs that are part of the game and draw attention to themselves by means of "talking to" the player (the loading screens in *Spec Ops: The Line*), simulating malfunctions (*Pony Island*), or intruding upon the gameworld and vice versa (Deadpool's health bar in *Marvel vs. Capcom 3* [2011]). Finally, metareference may arise from the metaleptic crossing between the game and what is outside it (notably, the platform). I have summarized these latter forms under the umbrella of game-transcending metareference to emphasize that they go beyond the conventional and even physical boundaries of a videogame. Typical examples include videogames that manipulate aspects of the player's machine (*Lose/Lose*) as well as videogames that require the player to engage with the game files via the interfaces of the OS (*Doki Doki Literature Club!*) or manipulate the hardware (*Metal Gear Solid*) to achieve an effect in the gameworld. In other cases, such as anti-piracy measures (*StarTropics*), the genuinely metaleptic nature of the phenomenon is not as clear, but some of them are certainly also open to metareferential readings.

The model's second dimension specifies the content of the metareferential comment, i.e., which aspects of the object level the comment refers to. Metareferential comments refer either to the videogames themselves—divided, analogously to the formal dimension, into the layers of gameworld and game system—or to aspects that extend beyond the game, such as the platform on which it runs or the media system it is a part of. Gameworld-centred metareferential comments typically exhibit the artifice and/or fictionality of the gameworld, refer to aspects of its audiovisual representation, or discuss related topics like worldbuilding, narrativity, and fictionality. System-centred metareferential comments, in turn, highlight the game's functionality as a simulation and software system or refer to game rules and mechanics. Since the gameworld and the game system are inseparable except for heuristic purposes, the content of a metareferential comment is seldom unambiguous but tends to blur the line between these two layers. The example of the deconstruction of gameworld and game system in *Break the Game* shows this quite clearly. Game-transcending metareferential comments are the most wide-ranging of the three. They include references to the hardware system, the OS, or other aspects of the platform in which the game is embedded (e.g., *Pony Island*'s fake game crash and foregrounding of the Steam overlay). Moreover, they encompass intertextual and intermedial references to other games and in some cases even to other media, as well as comments on the media system more generally. As a rule of thumb, intertextual and intermedial references can be assumed to have heightened metareferential potential if they are not naturalized within the gameworld and can be intersubjectively understood to draw attention to the mediality of the game and raise the player's medium awareness. This is typically the case in games that parody the conventions of a particular videogame genre, ironically or reverentially trace genealogies of game design, or serve overtly self-canonizing functions (*The Hex*; *There Is No Game*; *Evoland*). The difficulty of distinguishing metareferential from non-metareferential utterances also applies to comments on the media system, i.e., comments that refer to videogame design and the game industry as well as to

audiences and game culture at large. Whether these afford metareferential readings often hinges on a holistic interpretation of the videogame in which they occur.

The model serves the heuristic purpose of facilitating a systematic overview of different metareferential elements and how they may resemble or differ from techniques and devices familiar from other media. This heuristic nature also means that not all metareferential phenomena neatly follow the distinctions used here. In practice, videogames tend to combine and merge different modes of communication; the more complex among them might even challenge the very premises of the model. However, this does not detract from the analytical value of the framework presented in this book but rather shows the complexity and variety of contemporary metagames. Before closing this chapter and moving on to the case studies, let me therefore say a few words on the analytical model's relation to more complex devices, using the example of metalepsis.

Metalepses can be difficult to place within the model's formal distinctions, first because not all metalepses are necessarily metareferential, and second because metalepses, by their very definition, cut across (onto)logically and conventionally distinct levels (e.g. Wolf 2009; Kukkonen 2011; Thoss 2015; see Section 2.3 in this book). This is comparatively unproblematic in the case of rhetorical metalepses as well as ontological metalepses between first, second, or third-order gameworlds because these formally remain within the communicative layer of the gameworld, even if they comment on aspects beyond the game.[42] However, once metalepses engage the boundaries between the gameworld and the extradiegetic interface, things get more complicated because the element in question can no longer be placed within any one of the communicative layers. When a health bar in *The Hex* injures the player character, for instance, the extradiegetic GUI intrudes upon the gameworld by way of descending metalepsis. From the model's point of view, the health bar relocates, logically speaking, from the game system to the gameworld. Arguably, this example, and others like it, are best categorized as system-centred forms of metareference due to the prominence of their metareferential interfaces, but strictly speaking, they involve more than one layer of communication. What this shows, above all, is that the model must be handled with a certain flexibility in order to accommodate more complex and contextual forms of metareference in videogames. At the same time, the distinctions between layers of communication remain relevant because they help pinpoint which ontological boundaries exactly are being transgressed or otherwise mixed, which forms a useful basis for the detailed analysis of even more complex and composite techniques and devices.

In the subsequent chapters, I move from the consideration of individual metareferential elements to the detailed textual analyses of three indie games. In doing so, I also place a renewed emphasis on additional dimensions of metareference, such as its structural distribution throughout a game or its functions, that I have bracketed in this chapter in favour of the clear distinctions of individual elements according to their form and content. The first case study, *What Remains of Edith Finch,* focusses mainly on the use of gameworld-centred forms of metareference, although, as a rule, these cannot be fully separated from considerations of the

game's ludic elements. System-centred forms of metareference play a greater role in the second case study, *The Magic Circle,* which includes an unconventional set of game mechanics that, among other things, allows players to change some of its rules. The third case study, *OneShot,* finally, encompasses several examples of game-transcending metareference that extend play onto the WIMP interfaces of the real computer's Windows OS.

Notes

1 To put the vast number of games being published in the mainstream and indie markets into more concrete dimensions, in January 2023, the store of the platform Steam alone listed over 70.000 products in the category games (Steam 2023) According to *Steam Spy*, a website that offers data estimates about Steam sales, around 11.000 of these were released in 2022 alone (SteamSpy 2023).

2 It is important to note that my corpus is biased towards videogames developed in Global-North countries with a strong gaming industry, and presumably with Western audiences in mind. In future studies, it would certainly be highly interesting to investigate metareference and related phenomena in videogames that were developed in and for different geographical and cultural settings.

3 Content has also served as a criterium in metaization research beyond game studies. Nünning, for instance, distinguishes between metanarrative expressions that refer to the story, and ones that refer to the way the story is told as well as expressions that refer to a text's own narrative practice, to another text, or even to storytelling more generally (2004, 29–33). Wolf's model, too, uses a content-based distinction, namely the continuum between mediality-centred and truth-fiction-centred metareference (2009, 38). In addition, his distinction between intra and extracompositional metareference, which he associates with the criterion "scope," also matches the dimension of content as I understand it, namely, as that which the metareferential comment designates, or points to (2009, 19–20; see also his discussion of metafiction in 1993, 247–258).

4 In accordance with the conceptual frame laid down in the previous chapter, the characters' knowledge of their own fictionality in *Thimbleweed Park* can be classified as a case of ascending rhetorical metalepsis from gameworld to real world, and the motif of a real person getting stuck inside a videogame in *Bedlam* as a case of descending ontological metalepsis from the diegetic to the hypodiegetic level. *Deadpool* features virtually all types of metalepsis, except the genuinely ontological crossing of the boundary between fiction and reality discussed in the final part of this subchapter. Indeed, the franchise is known for its irreverent treatment of the fourth wall regardless of the medium in question and the 2013 PlayStation game is no exception. Throughout "his" game, Deadpool can be seen chatting to the player, commenting on the game designers' choices, or editing the script of the game.

5 This awareness of fictionality can take different forms. Kevin and Niko, the protagonists of *Break the Game* (2019) and *OneShot: Solstice* (2017), are quite vocal about the inventedness of the world but still believe themselves to be real, whereas Monika in *Doki Doki Literature Club!* and Max in *Max Payne* (2001) are aware of their own fictionality. In *Undertale* (2015) and *The Hex* (2018), characters occasionally refer to other characters as "NPCs."

6 Scholars have furthermore considered the cultural and reception-oriented functions of glitches, pointing to their tendency to disturb aesthetic illusion and thereby draw

attention to the mediality and materiality of a digital artifact (Gualeni 2019; Janik 2017, 65; Krampe 2024; Thon 2025). Here, I am interested in non-accidental glitches, i.e., phenomena that draw on the aesthetics of the glitch but which, in contrast to "real" glitches, are implemented deliberately. Glitch artists, for instance, "purposefully trigger transient malfunctions and employ glitch-like-artefacts to elicit feelings of unfamiliarity and eeriness in their audience" (Gualeni 2019, 5). For a more comprehensive discussions, see, for example, Betancourt (2017); Menkman (2011).

7 See also Boluk and LeMieux (2017, 15–16, 28–32) for additional examples, including a reading of *FEZ* (2012) as a reinvention of the tetronomy puzzle logics and pixelated retro look of *Tetris* (1989); Boluk and LeMieux even conclude that the label "games about games" applies to all indie games. As an "aesthetic genre," they argue, indie games "recover a history of play in the form of a metagame that represents, references, or otherwise cites the graphics and gameplay of other games" (Boluk/LeMieux 2017, 29). While I would not go quite as far as saying that every indie game is automatically metareferential, the frequency of intermedial references as part of a particular "indie aesthetics" is indeed striking and often fulfils meta-discursive functions (see also Juul 2019 on independent style).

8 Specifically, the gameworld-centred metareference entailed in the sudden switch to retro aesthetics is combined with the system-centred forms of the changed game mechanics and the metaleptic direct address of the fictional character via the extradiegetic interface. All of these are further highlighted by means of explicit verbal comments and tied back to the allegorical plot in which *Deadpool* "plays himself" as the player character of his own game.

9 8-bit audio is associated, among other things, with its characteristic synthetical sound, with looping sections, and somewhat limited forms, pitch, and voices (Lind 2020; see also Fritsch 2018, 88–90).

10 Similar techniques recur in later scenes in which Flowey breaks the fourth wall to antagonize the player, most of which are marked by the absence of music, as well as in the game's final battles where the subversion of player expectations and the breaking with (retro) game conventions is accompanied by sonic dissonance (Lind 2020, slide 4; Perez 2017, 48–49). See also Bowden (2020) for the analysis of very similar techniques in *Doki Doki Literature Club!*, which, among other things, uses sonic glitches, distortions, altered pitch and non-standard harmony to convey meta-horror.

11 The concept of a figural narrator like the one in *Hades* is here to be distinguished from the idea of abstract narratorial functions that pertain to selecting, organizing, and representing the storyworlds of various media and which we might attribute instead to the implied designer (Thon 2014, 28–29; 2016, 151). Only the former are of interest to the analysis of narratorial representation in videogames.

12 The rogue-like is a genre named after the 1980 turn-based RPG *Rogue* (1980). Rogue-likes are characterized among other things by their randomly generated levels, monsters, and obstacles as well as permanent consequences for dying (Gailloreto 2020). Narratively legitimized by the circumstance that Zagreus is the offspring of a God (and good friends with Thanatos), *Hades* puts its own spin on death, which is not necessarily a setback but is even rewarded as each demise unlocks new dialogue and fragments of the story. Dying in *Hades* thus becomes an integral part of progressing through the game.

13 The narrator's "unnaturally poetic prose" (Alber et al. 2012, 353) is arguably in itself sufficient to draw attention to narration and language. Unnatural narratology provides an alternative lens for studying the defamiliarizing effects of certain metareferential devices while also accounting for how ostensibly "unnatural" elements such as the omniscient

narrator may become familiar over time (Alber 2014 [2013]). Without going into too much detail, it is worth pointing out that definitions of the unnatural differ considerably. Brian Richardson, for instance, associates the unnatural with texts that defamiliarize conventions, foreground their constructedness, and expose the fictionality of their world, which suggests considerable overlap with the study of metareference (e.g., Richardson 2006; see also the overview in Alber et al. 2014; Ensslin/Bell 2021). This is less true for the broader understanding, followed, a.o., by Jan Alber (2014), which counts physically and biologically improbable events such as the fantastic occurrences of fairy tales among the unnatural. See Ensslin/Bell (2021) for an analysis of digital fiction from the perspective of unnatural narratology.

14 This narrator figure first appears to be extradiegetic but later turns out to be intradiegetic since the character Rucks is shown telling the Kid's story to Zia (see also Thon 2016, 217–218). Similar examples of metanarration include *Call of Juarez: Gunslinger* (2013), *Transistor* (2014), and *Prince of Persia: The Sands of Time* (2003). In the latter, metanarration is combined with recapture (Harpold 2007; see also Thon 2016, 214–215).

15 A new game plus mode is included in many games, and usually unlocked after the game is completed at least once. Its main purpose is to increase the game's replay value and offer an additional challenge to dedicated players. Players often get to keep certain experience points or assets gained in the previous playthrough, though the difficulty may increase as well. More and more games, however, add metaleptic and metareferential elements to the new game plus in that not only the game system but also the gameworld appears to remember the previous playthrough. In some cases, the new game plus even differs significantly from the first run, for example, in *Doki Doki Literature Club!, Nier: Automata* (2017)*, OneShot*, and *Undertale.*

16 That *Undertale*'s retro style extends from the gameworld to the combat interface once again shows that the consideration of the game's audiovisual aesthetics is relevant for the analysis of both gameworld-centred and system-centred forms of metareference. The pixelated visuals, organization, and affordances of the combat interface as well as the turn-based combat mechanics themselves pay homage to of 8-bit RPGs in general and the *Mother/EarthBound* series in particular.

17 *Nier: Automata* is arguably a borderline case in which both functions—creating interesting gameplay vs. drawing the player's attention to the mediality of the game—compete. Throughout the game, perspectives shift from third person 3D to sidescroller and back again, and mechanics alternate between hack and slash and bullet hell. What is more, hacking attacks against the player character may significantly reduce the player's control as affordances are suspended and visual glitches obscure what is happening on screen. Another interesting case of metareferential changes in the gameplay occurs in *Spec Ops: The Line* (2012). While for the most part, the gameplay is that of a third-person shooter, *Spec Ops: The Line* actually begins with a turret sequence in which players must shoot enemies while riding in the back of a helicopter. The almost exact same sequence then recurs near the end of the game, where it is marked as paradoxical by the avatar's exclamation: "We've done this before." Here, the disruptive effect of the change in mechanics introduces a moment of heightened medium awareness which is then reinforced by the player character's verbal comments.

18 However, these are often made plausible to some degree, for instance if the player character is drugged (*Batman: Arkham Asylum*, *BioShock* [2007], *EarthBound*), hacked (*Nier: Automata)*, or in a state of extreme distress (*No More Heroes* 2020 [2007]; *Eternal Darkness: Sanity's Requiem*). Due to their unsettling effect on the player, unreliable mechanics are often used in horror games, where they increase the player's sense of losing

control and being at the mercy of a more powerful enemy. In recent years, the absence (or reduction) of game mechanics has also become associated with the genre of the walking simulator as well as the queer game paradigm. The "active passivity" (Bohunicky/Milligan 2019, title) of walking and observing in game space can in some instances challenge gaming's (and gamers') power fantasy of mastery and control over the gameworld (Kagen 2017; Ruberg 2019). The more often these techniques appear, however, the more they become habitual, which reduces their potential to raise medium awareness.

19 Alternatively, the player can change the computer's time and date to a future point, a strategy that anticipates the game-transcending forms of metareference as described in the upcoming section of this chapter. A similar moment occurs in *Undertale*, where the player can unlock a "secret" boss fight by entering a hidden room and changing the computer's time and date.

20 The original version under the shorter title *There Is No Game* was created in the context of the Deception Jam, a game jam on the theme of "deception" held by Newgrounds in 2015. In 2020, an expanded Steam version entitled *There Is No Game: Wrong Dimension* was released.

21 *Pony Island*, a game that takes place within a possessed Arcade machine, is a rather well-known example that uses a fake OS as well as several metareferential interfaces. Among other things, the game asks its player to fix the Arcade game's broken menu, experiment with different game options, and participate in hacking-themed minigames in order to "exorcize" its "Daemons," and free the lost souls held captive within. The malevolent daemons retaliate with fake error messages, equally fake game crashes, and the aforementioned simulated Steam messages (Krampe et al. 2022). One of the most extreme, albeit lesser known, examples of an interface game is *Calendula* (2016), in which gameplay takes place almost entirely within the interface of a start menu that requires players to solve puzzles by repeatedly adjusting its configurations. Embedded desktop interfaces and other parts of the OS can furthermore be found in the *Loading Screen Simulator* (2017); *Her Story* (2015); *Sorry, James* (2017), and *Archimedes* (2016).

22 At one point, the game suspends the player's control over the player character only to then mock their obedience: "good dog." The moment is reminiscent of *BioShock*'s famous confrontation between the player character and Andrew Ryan. Even the game system's commands in *Superhot* ("Walk! Sit! Stand still!" and, when ordered to kill the fictional player: "Do it now. Obey.") are reminiscent of those issued by Ryan, indicating that this scene might indeed be meant as an homage.

23 A similar paradoxical loop can be found in *Stories Untold: The House Abandon* (2017), in which the player plays a player character who plays a text adventure on a computer which paradoxically begins to affect the primary textual reality.

24 While the 2021 Steam version also entails interesting metareferential dynamics, it dispenses with most of the game-transcending elements of the original version. Instead of using a game-external *Facebook* group and real file transfers, the Steam version of *Mirror Layers* manages the exchange of files and information via a fake in-game social network called "Propaganda."

25 At the end of *Nier: Automata*'s Ending "E," players are given the option to give up their data to help random players through a difficult bullet hell level. An in-game character warns them repeatedly that this will wipe all progress players have made through multiple hours of play. If players nonetheless agree to surrender the data, the game will call up one menu tab after the other and makes a show of removing all data accessible there—including save games, but also weapons, skills, collected memorabilia, and other bits of story. Once players return to the home screen, they will notice that the game seems to

have wiped all save files from the console's system. The option to "Continue" the game is no longer available and the game must be restarted from scratch. *Pony Island,* by contrast, does not follow through with its threat to delete all game data.

26 Shortly after its release in 2009, *Lose/Lose* was indeed identified as malware under the virus codename "loosemaque," which in turn caused some controversy about the definition of malware and its concrete distinction from experimental videogames and artistic interventions (Nahorney 2009; Schofield 2009; Raywood 2009). What speaks against the classification as a virus is the developer's intention to create an art game rather than to engage in criminal activity, which can be reconstructed from the webpage. The game's download is preceded by the following warning: "KILLING ALIENS IN LOSE/LOSE WILL DELETE FILES ON YOUR HARDDRIVE PERMANANTLY" (Gage 2009, n.pag.). Another example of a rather invasive game with real-world consequences is *Cross Days* (2010). "Pirated" copies of this erotic visual novel include a Trojan that accesses the player's personal information and posts it to social media (Good 2010). To my knowledge, the game does not draw any connections between the Trojan and the game beyond the former's function as a punishment for theft. *Cross Days* is therefore not a clear case of either metalepsis or metareference but nevertheless hints at interesting possibilities for formal transgressions in videogames.

27 Conway argues that this example actually expands the magic circle of the gameworld to include the hardware system, i.e., in a certain sense, the console becomes part of the game's diegesis. Since the instructions to reset refer to an in-game computer and the player is never addressed unambiguously as their out-of-game self, he concludes that the scene does not qualify as a fourth wall break in the first place (Conway 2010, 149). In contrast, I would argue that the diegetic legitimation does not do away with the metaleptic character of the situation, nor does it prevent the player from experiencing medium awareness as a result of the impossible slippage between the two ontologically and conventionally distinct layer of gameworld and (actual) hardware.

28 It seems that the Mullins Games ARGs started with small secret messages hidden in the games, which spawned engaged discussions between players in online fora on Steam or *Reddit*. In addition to their astonishing attention to the details of the images and texts used in the game, players began enlarging screenshots, browsing game files, reversing audio, or applying decryption skills to symbols and numbers in the game. The players' out-of-game engagement is fuelled by Mullins who provides occasional hints (and probably added further secrets with game patches). See, for example, the thread "The unfound secret [Help!]," posted to Steam by the user Barteh (Mazenier 2016). *Inscryption* comes with an "official" ARG that involves, a.o., the *YouTube* account Lucky Carder (@Lucky Carder 2021) created prior to the game's launch.

29 In *Metal Gear Solid*, a diegetic character informs the player that they should search the CD case for an in-game radio frequency and in *Prince of Persia* (1989), a word at a specific position in the game's manual indicates from which bottle the titular prince can drink without dying. The packaging of *The Secret of Monkey Island* (1990), in turn, includes the "dial-a-pirate wheel," a two-part cardboard wheel that serves as a random code generator (see also Eurogamer-Team 2017; Kelly 2020). *EarthBound* uses code-based DRM-measures, i.e., it functions normally until the final boss fight, when the unauthorized copy of the game crashes so that the players must restart the console only to discover that all save files have been deleted. Formally, this DRM measure is virtually indistinguishable from forms of metareference that manipulate the user's system, but since it only occurs in very specific circumstances (namely, if the game has been pirated), it is not a clear-cut example of game-transcending metareference.

30 Another interesting case in point is the "toys-to-life" feature in games like *Skylanders* (2011–2016)*, Disney Infinity* (2013)*,* or Nintendo's "amiibos." Players can typically buy physical figurines of game characters and import them into the game, for example, by placing them on a platform or tray that uses NFC technology. This not only combines two different kinds of play, namely gameplay and play with physical toys (Rauscher 2018, 15) but suggests an equivalence between the physical figurine and the in-game character: Rather than being merely present in two different forms of mediation (toy and game character), the toy seems to be able to physically cross the threshold to the fictional gameworld and vice versa. While the toy's ontological metalepsis between real world and gameworld is merely suggested (albeit in a particularly elaborate way), the game does require game-external actions on the part of the player (placing the toy on the platform) to achieve an effect in the fictional world (the appearance of a character), which likens the toys to life feature to the game-transcending forms of play I am interested in here, though once again, metaization is not among the primary purposes.

31 These two general directions within gameworld-centred metareferential comments is also reflected in Wolf's distinction between "fictio," or "generally mediality-centred" metareference and "fictum," or "truth or fiction-centred" metareference (Wolf 2009, 41; see also 1993, 247–248).

32 Though in the case of devices such as metanarration, content is part of the definition since metanarration always (also) comments on aspects of narration (Neumann/Nünning 2014, para. 1).

33 On impossible worlds, see, for example, Alber (2016) and Ryan (2013). For a more extensive discussions of the mindgame genre, see Elsaesser (2009, 15; 2018). While to Elsaesser (2018, 19–20), a mindgame film's goal is not primarily to increase its self-reflexivity, mindgames frequently do just that; see, for example, Benjamin Beil's analysis of self-reflexive, postmodern mindgames in *BioShock* (Beil 2010, 244–256). Mindgames are something of a signature element of the *BioShock* series as well as Remedy games such as *Alan Wake*, *Alan Wake 2*, and *Control.* See Thon (2016, 113–116) for an analysis of the complexly layered, metaleptic storyworlds of *Alan Wake,* Thon (2016, 321–324) for an analysis of strategies of subjective presentation and the blurring of dream and reality in *Alan Wake*, Thon (2016, 313–320) for a similar reading of *Batman: Arkham Asylum*, and Waszkiewicz (2025) for analyses of *Alan Wake 2* and *Layers of Fear 2* (2019).

34 Klimek traces the recipient's doubt in the realness of their own world back to its philosophical and religious origins. In this sense, the illusionism of Plato's cave (whose inhabitants mistake the shadows on the wall for the real thing) (Klimek 2010, 249–250), the creation myths of several religions according to which a deity creates the world as an artefact, as well as traditional topoi such as "the world as theatre" and "life as a dream or (neverending) book" already prefigure the structure and key ideas of ascending metalepsis in literature (Klimek 2010, 249–272). What is particularly interesting about Klimek's observations regarding this history of thought is that it also anticipates central themes and functions of metalepsis in contemporary media. The "question of free will and, following from it, the question of agency" (Klimek 2010, 255) are clearly also being negotiated in videogames; the motif of the character as a puppet even seems particularly fitting for videogames, in which the role of puppeteer is in fact divided between the designer(s) and the player who pulls the strings. It is therefore no coincidence that the metaphors of gameworlds as dreams, plays, or computer-generated simulations, and of the designer(s) and/or player as puppeteers, author figures, or even deities play major

roles in *The Magic Circle* (see Chapter 5) and *OneShot* (see Chapter 6) as well as many other metareferential videogames.

35 The paradox of fiction was famously debated by Colin Radford and Michael Weston in the two-part paper "How Can We Be Moved by the Fate of *Anna Karenina*?" (1975). Recently, the argument has been revisited by Nele Van de Mosselaer in her discussion of the "paradox of interactive fiction" (2018). Importantly, Van de Mosselaer shows how videogames and other interactive fictions question Radford's assumption that emotions elicited by fiction cannot motivate us to take action (Radford/Weston 1975, 76; Van de Mosselaer 2018, 282–283).

36 Indeed, a survey conducted by Frédéric Seraphine (2018, 6) indicates that the majority of respondents chose to watch the genocide route (82%) whereas less than half (also) played it themselves (46%).

37 Toriel is a monster lady who becomes a kind of adoptive mother for the human child that serves as the player character. Toriel is very protective of the child and refuses to let them go out into the world on their own, so that the player's only means of proceeding in the game is to fight Toriel. In accordance with RPG conventions, players might expect the fight to be a mere test of strength that ends once they have proven their prowess to the mentor character, but in *Undertale,* defeating Toriel will cause her to die. It is therefore not unlikely for players to unintentionally kill her (see also the survey by Seraphine 2018, 10).

38 A similar technique, more specifically the use of an unreliable pause mechanic, is used in *Silent Hill: P.T.* (2014), a playable teaser for an entry in the *Silent Hill* series that was never realized. Pressing pause still causes a conventional pause menu to appear but apparently, if the player waits for too long, the player character may be killed anyway (Dodd 2015).

39 Similar techniques that formulate a similar argument can also be found in the satirical minigame *Cow Clicker* by Ian Bogost (2010). As a "facebook game about facebook games" (Bogost n.d.), *Cow Clicker* understands itself as a parodic revision of the mechanics and reward structures of social network games, as well as the way they command their players' attention (Bogost, n.d.). Its minimalist gameplay consists in clicking on a cow, then waiting for several hours to be able to click again. In this sense, the game is also an exercise in Bogost's procedural rhetoric: the creation of an (in this case self-referential) argument by means of "rule-based representations and interactions" (Bogost 2010 [2007], ix).

40 For similar "nostalgic journey[s] through selected moments of videogame history" (Bonello Rutter Giappone 2015, n.pag.), see also *Evoland 2* (2015), *Saints Row: The Third* (2011), *There Is No Game: Wrong Dimension*, and *The Hex.*

41 For instance, in a series of "gothic doubles" (Fuchs 2016), Alan repeatedly encounters himself on TV screens, be it as a guest of an intradiegetic talkshow or a prisoner inside a confined space, possibly the TV itself, looking through the camera at his actual self. This "metatextual incorporation of other media" (Fuchs 2016, 40) then combines with overt forms of metareference as Alan gradually realizes that he is a character in a story; a story, no less, that he himself appears to have written. Within the game's increasingly paradoxical entanglements of plotlines and temporalities, Alan finds fragments of his own novel "Departure," which, at the time of playing, he has yet to complete. The game's intertextuality becomes even more pronounced when considering *Alan Wake* in relation to *Control* (and, more recently, the sequel *Alan Wake 2* [2024]). Not only do certain themes and tropes/objects such as the typewriter and the TV screens recur in *Control*, but Alan

himself reappears, suggesting that both games take place within the same transmedial and intertextual universe.

42 For example, in *Thimbleweed Park*, the lead designers Ron Gilbert and Gary Winnick appear as characters in the game and in *The Hex*, a group of game characters even reaches through the boundary of their world to murder a fictional version of their designer. Neither constitutes a genuine ontological metalepsis between actual world and gameworld (Ryan 2006, 118). Gilbert and Winnick are fictionalized representations of real persons, and at the time of writing, Daniel Mullins, the real-world designer of *The Hex*, is very much alive.

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4 Gameworld-Centred Forms of Metareference in *What Remains of Edith Finch*

What Remains of Edith Finch (2017; hereafter: *WRoEF*) is a first-person narrative adventure game developed by the U.S. American independent video game company Giant Sparrow. It was published by Annapurna Interactive in 2017, at which point Giant Sparrow had already made a name for themselves with the development of *The Unfinished Swan* (2012), a conceptual game to which *WRoEF* draws strong intertextual connections (see Section 4.2). *WRoEF* is notable for its dense and atmospheric story, its multilayered structure of narrative embedding, and its remediation and transmaterialization[1] of different media. In my analysis, I focus mainly on the game's use of gameworld-centred metareference, encoded in the narrative elements, atmosphere, and environments as well as its audiovisual aesthetics. However, I also consider how *WRoEF*'s versatile mechanics and mimetic controls support metaization by emphasizing the materiality of different media objects. Thematically, the game is characterized by a marked and conscious attention to storytelling, as well as an in-depth concern with the formal, material, and cultural dimensions of different media. This is also reflected in the predominantly game-transcending content dimension of its metareferential comment. Employing a host of intertextual and intermedial references, the game constitutes itself against multiple other texts, among them canonical postmodern novels, short stories, weird fiction, horror films, comics, and videogames.

The game's story revolves around the titular character Edith Finch, a young woman who returns to her childhood home on Orcas Island after the death of her mother. It is presented as an anthology of playable "short stories,"[2] bound together by Edith's main narrative. The latter is itself embedded in her diary. In the second-order gameworld of the diary, players control Edith as she makes her way through the Finch house, uncovering fragments of the story, encoded in different texts such as letters, poems, photographs, and comicbooks or integrated into the design of the house by way of environmental storytelling. Some of these media objects function as thresholds into the third-order and sometimes even fourth-order gameworlds of the playable short stories in which the player revisits the deaths of Edith's family members. Bit by bit, players thus reconstruct the history of the Finch family over five generations, overshadowed by tales of a family curse that seems responsible for the premature death of (most of) the Finches.

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In the following analysis, I first describe the structure of the game in more detail, focusing on how the individual short stories are tied together by Edith's main narrative (4.1). I then analyze three of the short stories in more detail, each of which foregrounds different aspects of the narrativity and the audiovisual aesthetics of videogames, typically in comparison with other media. In my reading of Milton's story (4.2), I focus on its close intertextual relationship to *The Unfinished Swan* as well as its attention to analogue media technologies such as painting and hand-drawn animation, which highlight processes of remediation and transmaterialization. Barbara's story (4.3), in turn, offers a complex as well as critical example of intermedial entanglements as it explores interrelations between (Hollywood) cinema, comics, and videogames. Lewis's story (4.4), finally, is the most overtly self-referential in that it cites narrative, ludic, and audiovisual aspects that are typical of videogames while also creating interesting narrative and kinaesthetic challenges by presenting two gameworlds simultenously.

4.1 Layers of Mediation: The Frame Narrative

Due to its strong focus on narration and environmental storytelling, in comparison to which mechanics and other elements associated with gameplay are noticeably reduced, *WRoEF* is often referred to as a "walking simulator." Initially used derogatorily, the term is now commonly applied to videogames that refrain from using combat mechanics and other ludic challenges in favour of more character and/or story-driven experiences. Typically, players wander abandoned, ruined, or musealized spaces, piecing together a story through the objects and narrative snippets they encounter along the way (e.g., Bozdog/Galloway 2020; Kagen 2018; 2022; Montembeault/Deslongchamps-Gagnon 2019, 6).[3] The label "walking sim" is not unproblematic: As Paweł Grabarczyk rightly points out, it "introduces normativity into the discourse" (2016, 242) on the grounds of which the gameness of titles that do not fit into a narrow and jealously guarded framework is denied.[4] However, the term has since been reclaimed and has come to signify the genre's potential to constitute oppositional moments, upend normative definitions of videogames, and drive debates about the aesthetic potential of walking (Kagen 2022, 2). Embracing slowness, discovery, and the mundane, walking simulators contradict the assumption that gaming necessarily entails action, affords maximum player agency, or requires the mastery of difficult controls. Accordingly, several scholars associate walking simulators with self-reflexivity and aesthetic innovation. As Jesper Juul writes, "[w]alking simulators are prime examples of *aesthetic* independence: rejecting conventions, giving us new experiences, making us do new things" (2019, 187; original emphasis). In the absence of conventionally expected game mechanics such as combat, player effort can instead be invested into reading, listening, observing, associating, or contemplating (Bohunicky/Milligan 2019, 53; Bozdog/Galloway 2020, 792; Montembeault/Deslongchamps-Gagnon 2019, 7). According to Juul, this enables a more "poetic" mode of reception that is "more open to allusions, wordplay, and subjective experiences" (2019, 205). It also makes the walking simulator particularly suitable for reflexive and transformative modes

of play, adding to the genre's inherent queer[5] as well as metareferential potential. In a similar vein, Mona Bozdog and Danya Galloway, drawing on Ensslin's (2014) notion of literary gaming, conceptualize the genre's "hybrid ludic/literary experience" (Bozdog/Galloway 2020, 793), pointing out how walking simulators "foreground reading by engaging with various literary structures, themes, forms and genres, deploying text in an aesthetic rather than a functional way, and referencing other literary works" (2020, 793). These characteristics provide fertile ground for metareflections on mediality, in particular by means of intertextual and intermedial references, as *WRoEF* conclusively demonstrates.

The game opens, rather unexpectedly, with a powerful burst of classical music, played on a solo church organ,[6] that sets a festive tone and commands attention through surprise and rich sound. After a few bars, the sinfonia slows and blends with the dissonant sound of a ship's horn. Simultaneously, by way of a fade in, the screen clears and reveals the deck of a ferry, seen from the first-person perspective of a player character (who later turns out to be Edith's son), looking out to sea. On the horizon, the game's title screen is still visible, softly bobbing up and down in tune with the waves until it fades in the foggy twilight. The primary functions of the soundscape and first view of the boat relate to atmosphere. They set the tone of a game that mixes a real-world setting with dream-like sequences and an aesthetic that creative director Ian Dallas describes as "sublime horror" (qtd. in Ligman 2017) and which brings together ideas of existential dread and astonishing beauty. At the same time, the conspicuous use of multilayered images and sound is also subtly self-referential in that it heralds the game's literary, self-reflexive, and intertextual ambitions. The ship's horn creates a friction that marks the transition from extra to intradiegetic sound while also foreshadowing the polyphony of multiple, partly dissonant voices and meanings the player will encounter throughout the game. The presentation of the title screen further indicates the game's tendency to blur the boundaries between ontologically different levels. Rather than moving with the camera, as an overlay would, the letters of the title are fixed to the horizon and thus integrated with the game spaces. Although there is no indication that they might be visible to any of the characters, this creates a paradoxical mixing between the gameworld and the extradiegetic information, not unlike the metaleptic interfaces discussed in the previous chapter.

At this point, the player also gains control over the camera. Upon looking down, its focus is drawn towards a book in the player character's lap; an extradiegetic overlay showing a small, glowing book icon hints at an interactive affordance (Figure 4.1). There are no further prompts and no tutorial messages, and yet the controls are quite intuitive and easy to figure out due to the game's combination of context-sensitive symbolic controls with what Gordon Calleja calls a "mimetic" control scheme: the "partial mapping of the player's movements onto the avatar" (2011, 63).[7] To open the book, which turns out to be Edith's diary, the player must first press R1 as a conventionalized, symbolic control. Subsequently, they can interact with the in-game object similar to how they would with its real-world referent. Moving the joystick upward and to the left in a semi-circle, for instance, lifts the dairy's cover and repeating the same movement turns the first page, much

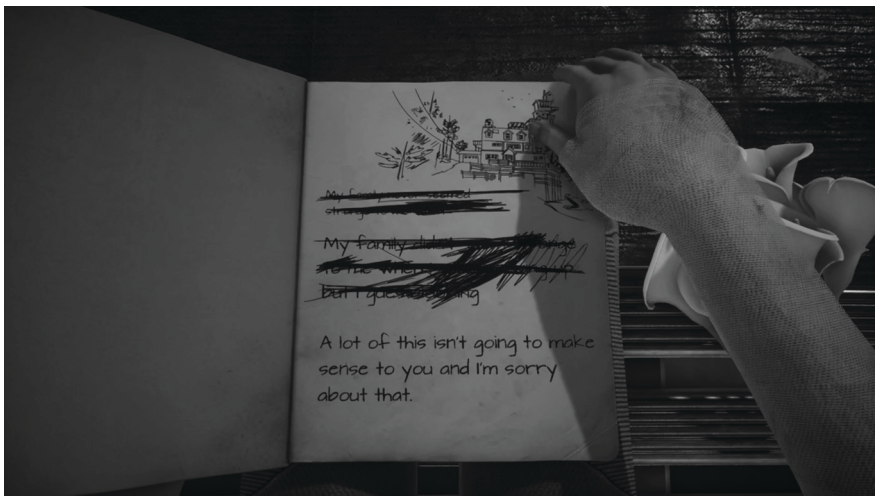

Figure 4.1 The first page of Edith's diary in *WRoEF*.

like flipping through the pages of an actual book. Mimetic controls such as these are on the one hand associated with immersive functions as they can feel intuitive and increase the player's kinaesthetic involvement (Calleja 2011, 64). On the other hand, since they vary according to the in-game context and are also less conventional than, say, pressing X to interact, players are also more likely to consciously attend to the interplay between their physical body and the controller. As we will see later in this chapter, this is sometimes used as a metareferential technique that invokes the materiality of different media objects.

Once the player has succeeded in opening the book, the pages of a hand-written and illustrated diary are revealed. A voice-over narration sets in, the screen fades to black, and the player is transported into the second-order gameworld of Edith's memories. A subsequent fade-in reveals a woodland path and the player gains control of a new player character,17-year-old Edith, as she visits her ancestral home for the first time in seven years. Edith now also serves as the first-person narrator[8] whose voice continues to accompany the player's explorations. So do the words of Edith's handwritten diary, spelled out in curved letters that function simultaneously as subtitles and as markers of mediality. The presentation of the words is interesting insofar as they are mapped onto the game's spaces and affected by the physics simulation—for instance, some appear to be written on different surfaces such as walls and furniture, some hover in game space or blow past as if carried by the wind, and others sit atop objects and can be knocked over by the player. Yet, they are not part of the diegesis, which becomes particularly obvious when they appear side by side with diegetic texts such as notes, newspaper cutouts, or magnetic letters on the fridge (Figure 4.2). Both types of writing are part of the surface layer of representation as well as the rule-governed spaces of the simulation

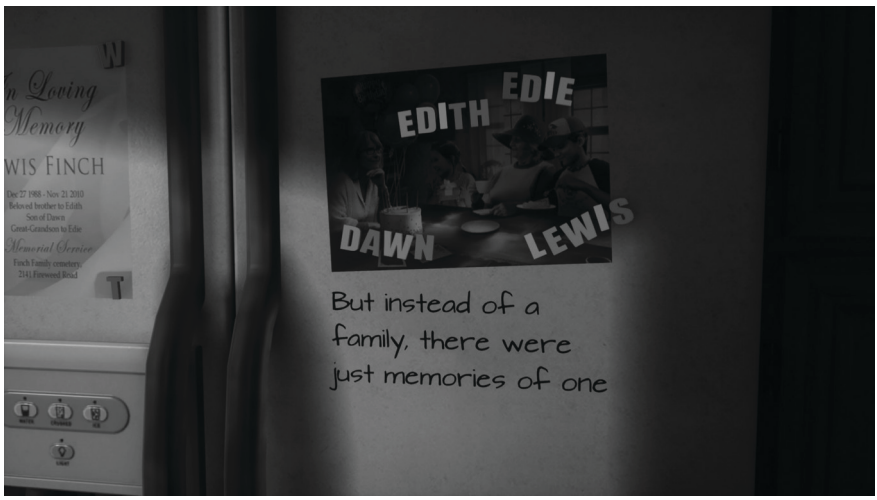

Figure 4.2 Subtitles appear on the fridge, where they are juxtaposed with diegetic types of writing.

underlying the presentation of the gameworld, but only the diegetic texts are also part of the world inhabited by the characters.

The content of the metareferential comment entailed in this highly unusual presentation of narrative voice deserves further consideration because it shows that gameworld-centred comments can in themselves be multifaceted and rather extensive in scope. First, the visible presence of Edith's words in the gameworld and their simultaneous distinctness from it ensures the player's continued awareness of the first-order gameworld and the act of reading the diary as the container in which Edith's tale is embedded. As a metanarrative commentary, this emphasizes the role and paradoxical presence of Edith's voice (at the time of reading the dairy, she has been dead for years; while she explores the house, the diary has yet to be composed) and reminds players of the fact that their experience is mediated by a possibly subjective narratorial discourse. Second, the visual presentation, animation, and simulation of the subtitles foregrounds words and letters as the stuff from which narrative is made. This kind of metareferential attention to the level of linguistic discourse recalls Linda Hutcheon's category of linguistic metafictions that "demonstrate primarily an awareness of their linguistic constitution" (1980, 7). Revealing "the very language whose referents serve to construct that imaginative world" (Hutcheon 1980, 29), the glowing, moving letters exhibit the role of language, of words and sentences, in the representation of the gameworld and its narrative. A third, this time system-centred, facet of the metareferential comment is revealed when considering how the game integrates its "subtitles" into the player's ludic interaction with the game and thereby alludes to the role of languages other than the literary, namely those of software and code. Edith's words

hold literal weight within the game's physical environment and consequently, the player engages with them not just through interpretive play but also interacts with them in a physical sense. Some of the many striking examples of these kinds of playful interactions occur when the player flies a kite through the stanzas of a poem, when the letters and toys in a bathtub dance to Tchaikovsky's "Waltz of the Flowers" (1892), or when words form from the seeds of a dandelion blowball. As the words become part of the game's rule-governed play space, objects for the player to interact with, they also exemplify the game engine's capacity to create convincing illusions of physical objects by combining a sign (in this case a letter) with computational code. In this (possibly too) close reading of the game's presentation of Edith's words as a covert metareferential element, the game supplements a gameworld-centred comment on the role of linguistic signs and narratorial strategies in the representation of the gameworld with a system-centred comment. The latter reminds the player that the game's narrative and audiovisual elements, too, are ultimately built in code and software, rendered by a computer that follows algorithmic rules.

The main sites of the game's focus on reading and storytelling, however, are the highly idiosyncratic, imaginative spaces to be explored within the Finch house. On their approach through the woodlands, players are already offered a good view of a building that seems eccentric, makeshift, and very much structurally unsafe. Rooms, they learn later, were added as the family grew, to the point where they were stacked to a tall tower on top of the roof. Inside the house, the presence of each family member can still be felt and is recorded in the texts they left behind, and which are presented to the player by way of environmental storytelling. References to media and mediality are omnipresent: Photographs, newspaper clippings, paintings, drawings, and bookshelves line every available piece of wall; piles of books can be found on tables, chairs, and on the floor, or even form part of the house as they integrate with its impossible architecture. Some texts and objects are highlighted with extradiegetic icons and can be interacted with, causing Edith to offer additional information or opinions. Others foreshadow events and mysteries that Edith has yet to uncover in exemplary Chekov's gun-fashion;[9] again others add detail to the world and lend the house an air of excess of meanings and things (on texts and reading in games, see also Aksay et al. 2025; Seiwald 2025).

Encouraging players to reconstruct the (hi)story of the Finches by selecting pieces of information and arranging and interpreting them to provide meaning and closure, *WRoEF* can be fruitfully analyzed as an archival adventure as described by Melissa Kagen (2020, 1011–1012). In addition to the active role of the player-as-researcher, Kagen emphasizes the care with which the game's spaces have been designed, its objects curated: "When we conceive of these game worlds as archives, players become researchers and game worlds come into focus as highly organized spaces; the objects and texts one finds within them, no matter how random they seem, can be recognized as careful arrangements" (Kagen 2020, 1008). As the player soon realizes, most of the objects, images, and books they encounter in the gameworld recur at several points. While this is partly due to pragmatic choices made during the development process (Unreal Engine 2020,

00:07:55), other repeat encounters are more deliberate. Underwater scenes with large sea creatures, such as sharks and whales, for instance, are major elements of Molly's and Gregory's stories but also reappear as toys, images, posters, or wallpaper across the house and weave together the stories of other family members as recurring visual motifs.

The conspicuous constellation of objects, their sheer abundance and recursion, the excess of impressions and information, but also the gaps they leave, create a multilayered text to navigate and decode, drawing attention to narrative structure and meaning-making. The game presents its players with text in the literal sense: as something woven from multiple threads and potential meanings. In fact, there is even a literal red thread running through the house, metareferentially drawing attention to the game's narrative structure and pointing the way through the labyrinth and towards the encounter with the proverbial minotaur—Edith's own traumatic memories—at its centre. While most of these objects come with a diegetic legitimation—the red thread, for one, is a cable transporting electricity to the newer parts of the house—the gameworld's overly careful construction, manifest in the impossibility of the house, the clutter, and the excess of possible meanings, creates an awareness of artifice that forms the basis of the player's enduring sense of medium awareness: "Nothing in the house looked abnormal, there was just too much of it," Edith aptly remarks.

The archival nature and arrangedness of the gameworld is even more obvious in the selection of books that fill the house and place the game within a web of intermedial references. Next to cookbooks and books on science or history, we may also find such allusive titles as "The Sublime Supper," "Weird Recipes," or "Mysteries of Death and Thereafter" (the latter written by Edith's ancestor Odin) that resonate with the themes and aesthetics of the game. Labyrinths feature repeatedly in the titles, reflecting the labyrinthine design of the Finch house and subtly pointing to the unicursal linearity of the game's overall level design. Collections of Northern Myths and folktales, meanwhile, interweave the family's origin story with Norse and Viking mythology and complicate its truth value. Together with a generous dose of adventure novels and weird fictions, myths can be presumed to have fuelled family matriarch Edith "Edie" senior's morbid imagination that she employs to transform the family's tragic history into the myth of a family curse, heavily coloured by tales of rough seas and sacrifice, and an aesthetics of sublime terror.

These invented books are placed alongside novels and non-fiction books that also exist in the real world. Gabriel García Márquez' *One Hundred Years of Solitude* (1964) can be found in multiple locations, as a nod to its role as a direct inspiration for the game,[10] as can several titles by Jorge Luis Borges.[11] Postmodern metafictions, too, find their place among the Finch family's collection. Titles like Mark Z. Danielewski's *House of Leaves* (2000) point to an interest in literature games, experimental fiction, and impossible worlds, and construe a genealogical relation between postmodern literature and independent videogames. Forming an expansive web of intertextual and intermedial references, the books

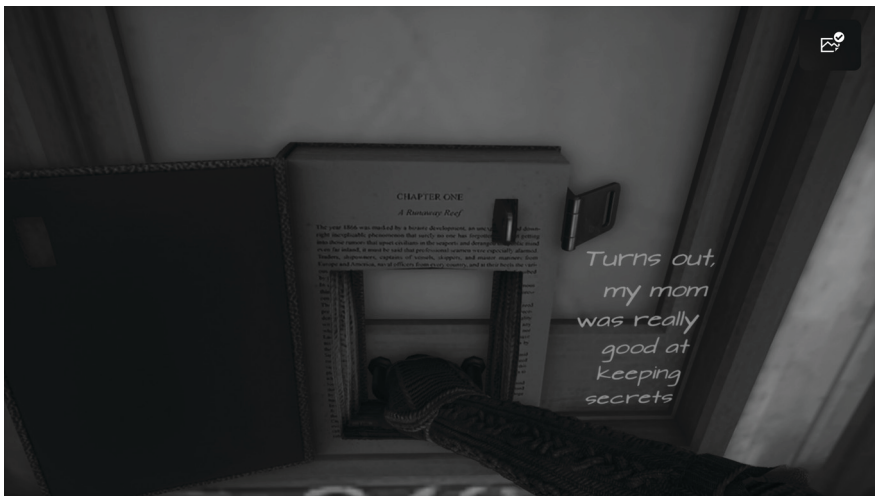

Figure 4.3 Handle of a secret door inside a copy of *Twenty Thousand Leagues under the Sea* (1896) by Jules Verne.

add a game-transcending dimension to the game's metareferential comments and encourage reflections on the game's relation to the literary canon.

Books furthermore act as physical thresholds through which players can access new areas in the game. Since the doors to the rooms of the deceased family members are sealed shut, Edith can only enter them through open windows or via the house's secret passages, most of which are hidden away in books (Figure 4.3). These curious passageways mark the materiality of the book as a physical object, but also its ability to grant access to knowledge, secrets, and personal histories. Books become literal thresholds for the player to traverse in order to gain access to the stories they (barely manage to) contain. The sealed doors, in turn, create an interesting dynamic between obscuring and revealing because they have peepholes through which the player can catch a glimpse of the room. The result is a sense of opacity, which Bolter and Grusin associate with the logic of hypermediacy (1999, 19). Seen through the filter of the peephole's glass inlay, the player's view of the rooms is simultaneously enabled, even enlarged, and constrained; the insides of the rooms are warped and distorted, the edges appear blurry (Figure 4.4). This gives them a strangely unreal and eerie aspect that foregrounds the layer of mediation between Edith's gaze and the interior of the rooms, mirroring the player's own gaze through the screen.

Inside the rooms, finally, we encounter highly stylized memorial spaces, carefully curated and arranged by Edie after the death of the respective family member. As Edith puts it when entering the first of the sealed rooms: "Being inside for the first time, I felt like I'd stepped behind a painting." The centrepiece of each room is a shrine, displaying a single media object through which the player gains access to

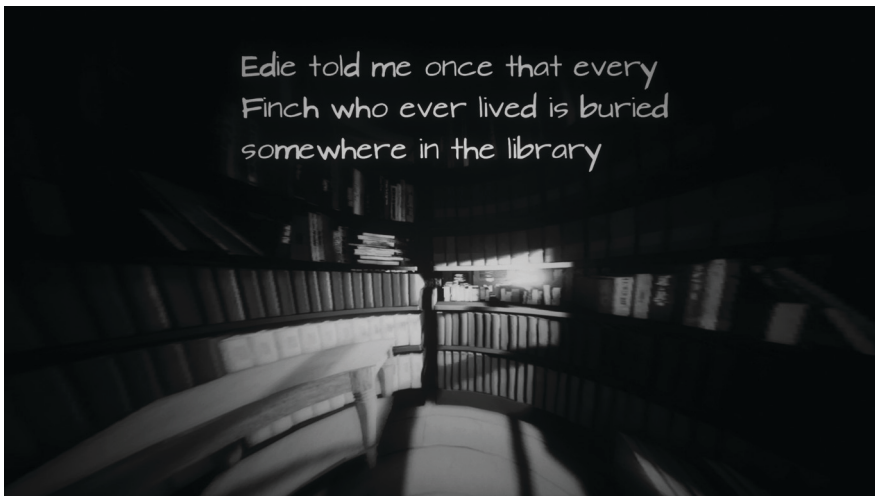

Figure 4.4 View of the library through the peephole, Edith's words still hover in the foreground.

the story of the family member. Similar to the transition from the boat scene to the main narrative of Edith's diary, the player's transportation via the media object into yet another gameworld entails both a change in narrative level and ludic framework. In some cases, the player continues to control Edith as she interacts with the media technologies of, for example, a stereoscope and a flipbook; in others, they are drawn into a fully-fledged third-order gameworld. In either case, the game introduces new mechanics and mimetic controls that recreate the experience of taking photos, playing with a rubber duck, or flying a kite, and which arguably contribute to the player's immersion even as they draw their attention to the controls and game mechanics. As Melissa Kagen puts it: "The deceased relative's archival object does not simply record their memory in writing, but enables its revivification in performance" (Kagen 2020, 1014).

Florian Zitzelsberger (2020) argues that the transitions from first to second to third-order gameworld, as well as Edith's movement through the hidden doors, can be fruitfully read as metalepses. Even though, strictly speaking, no rhetorical or ontological crossings between different diegetic levels have taken place (see below for exceptions), the transitions to a lower level of embedding often use imagery and markers conventionally associated with metalepses, notably the motif of the text as a threshold into another world. The hidden doors present a metaleptic movement in the metaphorical sense as the books become threshold objects through which Edith crosses a "sacred frontier" (Genette 1980 [1972], 236) to the personal spaces and lives of her ancestors (Zitzelsberger 2020, 80–81). In his queer, reparative reading, Zitzelsberger argues that these quasi-metalepses serve as bridges connecting the different narrative levels and "merging the ontologically disparate categories

of reality and fiction, life and death, as well as past and present" to make room for "alternative epistemologies and affects" (Zitzelsberger 2020, 82). The same "reciprocal contingencies" (2020, 82) and quasi-metaleptic crossings can be read metareferentially as comments on the mediality and materiality of different media texts, as well as on their immersive qualities. After all, the player's recentering to the possible worlds presented in different media texts is enacted again and again, showcasing the immersive pull of media while also encouraging playful explorations of their material aspects as object and technology.

As a preliminary conclusion, we can identify the representation of different media and the reference to specific (literary) texts, the foregrounding of mediality through the game's audiovisual aesthetics, the explicit verbal comments on storytelling, and the quasi-metaleptic crossing of media thresholds as *WRoEF*'s main formal strategies for creating metareferential elements situated within the layer of the gameworld. While the game does not use overt forms of system-centred metareference, its mimetic controls arguably support the remediation of different media objects; a technique that will become more central in my upcoming analyses of the playable short stories. When looking at the content of metareference in *WRoEF*, game-transcending comments, specifically references to other media, are the most overt and most frequent in the frame narrative, followed by gameworld-centred references to the game's own audiovisual aesthetics and narrative structure. The full complexity of the game's use of metareference, as well as the versatility of its audiovisual, narrative, and ludic aesthetics, however, only comes to the fore in the playable short stories. In the following, I will therefore discuss three of them in more detail.

4.2 Intertextuality and Remediation: Milton's Story and *The Unfinished Swan*

Milton's is arguably the most strongly intertextual of the stories collected in *WRoEF* while also showcasing some of the game's most overt uses of metalepsis and *mise en abyme*. The narrative of Milton's mysterious disappearance, told through the pages of a hand-drawn flipbook, shows him step through a painted door and disappear into a world of his own making. The audiovisual aesthetics as well as the environmental storytelling in and around his room, meanwhile, continuously reference Giant Sparrow's earlier game *The Unfinished Swan,* a game about a boy who steps inside a painted world. This seems to suggest that Milton may appear in both games and thereby link them to one another, having left the gameworld of *WRoEF* to become the King of the painted world in *The Unfinished Swan.*[12] While a metaphorical reading of Milton's disappearance may seem more plausible, taking it at face value is certainly evocative as it posits a co-constitutive relation between the two games; even locates them within the same fictional universe. As a linking element, Milton is positioned between games, belonging to both and neither. This also affects his presentation in *WRoEF.* He never actually appears in the game, except in photos and drawings, and in Edith's drawing of the family tree, she chooses a simplified and cartoonish style for Milton's portrait that differs from all other family

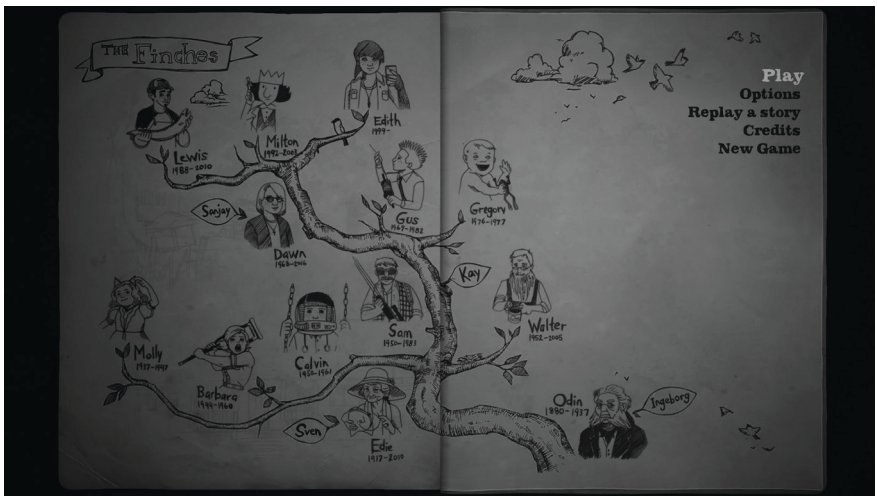

Figure 4.5 The complete family tree in Edith's diary, which also serves as the game menu.

members, marking him as different from and somehow less real than the other characters (Figure 4.5).

Hints at Milton's mysterious disappearance can be encountered very early in the game, in the form of missing person posters that are put up at the gate to the Finch premises and can be found scattered across the porch, but players only encounter Milton's room, and hence his story, in the final third of the game. As Edith approaches the newest part of the house, built to accommodate Edith herself, her mother Dawn, and Edith's brothers Milton and Lewis, she encounters four raised garden beds which offer first hints about the personalities of their owners. In Milton's case, they also act as game-transcending metareferential comments that first establish the intertextual connection to *The Unfinished Swan:* The centrepiece of Milton's miniature garden is an arrangement of painted flowerpots, stacked roughly in the shape of a castle. On each pot, there is the silhouette of yet another castle, painted in black on a white background, that closely resembles the empty city and castle of *The Unfinished Swan.* At the same time, the flowerpots also serve as a gameworld-centred comment on *WRoEF* itself. The recursive figure of the castle made of smaller castles allegorizes *WRoEF's* structure as a narrative game made of shorter narrative games. Such *images en abyme* recur throughout Milton's story as well as *The Unfinished Swan,* suggesting aesthetic parallels between the two games and hinting at their close and paradoxically recursive relationship in which each game is always already part of the respective other.

Leaving behind the garden, Edith traverses a classroom—yet another highly evocative archival space replete with intertextual and intermedial references[13]—and upon exiting, Milton's "castle," a pagoda that had been built by Edie for

Milton's 10th birthday, comes into full view. It, too, is built in the style of *The Unfinished Swan* and in lieu of a weathercock, a swan graces its top. Like all other rooms, the door to Milton's castle is sealed. Through the peephole, Edith catches a glimpse of a "room full of paintings," all of which appear slightly askew due to the distortion effects caused by the peephole's lens. An open window at the back of the pagoda permits entry and provides a clearer view of paintings, sketches, and 3D models as well as concept art and architectural models from *The Unfinished Swan* that turn the room into a videogame museum and formulate a game-transcending comment on Giant Sparrow's videogame design practices. Splashes of colour are everywhere, referencing *The Unfinished Swan's* main mechanics (throwing blobs of paint). The musical theme that can be heard in Milton's room is a variation of the track "Unfinished Swan" that plays on the latter's title screen. Edith's voice-over materializes in the form of letters on the canvas and draws the player's attention to a painting of a frog identical to the cover art of *The Unfinished Swan* (Figure 4.6).[14]

The centrepiece of Milton's room, located in an upstairs atelier with a glass ceiling, is a drawing table on which Edie has arranged a shrine for Milton. It features painting utensils, candles, and a portrait of Milton painted onto a slab of wood and which, unlike those for the other family members, does not have a death date. The focal point of the shrine is a flipbook that, paradoxically, tells the story of its creator Milton's own disappearance prior to the fact. Before considering the embedded story, however, the flipbook as object deserves some attention as an example of how the game employs strategies of remediation and transmaterialization to metareferential effect. Even in its transposition to the digital medium of the videogame, the flipbook retains the trace of another (older, analogue) medium (Schröter 2013, 94), which the game exhibits by means of its

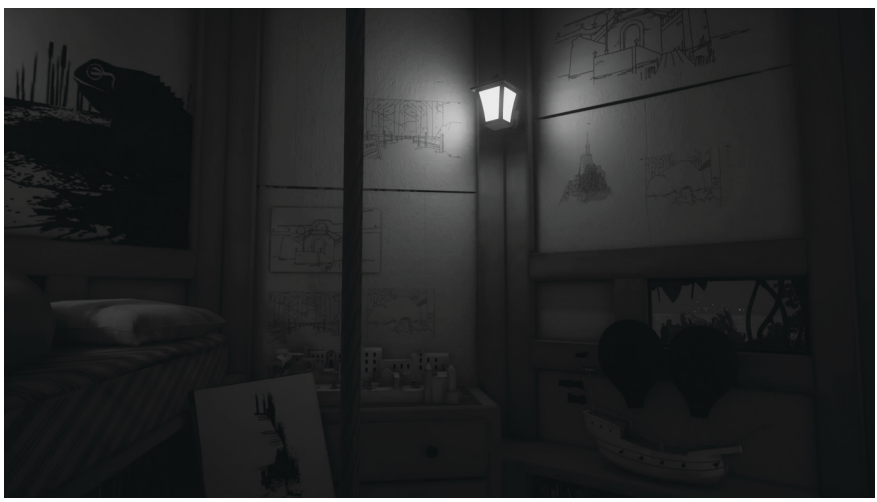

Figure 4.6 Exhibits from *The Unfinished Swan* in Milton's room.

visual aesthetics (gameworld-centred form of metareference) and the choice of mimetic controls (system-centred form of metareference). While Milton's story can be learned by interacting with the flipbook, it does not fully recentre the player into a third-order gameworld. Equally interested in telling the embedded story and showing off the threshold object in which it is embedded, the game instead presents both levels—the tale of Milton's disappearance presented in the flipbook and the second-order gameworld in which Edith flips the pages—side by side. The player character does not change from Edith to Milton, the controls focus on page-turning, and Edith's hands and Milton's drawing board remain visible all the while.

In terms of the visual aesthetics, the game remediates the flipbook through hand-drawn styles and clearly visible transitions between images. Vis-á-vis the contemporary state of (videogame) animation, the presentation of Milton's story seems clumsy and outdated, making poor use of the game engine's capabilities of rendering movement almost flawlessly. It is precisely this imperfection, however, that fulfils a metareferential function in that it makes the scaffolding underneath the ever-more perfect illusion visible to the human eye, and accessible to the player.[15] Essentially, animation and film still take advantage of the same optical illusion as the flipbook, demonstrating the continuity of ideas and techniques between videogames and much earlier media technologies, and exposing the means by which the game's own moving images come into being. In a way, the flipbook is exhibited as a prototechnology of animation, drawing attention to the transition from material and analogue to digital media technologies, and thereby historicizing aspects of videogame design (Feyersinger 2011, 453).

The intermedial references to other artforms entailed in the gameworld-centred elements of the audiovisual aesthetics are reinforced by means of the mimetic controls with which the player symbolically operates the analogue technology. In one of the rare but significant instances of the game's use of system-centred metareference, *WRoEF* captures the unwieldiness of the flipbook through game mechanics that create an echo of the materiality of the actual physical object. Flipping the pages of the flipbook demands a carefully measured thumb motion, tilting the controller's joystick towards the bottom right as if exerting pressure on the pages until they give way in quick succession and trick the eye into the perception of movement. The game also allows the player to control the pace at which Edith flicks through the pages, making it possible to slow the flow of images and even bring the display to a halt to examine a single image. Or they can speed them up again, to see the illusion restored, and the individual images blend together in relatively seamless succession. The game mechanics thus also draw attention to media and mediation in a very material sense as they translate the measured tension required to achieve a smooth motion of the flipbook "film" into mimetic game controls that approximate the movement a recipient would likely execute when confronted with the actual object.

With Bolter and Grusin, this can be read as an "aggressive" form of remediation, "refashion[ing] the older medium or media entirely, while still marking the presence of the older media and therefore maintaining a sense of multiplicity" (Bolter/

Grusin 1999, 46). In doing so, the game subscribes to a logic of hypermediacy that, rather than striving to provide immediate access to the content of the older media text, highlights the co-presence of both the old medium (the flipbook) and the new (the videogame). The gameworld and system-centred forms of metareference—the stop-motion, hand-drawn visuals, and the mimetic controls—prevent the markers of mediality from fading from the player's conscious perception and from making way for an illusionistic experience in line with the logic of transparent immediacy. The effect is one of medium awareness: Milton's story is "too obviously mediated" (Bolter/Grusin 1999, 33), instilling a corresponding hyper-awareness of mediation in the player.

Turning from the flipbook as a material object to the analysis of what is represented within its pages, several aspects seem noteworthy in relation to the game's use of metareference, among them the attention to painting as a creative process, the continued intertextual references to *The Unfinished Swan*, and the use of metalepsis and *mise en abyme.* The drawings in the flipbook not only represent the events leading up to Milton's disappearance but also capture the process of drawing. The first few pages show mere lines to which detail is gradually added until the player can discern the outlines of a canvas sat on an easel, then a person before it, as if Milton was creating the flipbook simultaneously to its reception by the player. Soon, the figure in the drawings, presumably Milton himself, begins painting what looks like a self-portrait, forming a *mise-en-abyme*-like structure (Figure 4.7). A similar image can be found in *The Unfinished Swan,* in which a canvas shows the King painting himself in an infinite succession of embedded images that form a *mise en abyme* in the narrow sense (Dällenbach 1989; Figure 4.8). The chair to the left of the screenshot shows the same symbol as

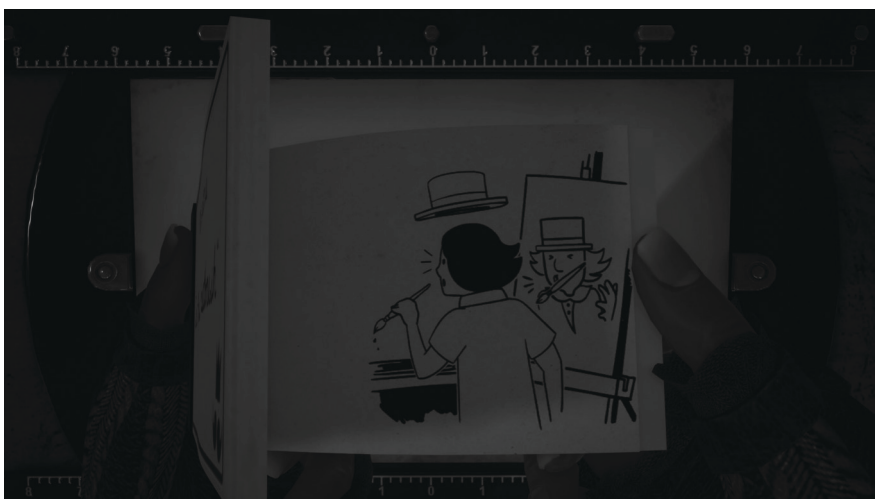

Figure 4.7 Milton's flipbook in *WRoEF* showing a drawing come to life.

Figure 4.8 Mise en abyme in *The Unfinished Swan.*

the chair found in Milton's atelier and similarly acts as a placeholder for the conspicuously absent painter before the canvas.

Next, the image on the canvas comes to life in a sequence that draws heavily on cartoon aesthetics and is quite possibly an homage to J. Stuart Blackton's early animation film *The Enchanted Drawing* (1900), which also shows a painter's paradoxical interaction with the portrait he is painting.[16] In a first, comedic sequence, the painted version of Milton moves whenever Milton-the-painter is not looking, until he finally betrays his aliveness through a sneeze that startles the artist (Figure 4.7). Sound lines extend outward from the painting and into the world of the painter, followed by three successive pages displaying the soundword "Achoo!" All of these techniques lean on codes familiar from comics and cartoons to underline the ascending metalepsis from the fourth level of embedding (the painting) to the third (the flipbook). The images then zero in on the paintbrush, followed by a change of scene. The flipbook now shows Milton in the process of drawing a flipbook just like the one Edith is currently holding, his hands flicking through the pages on the third level of embedding in an exact mirror of Edith's hand movements in the second-order gameworld, which creates another striking instance of *mise en abyme*. Rather than culminating in an infinite recursion, however, the flipbook within the flipbook shows Milton painting a door onto a large canvas. The colour scheme, black on white with golden details, subtly breaks with the colourless world of the drawing and instead alludes to the aesthetics and especially colours used in the first chapters of *The Unfinished Swan*. Once finished, the door opens, Milton steps through, takes one last bow, and grabs the handle to shut the door. The rest of the pages in the book are empty and make the absence of images, and the loss of the artist, felt. Milton's story thus presents the player with an impossible loop,

accompanied by paradoxical boundary crossings and *mise en abyme*, which has an unsettling effect on the diegetic hierarchy of the entire game (see Klimek 2011, 33).

Returning to the downstairs room, players will immediately notice the life-sized painting of a door, whose significance is now changed. Identical to the metaleptic door Milton paints inside his flipbook, the painting connects the story told in the flipbook with the textual reality of Milton's room and suggests that his magical disappearance into a painting might just be possible. Yet again, the door becomes a threshold motif as Milton metaleptically moves from the third-order gameworld of the flipbook to what lies beyond. The intertextual parallels to *The Unfinished Swan* remain striking as well: Like the swan's footprints that guide the player character Monroe into the painted world of *The Unfinished Swan*, child-sized yellow footprints run between Milton's atelier and the painted door, though whether they lead into or away from it is hard to tell. Again, the game treads a thin line between the realist and the fantastical, where both explanations seem equally possible, adding to the play of meanings, voices and readings that characterize *WRoEF*.

What becomes particularly evident in Milton's story, then, is how *WRoEF* uses aspects of its visual aesthetics and occasionally its mimetic controls as part of an overall strategy that rests on intertextuality, remediation, and transmaterialization. This results in gameworld-centred and game-transcending metareferential comments that draw attention to the continuities and aesthetic similarities among different visual media as well as videogames' indebtedness to the media and technologies that came before. The next example offers a variation on the same theme but differs considerably from Milton's story in its formal dimension, not least because it presents a fully-fledged, playable third-order gameworld.

4.3 Comics Aesthetics: Barbara's Story

Barbara's story is one of the first the player encounters in the game and, unlike Milton's, it entails a change of player character as the player temporarily recentres to the body and perspective of Edith's great-aunt. In my analysis, I first focus on Barbara's room and the circumstances of her death, arguing that the game uses environmental storytelling and allusions to cinema to comment on the conventions of slasher horror and formulate a feminist critique of the US film industry. I then turn to the embedded short story, told, or rather reimagined, inside a comicbook in the style of the EC Comics series *Tales from the Crypt* (Gaines 1950–1955; see also Bozdog/Galloway 2020, 801). In doing so, I pay special attention to the gameworld-centred and system-centred forms of metareference that juxtapose the mediality of comics with game-specific elements and thus create what Andreas Rauscher and colleagues have called "hybrid medialities" (2021, 2–4; see also Backe 2012).[17] When considering the dimension of content, these strategies can be interpreted as game-transcending metareferential comments on the ways in which comics have influenced and been integrated in videogames throughout a shared history "characterized by constant intermedial exchange" (Lippitz 2019, 116).[18]

Barbara Finch was born on Halloween 1944 and died the same day in 1960, on her 16th birthday. Edith enters Barbara's room through a crawl space which leads

through a fake dresser and ends in an open chest, the rear end of which is decorated with a jack-o'-lantern. The player's advance towards the room already foreshadows the story's horror movie inspiration because the perspective during Edith's slow traversal of the crawl space matches the opening credits of Carpenter's *Halloween* (1978), during which the camera ever so slowly pushes in on a jack-o'-lantern. The animation of Edith emerging from the chest makes her gaze, shared by the player in first-person, fall immediately on a display case showing a large movie poster of Barbara as well as a film reel and a few merchandise items for the (fictional) film "My Friend Bigfoot" that turned Barbara into a child star (Figure 4.9). The poster appears centred and framed by the items, creating an uncannily anachronistic moment as Edith stands eye to eye with a child version of her great-aunt. The rest of the room is filled with movie memorabilia from Barbara's short-lived career, including a life-sized cardboard stand-up and a theatre curtain dividing the room. These are juxtaposed with references to her teenage self, such as items of feminine clothing—a waitress' uniform for at a place called "Penelope's Diner," a matching pink bra, and a beautiful dress draped over an ironing board. The walls are lined with posters of younger films and theatre productions, the bookshelves occupied by titles such as "The Hollywood Workout" or "The Art of Acting,"[19] indicating 16-year-old Barbara's continued identification with theatre and film and her ambition to remain relevant as an actress.

The circumstances of Barbara's death, even her very identity, are inextricable from the concept of media spectacle, which makes her story interpretable as a game-transcending metacomment (albeit an indirectly self-referential one). While the game leaves some ambiguity regarding her death, the version of the story that Edith encounters inside a comicbook shows Barbara first being hunted by a hook-handed killer and later murdered by a horde of monsters (who may or may

Figure 4.9 Display case and cardboard Bigfoot in Barbara's room.

not be her "fans" wearing Halloween costumes). The embedded short story is replete with references to film and acting. It is set on Halloween night in 1960 and driven by Barbara's plan to revive her acting career by performing at a local horror convention. The first comics panels show her practicing her signature scream, though any plans to attend the convention are cancelled when Barbara gets stuck babysitting her brother Walter instead. The comicbook's characters and narrator explicitly discuss acting at several points. For instance, when Barbara is startled by a noise from the basement, her boyfriend Rick casually remarks "Also, I loved your delivery on that." The narrator in turn, ironically trivializes the events of Barbara's presumed murder, commenting that Barbara's actions while fighting for her life are "right on cue" or how "[[t]hat night, she played her part beautifully." These self-referential allusions, as well as the short story's stylized aesthetics and reliance on the scripts, archetypes, and clichés of slasher horror, foreground the artifice of Barbara's death narrative and throw doubt on its intention to truthfully relate the events of her final night. In effect, it becomes impossible to disentangle fact and fiction, or, for that matter, the textually real Barbara from the generic functions she represents.

Similarly, the environmental storytelling encountered in Barbara's room presents an interesting critique of a Hollywood-dominated film industry[20] and its encompassing and lasting influence on media genres, cultural imaginaries, and viewing habits. What we learn from her room suggests that Barbara is unable to emancipate herself from the movie role she played as a child and is desperate to restore her past fame. Barbara-the-child-star visibly takes up space in the room and overshadows her soon-to-be adult self. Edith's words, appearing across the cardboard stand-up, affirm this reading: "Growing up, I always thought of Barbara as a child star. I never thought about how hard it must have been for her afterwards." While for Barbara, the childhood memorabilia seem to harken back to a time of fame and exhilaration, they also have an ominous quality to them. The cardboard stand-up is particularly unnerving as it shows young Barbara, childlike and in a petite yellow dress, in the hands of a monstrously masculine figure towering over her (Figure 4.9). The predatory and vaguely sexualizing image marks Barbara as prey and foreshadows her death at the hands of the monster, though it remains unclear whether it is a literal or metaphorical one. Opting for the metaphorical reading, Barbara's fate alludes to the exploitation of (especially female) actors by the film industry. Barbara is an object of desire, at once idolized and objectified and hence caught up in a destructive dynamic that reaches its climax when she is literally and figuratively devoured by a horde of monsters/fans at the end of her story.[21]

The anxieties around female sexuality and empowerment expressed in the game, combined with the copious allusions to horror tropes, link Barbara back to conventions of the slasher film, specifically to the trope of the final girl as described in Carol J. Clover's classic *Men, Women and Chainsaws* (2015 [1992]): the lone female survivor who is distinguished from the rest of the killer's female victims by her resourcefulness and sexual purity (Clover 2015, 35–41). However, unlike the final girl, Barbara does not survive the end of her story, which, within the logic of the slasher, might signal her lack of virtue. While she is shown to be crafty, spirited,

and quite successful in her defence against her assailants, her vanity and desperate need for fame prevail and she lets herself be consumed by the desiring masses in the end. Yet, unlike a prototypical slasher, the game does not portray Barbara's death as just punishment for her perceived transgressions. Instead, she comes to the fore as the victim of an oppressive regime of expectations, desires, and gazes projected onto her. Throughout the playable short story, we witness Barbara's attempts at playing the gendered roles expected by her (male-coded) audiences both in and outside the cinema—the pretty and innocent child, the waitress, the object of desire, the woman to be punished. The moment of her eventual success, when she learns to play her role perfectly, coincides with her death: the violent dissolution of her person at the hands of ravenous admirers. In this reading, Barbara's story invokes the destructive power of gender roles and the male gaze in visual media, showcases the dynamics of (dis)empowerment of the female star, and thus problematizes the idealization and objectification of women on screen.

Interpreted as a slasher horror archetype, Barbara not only reveals gendered stereotypes and forms of oppression but is also part of an expansive web of cross-references. Even more so than Hollywood cinema at large, horror is characterized by habitual intertextuality and a penchant for formulaic repetition, "the free exchange of themes and motifs, the archetypal characters and situations, the accumulation of sequels, remakes, imitations" (Clover 2015, 11) that many films (and games) use quite self-consciously as a form of homage to their predecessors (de Villiers 2011, 359–360). Horror's genre-savvy audiences, meanwhile, expect neither originality nor a perfect aesthetic illusion but derive pleasure precisely from the formulaic nature of these works and their utter predictability (Clover 2015, 9). Watching horror is less about genuine surprise than it is about enjoying, decoding, and demonstrating one's expertise in recognizing generic scripts and intertextual references.

This focus on the audience's genre-savviness and pleasurable engagement with the formal and structural characteristics of horror films, comics, or videogames is clearly shared by *WRoEF* and carries over from the décor of Barbara's room to the presentation of her playable short story. Most of the aesthetic choices and plot elements presented in the comicbook refer to pulp horror and slasher movies in a half-mocking, half-admiring fashion and cite well-known horror movie tropes. In fact, the story recycles such a multitude of well-known tropes and clichés of the slasher film—the screaming teenage female protagonist, the masked and indestructible killer, the use of intimate weapons and body horror, the Finch house as a terrible place, various ill-advised solo trips to the basement, etc.—that it becomes virtually impossible to take at face value (see, once again, Clover 2015 for a comprehensive analysis of the formula of post-1974 slasher horror). Barbara's first successful defence against the killer entails a direct reference to *Halloween*: He comically trips over a pair of rollerskates and falls from the gallery, but, like Michael Myers, has disappeared when Barbara goes downstairs to investigate.[22] Another obvious reference is the soundtrack for whenever the player controls Barbara, Michael Myers's theme from *Halloween* plays. As in the original movie, the tune creates suspense but, since it is so very recognizable, its main function is arguably to pay homage to Carpenter's iconic title and stroke the egos of the

game's more genre-savvy players. What is enacted throughout the narrative, and killed at its close, then, is an archetype, tied to a specific set of genre conventions. Like the child star Barbara, the 1950s horror comic and the 1980s slasher movie are portrayed as things of the past, long since transformed by processes of coming of age and generic change. In *WRoEF,* they get another role call and appear on stage as relicts of a past age, remediated not without critical distance in the new media form of the videogame. Who Barbara was underneath all those layers of meaning, or what really happened to her, ultimately remains unknown.

As my interpretation of the narrative elements and environmental storytelling in Barbara's story shows, game-transcending metareferential comments can in fact broach a very wide range of topics—in this case including a critical perspective on film and the generic conventions of slasher horror. Not all of these are immediately recognizable as self-references, but I would argue that the ceaseless foregrounding of the materiality, conventions, and functions of different media can also raise the player's awareness of the mediality of the game and encourage reflections on the media system it is embedded in. In the remainder of this section, I will turn to the—arguably more overt and more directly self-referential—gameworld-centred forms and system-centred forms of metareference encoded in the audiovisual and ludic presentation of the embedded story. As mentioned earlier, Barbara's death narrative is told through a comicbook titled "Dreadful Stories" that also acts as the threshold object transporting the player into the third-order gameworld of a playable short story. The aesthetics of its cover, from the layout, keywords, typeface, and logo down to the price tag, closely mimic the popular *Tales from the Crypt* comicbooks. The image on the cover shows Barbara, in her waitress's uniform, as she fends off an unseen fiend with a crutch. In the background, a shadow with a hook hand looms ominously over her. The window in the front door identifies the place as the Finch house. The bottom left corner is occupied by a portrait of a pumpkin-headed monster captioned "Featuring Old Jack," which recalls the Cryptkeeper and the other creepy hosts of *Tales from the Crypt*.

The game's arguably most profound intermedial engagement with comics, however, occurs at the level of audiovisual presentation and through the remediation of the aesthetics of comics and its gradual hybridization. At first, the presentation leans more towards an in-game representation of comics panels reminiscent of comics-based cutscenes. As soon as Edith opens the book, the screen is dimmed and the camera briefly zooms in on the opening splash of "Dreadful Stories" and the captioned image of Jack in the top-left corner (Figure 4.10). A voice-over narration sets in that reads out the text in the captions: "Old Jack here with another ghastly tale inspired by America's most unfortunate family. I'm calling it… The surprise ending of Barbara Finch!" The similarities to *Tales from the Crypt* in terms of narrative style, page architecture, visual aesthetics, and typeface are unmistakable. The voice acting, in turn, alludes to the comic's adaptation into an anthology TV series (Frankenheimer et al. 1989–1996) whose host uses a very similar, chilling and creaky tone of voice. These multilevel allusions place the game at the end of a genealogical line of pulp horror stories and highlights

Figure 4.10 Opening splash of "Dreadful Stories," the comic about Barbara's death.

their influence across time and media, from 1950s comics via 1990s TV to contemporary videogames. The voice-over, as well as the technique of zooming in, are also first indications of the "hybrid medialities" between comics and videogames that the game creates on the level of its audiovisual aesthetics. To put it plainly, audible sounds and moving images are forms of expression that are derived from film and available to videogames, but not to (non-digital) comics. The digital medium does not "erase itself" (Bolter/Grusin 1999, 45) but the game remediates the comicbook in a fashion that juxtaposes the characteristics of both, comicboooks and videogames. The game then gradually adds more animations and cinematic elements: Speech bubbles appear dynamically, text begins to form in time with the progression of the story, and entire new panels may pop up on cue, creating the impression of sudden events. Like the narratorial commentary, the text in the speech bubbles is fully voice acted, and diegetic sounds are both heard and indicated by sound words. For example, the appearance of the onomatopoetic expression "EEEEEEK!" is accompanied by a corresponding sound effect: Barbara's famous scream. Importantly, the animations and sounds do not substitute but run parallel to comics-specific codes that essentially provide the same narrative information. The use of comics-typical features thus not so much fills gaps in the story[23] but rather fulfils metareferential functions, drawing attention to the intermedial relationship between comics and games. In the words of Karin Kukkonen: "There is nothing that says 'this is a comic' like a speech bubble, a speed line, or an onomatopoetic effect" (2013, 24).

Not unlike Milton's, Barbara's story time and again foregrounds the characteristics of the comicbook as a physical object, which also causes the player

to oscillate between attending to the mediality of the comicbook and the story presented within it. At key moments throughout the short story, Edith's hands holding the comicbook draw attention to themselves as she turns the pages (though she does so without player input), first at the end of the exposition, again when Barbara escapes the killer for the first time, and a final time during the climax, when a group of monsters corner Barbara. Page turning is in these instances used as a cliffhanger but also briefly actualizes the player's medium awareness and introduces a shift in tone, as can be seen when looking more closely at the first example, Rick's trip to the basement. In true horror movie fashion, Rick goes to the basement, alone, to investigate a suspicious noise. The narrator then informs the player that Rick has been gone for over 20 minutes, which prompts Barbara to take matters into her own hands. It is at this point that Edith turns the page, drawing attention to the materiality of the comicbook as well as to the player's present lack of agency, and thus preparing the way for the upcoming shift from comics-style cutscene to playable comic. When the next comics page is revealed and the camera has zoomed in on the next panel, the aesthetics have subtly changed from flat 2D images to a cel-shaded[24] 3D environment. The panel also contains an interaction prompt in the form of a glowing hand-shaped icon. The automatic progression from panel to panel and Jack's voice-over narration now come to a halt, so that the events narrated by Jack ("She reached for the music box") only come to pass if the player interacts with the music box in the panel (Figure 4.11). Subsequently, but still in the same panel, mimetic controls become available. Moving the controller stick in circles, the player can wind up the music box until the key comes off (an action they will later have to repeat as Edith to gain access to the basement in the second-order gameworld). Once the player has successfully opened the basement door, a swift transition to the next panel takes place during which the player is fully

Figure 4.11 Cel-shaded panel with interactive prompt in *WRoEF*.

recentred to Barbara's first-person perspective: They can now navigate the third-order gameworld as Barbara, completing the shift from remediated comicbook to first-person videogame.

The ensuing playable parts of the story are overall conducive to player immersion, holding back on metareferential elements save the continued use of intertextual references and reliance on genre clichés. The time between panel transitions now follows videogame logic in that it is dependent on the player's progress. The interactive affordances gradually increase as well. When Barbara picks up Rick's crutch, which she finds in the basement, a panel transition occurs that coincides with a slight but crucial shift in perspective. Now, the end of the crutch can be seen protruding from the bottom of the screen, just like the weapons of first-person shooter or adventure games.[25] Conveniently placed stacks of cans and a punching bag provide further hints that combat mechanics are now available, inviting players to hit them with the crutch. The perspective and the weapon introduce a sense of danger and appeal to the player's readiness to act, increasing their ludic engagement (Calleja 2011, 41–42). The player is only permitted to become immersed in Barbara's playable short story for a brief moment, however. The first jumpscare—Rick had hidden inside a fridge as a prank—also marks the end of the first gameplay sequence. The game takes away the newly attained mechanics and returns to the initial 2D comics style in which only extradiegetic elements such as speech bubbles are animated. This back and forth between presentation styles occurs a total of four times throughout Barbara's story. In one instance, the perspective also briefly changes to that of a side-scroller in which the player controls Barbara's movement through one of the house's secret passages. Decentring the player's perspective, these shifts draw attention to the surface level of presentation as well as the respective affordances and constraints of comics and videogames.

Recalling Rajewsky's argument outlined in Chapter 2, Barbara's story employs multiplied sensory channels (e.g., sound effects *and* sound words), changes of visual aesthetics (e.g., from comics style to cel shading) and gameplay affordances as well as the interruptions created by Edith's turning of the pages to highlight the gaps between the two media and "create a discernible effect of intermediality" (2005, 63). It is this "perceptible medial difference" (Rajewsky 2005, 63) that allows the game to display and thereby metareferentially reflect on the respective mediality of comics and videogames, as well as the intermedial relations between them. The attentive player may furthermore become conscious of the multiplication of windows, frames, and overlays: the panel frame, the page, Edith's hand, the pattern of a chair in Barbara's room in the background, the computer screen. These simultaneously enable and constrain the player's access to the contents of the comicbook and foreground the "windowed," hypermediated style of the presentation (Bolter/Grusin 1999, 31). Metareference, more specifically a metareferential comment on the use of comics aesthetics in videogames as a specific kind of intermedial relation, is achieved by means of multiplying the signs of mediation, be it through the doubling of medium-specific codes, or the reduplication of windows and frames.

To summarize, in terms of its form, Barbara's story uses a combination of different gameworld-centred metareferential elements, which, in terms of their

content, point to the media system the game is embedded in (game-transcending comment). The environmental storytelling in Barbara's room as well as some of the events in the comicbook intermedially refer to film, laying a finger on the tropes and conventions that reappear in *WRoEF* and that ally it with a tradition of self-reflexive horror. In its critical dimensions, Barbara's story also speaks to gendered discourses and the dark sides of fame, expressed through its protagonist's struggle for self-identity. This also shows how easily the interpretation of a metagame can be extended from the more immediately self-referential to an outward-looking, critical commentary, and hence how difficult it can be to clearly delimit a game-transcending metareferential comment from non-metareferential meanings in a videogame analysis. The playable short story itself then shifts the focus of the intermedial commentary from film to comicbook. In particular, I have emphasized how the combination of gameworld-centred metareferential elements on the level of the audiovisual presentation, in conjunction with the system-centred element of the game mechanics, actualizes the player's medium awareness by foregrounding the respective codes and conventions, affordances and constraints, of comics and videogames. On a final note, we may contextualize Barbara's story within the game's overall interest in the cultural functions of storytelling as memory-making. After all, the traumatic event of Barbara's death coincides with artistic triumph, granting Barbara immortalization in word and image: "Edie told me all Barbara wanted was to be remembered," Edith says as she closes the comicbook.

4.4 An Allegory of Immersion: Lewis's Story

From among the stories collected in *WRoEF*, Lewis's story, also referred to as the cannery level, it is arguably the most ludonarratively complex, mainly due to its extension of storytelling *and* gameplay across two levels of embedding that the player engages with simultaneously. It is also the last story told before Edith's own at the very end, and the one that is most directly and explicitly *self*-referential as it alludes to videogame design, videogame history, and player immersion. Lewis is the son of Dawn and Sanjay and Edith's and Milton's older brother. His "room"—a boat precariously balanced atop a wooden platform—is one of the most recent and imaginative additions to the Finch house. Inside, Edith remarks upon being greeted by a familiar smell; judging from the smoking equipment and the large poster showing a hemp leaf and the slogan "legalize marijuana," that of burnt cannabis. Other decorative aspects and personal items in the room include psychedelic images along the walls, a blacklight, and art and ornaments that reference Lewis's Indian heritage. Like the rest of the house, every available bit of space is crammed with shelves and piles of books but the player now also encounters electronic media such as DVDs, a computer, and, for the first time in the game, dedicated gaming hardware such as cartridges, controllers, and a keyboard with highlighted arrow and WASD keys. A console sitting opposite the bed is highlighted with an interactive prompt. If the player activates it, Edith explains that "Lewis and I spent a lot of time playing games together but he was surprisingly bad at them. He died a lot." Since by now the player will have realized that Lewis's chances of surviving

the story are slim (all Finches except Milton die at the end of their stories), the comment's foreshadowing function seems almost ironic, though the ominous effect remains. It furthermore has a self-referential meaning in that it alludes to the player's gaming experience thus far: They died a lot (Kirkland 2020).

The embedded story begins when Edith discovers a letter by Lewis's psychiatrist Dr. Emily Nuth, addressed to Dawn Finch. As soon as Edith starts reading, a British-accented voice-over that represents the voice of Dr. Nuth sets in. Presumably in reply to an earlier conversation with Dawn, she expresses her sympathies and attempts to offer an explanation of the events that, as yet unknown to the player, led up to Lewis's eventual suicide. Like Edith's diary (and in contrast to Barbara's and especially Milton's stories in which the flipbook and comic remained prominent), the letter itself soon fades into the background as the player recentres to a third level of embedding on which they play as Lewis. Only the psychiatrist's voice carries on, now in the role of a narrator, and the words she speaks appear on different surfaces within the third and later fourth-order gameworlds. Lewis, the narrator explains, had just completed a treatment for substance abuse and taken up work in a cannery in Seattle when, bored with the monotony of the work, he begins dreaming up a colourful fantasy world. The daydreaming soon escalates, and Lewis loses track of reality, causing him to end his life in an attempt to enter the fantasy for good.

Similar to the other short stories discussed so far, Lewis's story is closely intertwined with another media text, namely the 1915 short story "The Coronation of Mr. Thomas Shap" by Lord Dunsany about the salesman Mr. Shap wo begins dreaming up an imaginary world to escape the reality of his loathsome job. The resemblance is so close that Lewis's story can be considered an adaptation (Bozdog/Galloway 2020, 802), although *WRoEF* does not explicitly name or acknowledge the source text so that the relationship between the two might be lost to all but those players who happen to know the original short story or read up on the game's design process. Reading the source text and the adaptation in conjunction is rather enlightening: *WRoEF* not only uses multiple quotes and paraphrases from "The Coronation of Mr. Shap" but also supplements them with gameplay elements that add new layers of meaning. For example, the game doubles down on the significance of the protagonists' menial labour by means of mimetic game controls. Like Mr. Shap, who one day realizes "the very beastliness of his occupation" (Lord Dunsany 1912, n.pag.), Lewis "first noticed the monotony of his daily life" when he stops using drugs (*WRoEF*). Importantly, it is at this point that the player gains control over Lewis as the new player character. Yet they only attain agency in a very limited sense as the player's only task in the third-order gameworld is to decapitate salmon using the right-hand stick of the controller. A tilt to the left causes Lewis to pick up a fish. A swift movement to the right places the fish under a guillotine which chops off its head with a jarring noise. Subsequently, the stick must be tilted forward to shove the fish's body unto another conveyor belt. The entire sequence is then repeated over and over, processing fish after fish. The player cannot move away from Lewis's position at the conveyor belt and even the perspective remains unchanging as Lewis, head bowed, goes about his bloody work.

The use of mimetic controls adds depth to the experience and facilitates the player's identification with Lewis. Through the game controls and the ludic

and kinaesthetic engagement they support, the player is given a sense of monotony that mirrors that of Lewis, who is being reduced to an automaton under the stifling conditions of his workplace. The fish-chopping mechanic additionally serves as a form of system-centred metareference in line with Fest's concept of metaproceduralism, characterized by "machinic and operational procedures [that] reflect upon themselves" (Fest 2016, 9).[26] Lewis's tedious, repetitive hand movements mirror the player's use of the controller, creating an analogy between labour and play that can be interpreted as a critical comment on the complicity of games and their players in hegemonic power relations. It is precisely his mindless, methodical execution of motions that makes Lewis into a model employee, a fact that the narrator explicitly remarks upon. This marries the game's metareferential reading to critical ones as the game highlights similarities between videogames and capitalism, such as their disciplining functions, emphasis on (computerized) control, and tendency to privilege efficiency and accumulation (Jansen 2020, 249; see also Galloway 2006).

At the same time, the game explores the possibilities (and limitations) for escaping monotony by means of imaginative play. Lewis soon seeks refuge from the oppressive conditions of his work, imagining himself as part of a fantastic world to offset the boredom and unpleasantness of his own. As Lewis begins dreaming up this alternate world, an embedded window appears within the left half of the screen, presenting the fourth-order gameworld of Lewis's imagination that now blocks out part of the cannery setting. Within this fourth-order gameworld, an unmoving figure before a dark background is visible from a top-down perspective (Figure 4.12). Simultaneously, the psychiatrist's narration halts mid-sentence ("His mind began to…"), which prompts the player to take control of a playable character in the fourth-order gameworld. Once the player moves the left analogue stick, the figure begins

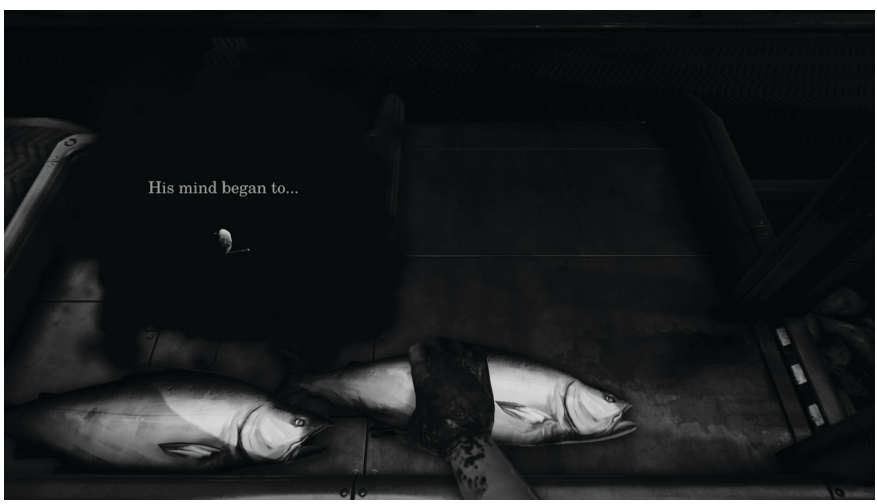

Figure 4.12 Appearance of the fantasy world representing Lewis's imagination.

to move and the narration continues and thus completes the sentence: "His mind began to…wander." What follows is one of the most remarkable formal choices in the entire game: the simultaneous presentation and extension of play across two different gameworlds, each of which comes with its own events, existents, and a dedicated ludic system. The player now controls the imaginary version of Lewis in the fourth-order gameworld, and yet, in the third-order gameworld of the cannery, the fish-chopping minigame continues. In terms of its narrative, the game juxtaposes Lewis's subjective experience of gradually slipping into a lively fantasy world, shared by the player as they gradually recentre from the third to the fourth level of embedding, with a more objective narrative of mental illness, represented by the narrative voice of Lewis's psychiatrist. We may furthermore identify several instances of metareferential elements that draw attention to the game's audiovisual aesthetics, its game mechanics, and the intertextual relations to other games. Like the game's other stories, Lewis's permits multiple different readings. It has, for instance, been analyzed in terms of its portrayal of death, trauma, and mental illness (e.g., Anderson 2020; Jansen 2020; Stopel 2024); I have additionally hinted at a plausible reading as a critique of the capitalist workplace. Henceforth, however, I will focus on two possible metareferential interpretations of Lewis's story as an allegory of immersion and/or an allegory of videogame history.

To begin with the interpretation of Lewis's story as an allegory of immersion, it seems particularly relevant to consider the game's management of player attention as well as how Lewis's story supports the player's emotional, narrative, and ludic engagement with the game. Since the third and fourth-order gameworlds are presented simultaneously, they compete for the player's (and Lewis's) attention from the start. When the fantasy world's window first appears, it is still small and the majority of the screen remains dedicated to the depiction of the cannery. Even then, however, the fantasy kingdom noticeably takes over a portion of Lewis's reality. The window's unusual presentation, its centred position, and the appearance of text within its spaces immediately draws the player's attention; meanwhile, the narrative prompt ("His mind began to…") indicates that meaningful events are about to take place and consequently encourages the player's narrative engagement with the fourth-order gameworld. This mirrors Lewis's state of mind, who strives to conjure up a more interesting and eventful world than is offered to him in the cannery. A similar struggle over players' attention is enacted within the layer of the game system as each window comes with its own game mechanics. In the third-order gameworld of the cannery, the player continues to chop the fish; in the fantasy world, they guide another version of Lewis through a maze. Players must thus not only divide their attention between two different windows presented simultaneously on screen and keep track of the gameworlds presented therein, but also between two different ludic challenges. Even though neither set of game mechanics is difficult to use in isolation, the multitasking poses a considerable cognitive challenge that prevents the player from becoming immersed in either one of the gameworlds. Instead, their attention oscillates between the two windows and the two sets of game mechanics. This again symbolizes Lewis's state of mind, to

whom the construction of the fantasy kingdom is at first little more than a distraction to pass the time.

As Lewis's story progresses, however, the balance gradually shifts. The fantasy kingdom takes up more and more of Lewis's attention and its window expands while the cannery fades into the background. Theme music is added to the fantasy world, whereas the diegetic sounds of the guillotine used for chopping the fish are turned down until they seem to come from far away, indicating how the imaginary world steadily takes over as Lewis's primary frame of reference. Controls and graphics in the fantasy world likewise become more elaborate and diversified. When Lewis's alter ego in the fantasy kingdom sails a ship, for instance, the unwieldy controls demand player attention. The game furthermore introduces simple choice mechanics, requiring the player to actively decide between forking paths, though these reconverge shortly after.[27] Even the narrator/psychiatrist seems unable to resist the immersive pull, shifting from the official and objective tone of the letter to a poetic flourish that matches the fantasy (Jansen 2020, 242). Soon, Lewis's arm and the fish are the only reminders of textual reality, and these, too, begin to fade from the player's conscious perception for lack of variety in terms of the ludic challenges and lack of narrative meaning. The hand holding the salmon has effectively become little more than an overlay superimposed on the fourth-order storyworld of Lewis's imagination, a reminder that the real world still exists, but of little consequence for the main story unfolding in his mind (Figure 4.13). The movements for chopping the fish remain identical and since players will have mastered them by this point, they need no longer be attended to. Just like Lewis, the player will devote more and more attention to the fantasy world while the cannery

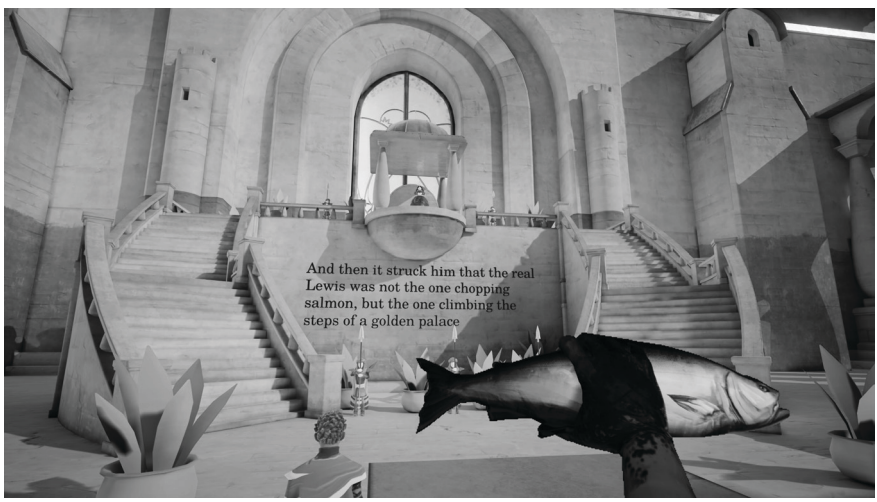

Figure 4.13 The fantasy world takes over the screen until only Lewis's hand remains.

fades from conscious perception, and like Lewis, they are going through the motions unquestioningly and automatically, having become a "model employee."[28]

This observation ties back to the aforementioned reading of the game as a critique of labour under capitalism but it is also open to a metareferential interpretation due to its close attention to the factors influencing Lewis's and the player's immersion into the fourth-order gameworld. At first the two gameworlds demand the player's attention in more or less equal measure, but the cannery quickly becomes boring due to its repetitiveness and lack of attractors. The fantasy world, by contrast, regularly introduces new events, worldbuilding details, or ludic challenges that draw the player's attention and appeal to different dimension of their engagement with the game. Meanwhile, the game makes sure to raise the player's medium awareness by means of gameworld-centred forms of metareference that redirect the player's attention from the immersive pull of the fantasy world to the game's formal and structural aspects, enabling them to consciously register the game's immersive strategies. The split perspective and the occasional intrusions of the cannery into Lewis's fantasy, for example, divide the players attention between the third and fourth-order gameworlds, preventing the player from fully becoming immersed in either one of them. What is more, the game flaunts the inventedness of the fourth-order gameworld from the start and also proceeds to gradually undermine the aesthetic illusion of the third-order gameworld. This is achieved by means of metaleptic crossings that erode the distinction between Lewis's imagination and textual reality. Motifs from the game's other short stories, for instance, begin to reappear in Lewis's fantasy, linking it to Edith's diary. Elements associated with the cannery, too, are foregrounded at regular intervals and even impede the player's progress such as when a drawbridge shaped like a fish must be opened by chopping a salmon in the cannery. This metaleptic interaction between the two worlds draws the player's attention to the game mechanics and reminds them that both worlds are in fact interactive simulations building on the same game system.

The strongest disruption of the game's world structure, however, occurs in a striking intermission just before the fantasy world takes over for good, when the Lewis of the fantasy world walks through a door of his golden palace only to find himself in the cannery. This ascending ontological metalepsis from fourth-order to third-order gameworld creates a logical paradox as Lewis encounters his real self, or rather his body, standing at the conveyor belt. The player is now fully embodied in the first-person perspective of fantasy-Lewis and the fish-chopping mechanics are suspended, though Lewis-the-cannery-worker keeps moving his empty hands, as if to chop absent fish. The implied distance between the two Lewises, the fantasy king and the empty shell in the cannery, is immense, and so is the contrast between the two realities. Where the fantasy world is bright, noisy and populated, the cannery seems nightmarish. It is dominated by grey and blue; fish cadavers pile up on the floors in looming mountains of dead matter. Looking at himself from the outside, Lewis disconnects from his body and real-world self and, in the narrator's words, "despised the man with a royal contempt." Lewis's walk past his physical body to re-enter the fantasy realm for good is thus a conscious decision for a reality that seems preferable to him.

Lewis's recentring to the fantasy world is now complete, but this is not true for the player. Up until this point, the game seemed primarily interested in aligning the player's experience with that of Lewis. The metaleptic visit to the cannery, however, causes a rift between the perspective of the player and the increasingly unreliable player character. Simultaneously, a shift from identification to sympathy occurs: The player no longer feels so much with Lewis, as for him, and the tone of their emotional engagement changes from a shared sense of fascination to pity towards Lewis.[29] Having already recentred to the perspective of Edith via the diary, and from Edith to Lewis via the letter, the player is not permitted to complete the final act of immersion into the fantastical world conjured up by Lewis. Instead, the game insists on reminding them of its fictional status and on pointing out the strategies that attempt to lure players deeper into the fantasy world. This elicits metareflections not only on the power of the imagination but more specifically on the immersive pull of videogames. In a nutshell, Lewis's story allegorizes immersion by subjecting the player to a dynamic interplay between immersive and metareferential strategies, which allows players to consciously register and reflect on their own immersion in the third and subsequently fourth-order gameworld.

As indicated earlier, Lewis's story affords a second metareferential reading as an allegory of the history of roleplaying games that I would like to unpack before closing this chapter. In comparison to the allegory of immersion, the comment on videogame design is more prominently game-transcending, though, once again, the metareferential comment cuts across several layers of communication and thus shows how the complex constellations of meaning in contemporary videogames can cut across and go beyond the content-based instances of metareference as depicted in the analytical model. While more could certainly be said about the parallels between Lewis's story and videogame design,[30] the game-transcending comment that takes centre stage is a concise history of the evolution of videogames since approximately the 1980s, and their maturation into media capable of creating elaborate fantastical worlds.[31] The depiction of Lewis's fantasy kingdom begins with a simple labyrinth, almost colourless and built from mere lines, shown from a top-down perspective (e.g., Fernández-Vara 2007; Wolf 1997). Then, textures and light effects are added; in the background, walls and stairs become discernible. The perspective changes to an isometric one and then to the 3D gameworlds familiar to contemporary players. The return to the cannery and the coronation, finally, are presented from a first-person perspective. Simultaneously, the gameworld becomes more "alive" as NPCs are added, colours grow brighter, the music fuller, and backgrounds and textures become more detailed. The introduction of forking paths during the ship-sailing minigame alludes to the development of complex narratives that make use of the medium's capacity for non-linear presentation, and the choice between prince or princess can be interpreted as a nod to debates about diversity and representation in games. All of this can be seen to offer a concise rundown of the history of videogame development. Seen in this light, the increasing vibrancy of the fourth-order gameworld becomes a sort of time lapse that puts a spotlight on the evolution of videogames' audiovisual aesthetics (especially their graphics), the diversification of game mechanics, and the overall increase in the complexity

of ludonarrative worldbuilding, all of which seem to have led up to the kind of polished product that is *WRoEF*.

4.5 Conclusion

Guided by the analytical model, my analysis of *WRoEF* focussed on the form as well as on the content of metareference. The vast majority the game's metareferential elements were found to be situated within the layer of the gameworld so that this first case study also presents a deep-dive into the possible forms and combinations of gameworld-centred forms of metareference. What has also become clear is that, even though *WRoEF* is commonly identified as a narrative-focussed game with noticeably reduced gameplay, its use of metareference can still only be properly understood when also taking into account the game system. Player activities such as navigation and discovery as well as conspicuous absences and constraints to the game mechanics are important aspects to consider when analyzing the game. Indeed, in some cases, *WRoEF* even makes use of system-centred forms of metareference such as the mimetic controls used in Lewis's and Milton's story. The observation that the game's use of metareferential elements is strikingly versatile is even more true for the content dimension. Not only do the metareferential comments refer to both the gameworld and (albeit less often) the game system, but the commentary also extends to film, comics, and the media more generally (game-transcending comments). What *WRoEF* shows particularly well, then, is the formal complexity of metareference in videogames, even if it remains largely within a single layer of communication (in this case, the gameworld) and the thematic scope of the commentary thus formulated.

To briefly recapitulate, in the discussion of Edith's story, I have pointed out how the frame narrative binds together the different short stories and introduces continuity while also placing a clear focus on processes of storytelling and (re)mediation. The Finch house arguably becomes a kind of secret protagonist and (environmental) storyteller. Its spaces, its Gothic overtones, the archival characteristics of its clutter, and the intermedial connections offered by its conspicuous stacks of books all turn the house into an alive thing and lend additional meanings to the stories that not only take place there but shape and are shaped by the house. With the life, death, and creativity of each family member, the house changes organically, monstrously, as spaces are added, modified, sealed off, and finally rediscovered and reinterpreted by Edith and the player. On the whole, *WRoEF* can be read as a self-conscious exploration of different media texts and their relations to one another and to their recipients, turning *WRoEF* into a metagame that presents not only an immersive experience, but also a critical approach to storytelling in videogames.

The underlying motifs of mediality, storytelling, the imagination, and immersion reappear across all stories, albeit with different foci. In Milton's story, a combination of hand-drawn styles, imperfect animations, and mimetic controls functions as a means of remediating and transmaterializing the visual aesthetics and materiality of a flipbook. Paired with additional techniques, including several instances of *mise en abyme,* this deconstructs the illusion of the gameworld. The arrangement of

Milton's room into a sort of videogame museum exhibiting artworks, 3D models and the like furthermore formulate a game-transcending comment on the art of videogame design and showcase, not without a certain amount of pride, the care and craftsmanship that the developers must have poured into their games. As intertextual references to *The Unfinished Swan*, the objects on display also invoke continuity between the two games. Like Milton's, Barbara's story seems interested in exploring the aesthetics and materiality of other media and genres, in this case horror films and horror comics. The specific combination of elements, and hence the emphasis of the metareferential comment, however, is quite different. The game-transcending metareferential interpretation of the books and objects in Barbara's room as a reflection on horror tropes and the Hollywood film industry, in particular, has notable critical overtones. Formally, Barabara's death narrative is a fully-fledged playable short story, parts of which the player plays in first-person with Barbara as the player character. Its main focus lies with juxtaposing the codes and conventions of comics with those of videogames. The non-interactive sequences resemble comics-based cutscenes and make use of panels, speech bubbles, or onomatopoetic expressions, whereas in the playable panels, a videogame-typical multimodality of moving images, audio, navigation, and even combat mechanics awaits.

Lewis's story is arguably the most complex because it presents two gameworlds, the textual reality of Lewis's life as a cannery worker and the fantasy world of his imagination, side by side, each with its own set of game mechanics. Formally, metareference is created mainly by gameworld-centred forms which include the narrator's explicit commentary, the metaleptic slippage between the two gameworlds, and the gradual transformation of the audiovisual aesthetics from minimalist pixel art to a loud and colourful 3D world. In comparison to the other short stories, the use of mimetic controls as a system-centred form of metareference is more central to Lewis's story since the controls directly impact the player's attentional focus and form part of the argument the game makes about monotony and escapism. Describing the content of the metareferential comment is somewhat more difficult since Lewis's story is particularly ambiguous, juxtaposing and intertwining different metareferential as well as non-metareferential meanings. In my analysis, I have elaborated on a (mostly) gameworld-centred reading of Lewis's story as an allegory of immersion and a (mostly) game-transcending reading as an allegory of videogame history. That multiple versions of the same story coexist, overlap, or conflict with one another is true for the rest of the game as well, but in Lewis's story this becomes most evident due to the obtrusive presence of two realities at once. That the functions of metareference are open-ended, variable, and more often than not subject to interpretation is thus perhaps the most important takeaway from this chapter.

Notes

1 As outlined in previous chapters, transmaterialization can here be taken to denote a special case of remediation (Bolter/Grusin 1999) in which traces of the materiality of a media object are retained even as it is remediated in another (usually digital) medium.

Prototypical examples include lens flares or film grain in digital photography or computer-animated film (Schröter 2013).

2 On the developer's webpage, the game is described as "a collection of short stories" where "[e]ach story offers a chance to experience the life of a different family member" thus aligning the work more with literature than games (Giant Sparrow n.d.). While I adopt the expression "short story," it is worth noting that it does not quite capture the medium-specificity and *ludo*narrative identity of the playable death narratives.

3 The Steam tag "walking simulator" lists close to 1.500 games (as of September 2022), testifying to the label's popularity. Among them are well-known and/or commercially successful indie titles such as *Dear Esther* (2012), *The Stanley Parable* (2013)*, Goat Simulator* (2014), or *Firewatch* (2016) as well as AAA games like *Death Stranding* (2019). See Kagen (2018; 2022) for comprehensive analyses of walking simulators and walking (in) games.

4 Arguably, such narrow definitions of videogames serve to maintain a (noticeably white male) gamer identity articulated through ideas of mastery and exclusion that come with discernibly heteronormative, misogynist, and racist overtones. Hatred of walking simulators and their players formed one of the discursive clusters of the infamous #GamerGate harassment campaign (Kagen 2017; 2022, 2, 24). On gamer identity, see also e.g., Kirkpatrick (2015); Mortensen (2016); Muriel/Crawford (2018, chap. 6).

5 While the discussion of queer game studies perspectives on walking simulators goes beyond the scope of my analysis, it is worth mentioning that these have indeed been instrumental in opening the walking simulator to scholarly scrutiny (e.g., Kagen 2020; Ruberg 2019); see also the contributions to the special issue of *Press Start* dedicated to walking simulators (2019; guest edited by Esther Wright and Emily Marlow).

6 The piece chosen is the opening sinfonia of Johann Sebastian Bach's Cantata BWV 29 (1731). Taking his cue from the piece's history of adaptation and transposition, Hübschmann interprets the choice of music as "referring to the significance of intertextuality, intermediality, the playful metareferential transition between diegetic levels and the narration of wonderful occurrences" (Hübschmann 2022, n.pag., my translation). For an overview of research on the use of classical music in videogames, see Fritsch/Summers (2021, 319–321).

7 The concrete realization is contingent on the hardware available. On the PC with a mouse and keyboard, the mimetic aspects are necessarily reduced. My analysis is based on the PlayStation 4 version of *WRoEF* (and *The Unfinished Swan*), played with a DUALSHOCK4 wireless controller and standard mapping.

8 The narrative situation in WRoEF is in fact more complicated than what I can present in this chapter. For instance, from the point of view within the hypodiegetic gameworld, Edith's voice appears as an autodiegetic narrator telling her own story in first-person at the precise moment as it happens. Yet, players are perpetually reminded of the fact that the words they hear, though spoken by a voice-over, are actually read from a diary. It is later revealed that the player character in the boat is not Edith on her way to the house, but Edith's teenage son, retracing his mother's journey several years after the events detailed in the diary. The game's main narrative in the second-order gameworld (i.e., Edith's return to the house) is thus in fact told retrospectively and already filtered through several layers of mediation. Thon delves further into the functions of this kind of "narratorial twist," describing how the "special case of narrators that are initially (self-) represented as if they were extradiegetic but later turn out to have been intradiegetic all along [or vice versa; TK] [...] also serves to remind us that narratorial roles in general may change over time" (2016, 156).

9 The photographs, for instance, show a baby taking a bath, a swingset, or a boy flying a kite. The player later learns that Gregory drowned in the bath as a baby, Calvin fell to his death when the swing propelled him over a cliff, and Gus died while flying a kite during a thunderstorm. A large train wagon decorating Walter's room later finds its poetic conclusion when Walter is hit by one.

10 Without going into too much detail, the influence of magic(al) realism's blend of realism with miraculous occurrences and dream-like sequences (Bowers 2004) can be felt throughout the game and is overtly referenced through the representation of literature on magical realism in the Finch house as well as in interviews with the developers. Creative director Ian Dallas cites Márquez as one of the game's major sources of inspiration, along with the works of H.P. Lovecraft and genres such as the American Gothic, and weird fiction more generally (e.g., Ligman 2017; Matulef 2017).

11 Among them are the short story collections *Labyrinths* (Borges 2000 [1964]) and *The Aleph* (Borges 2000 [1998]), both of which are quite intimately connected to (scholarship on) hypertext fiction and videogames. "The Garden of Forking Paths," (Borges 2000 [1941]) for instance, provides a well-known model for thinking branching narratives; and "The Aleph" imagines a point in space that contains all space and in which the narrator can see all other places on earth, "actual and undiminished" (Borges 1945, n.pag.) These allude to rhizomatic models of labyrinthine space that are for instance used to describe the structure of the internet, but that also resemble the connections between areas or rooms of a videogame on the level of the system (e.g., Fernández-Vara 2007, 75).

12 Milton's possible identity as the King is a much-discussed topic among players and was in fact confirmed as canon in the course of an "Ask Me Anything" interview format on *Reddit* (Giant Sparrow [@GiantSparrow] 2017).

13 Interestingly, a sizable portion of the books on the shelves are concerned with VR, roleplaying, and even videogame design. Next to presumably fictional books on videogames and game design, these include novels such as Neal Stephenson's sci-fi novel *Snow Crash* and works of non-fiction such as Tom Bissel's monograph *Extra Lives* (2010), which deals with the artistic value and cultural relevance of videogames. Bissell worked as a writer on *WRoEF* and is mentioned in the credits.

14 The relation between Milton's painting and the cover image is in fact quite complex. On the one hand, it exemplifies an interpictorial relationship between two images, i.e., a special case of intertextuality; see Isekenmeier et al. (2021, 69–76); on the other, since both images appear in videogames, they also constitute an intertextual relation between the games, which is further complicated by the fact that the cover art of *The Unfinished Swan* (paratextual element) also stands in an indexical relation to its gameworld, in which a frog can be found sitting beside a pond.

15 In this regard, *WRoEF* is another representative of the "high tech low tech" independent style as described by Jesper Juul (2019). The characteristic hand-made look and "honesty in materials" invoked through the remediation of earlier media, in particular, can clearly be seen in the case of Milton's flipbook (Juul 2019, 35–39). The same effect is achieved by the handcrafted look of most of the objects and environments in the gameworld, and also prominently exhibited in the credits.

16 To add yet another layer of intermedial references, Milton's story inserts itself in a tradition of impossible occurrences in painting and film that are frequently picked up on in videogames (see e.g., Hensel 2018, 57 for further examples), as well as the metaization techniques typical of early animation (Feyersinger 2011, 445–446).

17 Hybrid medialities is introduced as a term to "frame the ways in which comics and videogames borrow, adapt, and transform a diverse range of aesthetic, ludic, and narrative

strategies conventionally associated with the "other" medium (Rauscher et al. 2021, 2). An earlier systematic take on the interrelations between comics and games is offered by Hans-Joachim Backe, who proposes to distinguish between nine different forms of relations, several of which, including the representation, adaptation, and remediation of comics as well as forms of pastiche (Backe 2012, 148–151), can be found in *WRoEF*. See also Brown (2025) for an analysis of metareferential comics games.

18 Especially in early games, when the technology available did not permit the rendering of detailed facial expression during gameplay or in-engine cutscenes, comics-style cutscenes added some depth and detail to plot and characterization. Barbara's story exhibits two different examples of these kinds of strategies: the comics-based cutscenes in the tradition of, for example, *Max Payne* (2001; 2003), and the playable comic we find in *Comix Zone* (1995) or *XIII* (2003). The latter supplements the forms and codes of comics with music, voice acting, and animation (see also Lippitz 2019, 120–112 as well as, once more, Brown 2025 for a detailed discussion of comics games).

19 Possibly alluding to *The Art of Acting* (Adler 2000), an acting coursebook compiled from materials by 20th century actress and teacher Stella Adler who would have been well-known around the time Barbara's story is set, though the collected editions of Adler's teachings were only compiled and published considerably later.

20 This also creates a rather interesting dynamic regarding the game publisher's affiliation with said industry. *WRoEF* started out with Sony as co-developer and publisher but was later acquired by the newly founded Annapurna Interactive, a branch of Annapurna Pictures. Albeit independent, Annapurna interactive is an influential and financially strong publisher with ties to Hollywood and a publishing strategy focussing on a carefully curated and well-promoted set of indie games (Parker 2021, 129–132). *WRoEF's* development and publication history is thus also a good example of the difficulty to define "indie" publishing and its entanglements with the "mainstream."

21 The association with identity construction and gendered power dynamics is accentuated by intermedial references to the children's novels *Alice in Wonderland* (Carrol 1866) and *Through the Looking-Glass* (Carrol 1872), several editions of which can be found on Barbara's shelves. Manifold and partly contradictory interpretations have over time characterized Alice as the empowered heroine of a fantastical adventure or as a victim of her desiring author (Garland 2008, 22–23). A similar ambivalence is also evident in the portrayal of Barbara, whose childlike innocence and naivety are idolized and juxtaposed with the advent of mature womanhood, which signifies corruption, angst, and death (see Garland 2008, 27–28). In a parallel reading to Carina Garland's Alice criticism, Barbara's downfall is caused by the mere fact that she is growing up, becoming a woman–signifiers of which include the feminine clothing items and underwear strewn across the room, or her birthday cake. Indeed, it is the maturation of her body which makes her unable to perform to the satisfaction of her audience: Her "scream hadn't aged well" (*WRoEF*).

22 Such parodic versions of Michael Myers, the Hookman, and other iconic killers by now have their own tradition (see de Villiers 2011, 359–360 for examples and analyses). When it comes to parodic horror videogames, the *Dead by Daylight* spin-off *Hooked on You* (2022) is certainly a favourite.

23 Though in some ways, the sound effects do add a layer of sensorial information, namely the actual experience of sound and with it character or atmosphere-related information such as tone of voice, which is difficult to reproduce in a comicbook (Lippitz 2019, 124).

24 Cel shading, or toon shading, is a visual style that gives a 3D surface a cartoon-like appearance by means of eliminating colour gradations, emphasizing contours, and

rounding edges. In videogames, this technique is used to invoke the aesthetics of comicbooks or hand-drawn animation (Cho et al. 2018, 637, 640).

25 The nature of the weapon can also be read as a reference to the improvised starter weapons used in the vast majority of survival horror games. The crowbar, in particular, has become a self-conscious trope ever since its appearance in *Half-Life* (1998) and recurs, for example, in *Half-Life 2* (2004) and *BioShock* (2007). See also Jannidis (2009, 556).

26 In his analysis of *The Stanley Parable,* Fest points out how Stanley's tedious job, pushing buttons on a keyboard according to the orders he receives, closely resembles the player's own operation of the computer. This, he argues, can on the one hand be interpreted as a critical commentary on contemporary labour conditions—"the frequency with which people in the twenty-first century *push buttons*" (Fest 2016, 9–10, original emphasis)—and on the other hand as a metareferential comment on the game's own processes (2016, 10). Similar arguments are forwarded by Alexander Galloway and Ian Bogost through the concepts of "allegorithm" (Galloway 2006) and "procedural rhetoric" (Bogost 2010 [2007]), respectively, all of which supports a critical reading of game mechanics as potentially complicit in normalizing the workings of power in contemporary society. This ties in with the discussion of the walking simulator genre at the beginning of this chapter in the sense that walking sims offer a possible response to the dilemma of complicity: Removing most of the gameplay arguably also wards against the transformation of play into a means for measuring, and maximizing, utility (Bogost 2019).

27 The most significant of these is arguably the identification of Lewis's object of desire ("a handsome prince/a beautiful princess") since this allows the player to read Lewis as queer.

28 In my own playthroughs, I felt the pull of the automatism to be quite powerful, keeping me from questioning the necessity of fish chopping even in my second and third playthroughs. During my research, I was thus surprised to learn that it was not actually necessary to continue chopping since the fish stop piling up if there are too many of them (Warr 2017).

29 *WRoEF* seems conflicted about the benefits and risks of immersion. In any case, the view on immersion being discussed in the metareferential comments is highly ambivalent. From Lewis's perspective, the substitution of his life as a cannery worker with the fantasy version is perfectly logical: He experiences his mental world and corporeal existence as disconnected but equally real and chooses the fantasy world as the preferable alternative. From the psychiatrist's perspective, however, Lewis's imagination is depicted as obsessive and destructive; an equally unhealthy substitute for his former substance abuse. The parallels to discourses of videogame addiction are plain to see, especially when considering that Lewis is also characterized as a gamer, though it remains unclear whether Lewis's engagement with videogames is problematic in and of itself or serves as a coping mechanism for a preexisting condition (for an overview of relevant debates about gaming disorder, see Kowert/Quandt 2021, 3–4).

30 For instance, Lewis's story touches upon the theme of videogame authorship; in any case, books such as "Masters of Game Design," "Making Games with C++," and "Dungeon Master" found in the classroom and Lewis's own room support an interpretation of Lewis as an author figure; his enactment of personal power fantasies within the fourth-order gameworld suggests an additional interpretation as a stand-in for the all-powerful player and their role as a co-creator of the game.

31 In addition, the game also includes a few intertextual references to specific games that can be perceived as milestones of videogame development. A flagpole, for instance, serves as a nod to the *Super Mario* franchise (Warr 2017, n.pag.).

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5 System-Centred Forms of Metareference in *The Magic Circle*

The Magic Circle (2015; hereafter *TMC*) is a videogame about videogames and game design in a literal sense. Perhaps best described as an open-world adventure game that borrows elements of RPGs, puzzle games, and walking simulators, *TMC* is about the development of a fictional videogame, also called "The Magic Circle."[1] The long-awaited sequel to a successful game by auteur designer Ishmael "Ish" Gilder, "The Magic Circle" has been stuck in development hell for the better part of two decades. While the player spends much of *TMC* traversing the unfinished spaces of "The Magic Circle," they never recentre to its second-order gameworld but remain anchored within the first-order gameworld from whence they look upon the embedded game from a perspective similar to that of a game designer. Concerning its use of metareference and the reasons for choosing this particular game as a case study, *TMC* stands out for its deliberate experimentation with different metareferential strategies, combining gameworld-centred and system-centred forms in mutually reinforcing ways (see also Krampe 2023). Especially from the game's second act on, metareferential mechanics and interfaces arguably even become a primary means of metaization, occasionally relegating gameworld-centred ones to a supporting role. In terms of its content, *TMC* is essentially a satire of the videogame industry, offering in-depth critical reflections on the social, political, economic, and creative tensions accompanying the lifecycle of a commercial videogame. In comparison to *What Remains of Edith Finch,* it therefore brings to light a different facet of game-transcending metareferential comments because their main emphasis lies with processes of videogame production and reception, rather than with intermedial references.

Published around the same time as *The Beginner's Guide* (2015) or *Dr. Langeskov, the Tiger, and the Terribly Cursed Emerald* (2015)*, TMC* can be contextualized against the rise in "behind the scenes" indie metagames that responded to the criticism of the videogame industry in the wake of EA Spouse (EA Spouse 2004)[2] and #Gamergate[3] as well as to challenges in the increasingly crowded indie market (Wawro 2016a, n.pag.). In this respect, the parallels between "The Magic Circle's" fictional development team and the actual developers of *TMC* are telltale. While *TMC*'s developer Question is a small independent studio, most of its lead staff have previously worked on ludonarratively ambitious AAA projects such as the *BioShock*

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series (2007–2013) and *Dishonored* (2012).[4] In an interview with *Game Developer* (then *Gamasutra*), Question denies that the game is meant to be a "screed against former colleagues, or a true confession" (Jordan Thomas, interviewed in Wawro 2016b, n.pag.). And yet, *TMC* caricatures, in a carefully anonymized manner, the types and habits that its designers would have encountered throughout their careers, suggesting that its critical dimension is inspired by real experiences.

TMC can be divided into five acts.[5] In Act 1 (analyzed in 5.1), which functions as a kind of prologue, the player is cast as a playtester trying out parts of "The Magic Circle" that turn out to be far from ready for playtesting. The prologue is largely linear and offers very few interactive affordances. Act 2 or "Pro Mode," by contrast, is set in an open world and makes use of striking metareferential game mechanics that encourage players to take control over the game and manipulate its rule system (5.2). Act 3 then presents the game's finale, during which the player sabotages "The Magic Circle's" introduction to the public (5.3). Acts 4 and 5 (analyzed jointly in Section 5.4), finally, differ from the preceding ones in that they are no longer set in or around the gameworld of "The Magic Circle" and only loosely connected to the main plot. Using a level-creator tool, the player now designs their own videogame, which is then tested, evaluated, and released to the fictional public. Thereafter, *TMC* enters a post-ending phase (Herte 2020, 160–164) that is set within the spaces of a simulated desktop interface. In the following, I analyze each of these with regard to the main forms of metareference used in them and the functions they fulfil in developing the game's main themes.

5.1 A Game about Game Design: The Prologue

TMC begins with what appears to be a work-in-progress project pitch. In a voice-over before a black screen, the studio head and lead writer Ish Gilder presents his ideas for the fictional game's opening cutscene. "My old man used to take off his wedding ring and sort of… flick it into a spin," he begins. "So. That's our cold open—just a ring, twirling over black. […] And then, as Starfather, I speak: 'ONCE, STARFATHER STOOD ALONE BEFORE THE CIRCLE. WITHIN IT, HE PLACED EVERYTHING. FIRST BREATH, FINAL GASP, LOVE, LOATHING. YOU.'" Ish's entire manner indicates high personal investment in the story: His voice sounds animated, he (over)acts parts of the cutscene in-character, and he supplements the presentation with personal anecdotes that inspired his writing. The fictional character Starfather is part clichéd fantasy convention and part alter ego. Ish envisions him as a higher being and a creator figure who can place a whole world inside an enclosed circle. This creates obvious parallels to the concept of the magic circle of play that has haunted discourses about videogames and game design for the better part of two decades. Going back to Johan Huizinga's seminal treatise on the role of play in culture and society, *Homo Ludens* (1980 [1938]), the term "magic circle" is typically used to describe a game as a bounded space, set off from real life, in which players engage in rule-governed forms of make-believe (Huizinga 1980, 9–14; Salen/Zimmerman 2004, 95–96). That *TMC* is well aware of the concept and toys with it in a self-conscious manner is also evident in the

telling name "The Magic Circle," in Ish's design philosophy, and in the initial motif of the wedding ring; that fertile circle of empty space into which Starfather places "everything."

Once the initial lines of dialogue have been spoken, the screen comes to life and the camera pans over a whiteboard showing sketches of the fictional game's main characters. The artworks are surrounded by numerous notes and doodles, scribbled on the whiteboard in red, green, and black markers (Figure 5.1). Gameworld-centred in their form, these visual metareferential elements formulate a game-transcending comment on the process of videogame design: The whiteboard and doodles bring to mind the conceptualizing stages of a design project and emphasize the challenge of coordinating artistic visions and ideas among the often-large teams working for the game studios. That conspicuously many of the notes have been crossed out or are accompanied by pointed question marks highlights the unfinished state of the game and the disagreements among the team members. Within the first few minutes, *TMC* thus establishes the process of game development and the role of the game designer as the main targets of its metareferential commentary. The opening sets the tone for the entire game, which is a darkly comedic tale about the pitfalls of game design and a polemic against oppressive working conditions in the game industry.

In its remainder, the prologue introduces the player to the central conflict among the team members, which can likewise be read metareferentially as it dramatizes the tension between authorial control and player agency. The writers and artists, represented by Ish, aim to create a coherent narrative, set in an atmospheric and aesthetically pleasing fictional world. The level designers, headed by

Figure 5.1 Concept board for the fictional game "The Magic Circle" during the opening cutscene.

former pro-gamer Maze Evelyn, instead prioritize gameplay and seek to implement interesting affordances for the player. Before long, Ish's presentation is thus interrupted by another voice, sounding decidedly bored: "The player can skip this, right?!" The voice, which the player soon learns belongs to Maze, then continues to make a case for the precedence of gameplay over narrative with a jibe at Ish's sex life: "[During roleplay], did y'all find yourself in burning need of a narrator? No! The meaning lives and dies in the act. […] It's just a game. Shut up and let them play." Maze's blunt intrusion contrasts sharply with Ish's vision and establishes two rivalling ideas of "The Magic Circle." The first, enforced by Ish, operates according to the logics of maximum narrativity. Ish seeks to build an imaginative, detailed, and consistent gameworld with a tightly controlled plot and wishes to retain a maximum of authorial control over his game. As a safeguard against the unruly element of player agency, he severely curtails the game mechanics and refuses to afford meaningful choices, even going so far as to compromise the game's playability.[6] In Jesper Juul's terminology, Ish advocates a linear "game of progression" in which the player follows a prefigured narrative (2005, 71–73). From Maze's opposing perspective, a videogame is a playground; a rule-based simulation system that is best understood in terms of how the player can interact with it. Her dismissive comment on narrators highlights how traditional narrative elements are not only dispensable in videogames but can also curtail the player's agency. She represents the non-linear "game of emergence" in which events that arise from the player's moment-to-moment interaction with the game take centre stage (Juul 2005, 71–73).

The interpretation of the two main characters as representatives of two seemingly opposite types of videogames is further supported by their telling names. Ish shares his first name with Ishmael, the first-born son of Abraham according to the Abrahamic religions. The name's connotations as a leader or prophet on the one hand and a (social) outcast on the other (Zeidan 2019) reflect Ish's contradictory identity as the large-looming auteur designer of a successful videogame but also a failed artist, cast aside when an ambitious younger generation of game makers arrives on the scene. In addition, the name harkens back to the famous opening line ("Call me Ishmael") of Melville's *Moby Dick* (1922 [1851], 7), connecting Ish to the literary canon, to Ahab's obsession with the whale, and to Melville's self-aware narrator Ishmael. Inserting itself in a prestigious literary tradition, *TMC* lays claim to an artistic status that is not yet commonly awarded to videogames, though it does not do so without irony. The isolated, eccentric, and recalcitrant Ish, whose ambitions by far exceed his (financial and possibly intellectual) means, is also a parody of the hype around a small group of highly visible videogame auteur designers.[7] Maze's first name, meanwhile, refers to a specific type of labyrinth characterized by multiple, branching paths. According to Clara Fernández-Vara, mazes are among the most often-used spatial structures in videogames because they afford choices and challenges:

> Mazes are more complex than classical labyrinths; they are multicursal […]. They are characterized by branching paths and dead ends so that the walker is

> forced to choose her direction. Video games favor maze structures since navigating them already constitutes a challenge […].
>
> (Fernández-Vara 2007, 74–75)

Down to her very name, Maze symbolizes the ideal of designing for player agency, ludic challenge, and emergent gameplay. In the course of *TMC*, she frequently criticizes Ish's decisions and advocates the inclusion of additional game mechanics and a multiplayer mode. She also becomes a kind of silent ally to the player as she chooses to turn a blind eye to their increasingly subversive behaviour in the game's second part and even encourages them to try bending its rules.

In the face of the seemingly irresolvable conflict between Ish and Maze (or progression and emergence), the playtesting—which, as we may recall, was introduced as the player character's motivation for engaging with "The Magic Circle" in the first place—turns out to be a futile endeavour. Following Maze's intervention, Ish skips the rest of the narrative exposition, and the player gains control over a player character who is dropped *in medias res* in a burning village. Exploring this first area, the player soon gets the impression that the gameworld is far from complete. Outlines and textures look roughly sketched at best, and for the most part lack colour. Some aspects of the game are animated and accompanied by diegetic sound, such as the crackling flames and the blowing wind, whereas others are little more than placeholders. Ish seeks to fill some of the gaps on the fly, leading to some comical moments. For instance, he attempts to compensate for a missing animation by waving Starfather's 3D model around like a toy figurine and supplementing the—equally missing—sound effect of the character's departure towards the heavens by a "whooshing-upward mouth noise" (*TMC*, subtitles). Needless to say, the visible gaps in the gameworld create exceedingly favourable conditions for medium awareness as the player's attention is drawn to individual elements—colour, textures, sounds—that, in a complete game, tend to blend into one another to create the impression of a seamless environment.

The illusion of the player's embodiment in, and identification with, a player character does not hold up for long either. The figure that the player controls in "The Magic Circle" is an empty container without any sort of autonomous personality that would merit its description as a player *character*. In later parts of the game, the player also gets to see the "hero" from the outside, realizing that they are, indeed, little more than a floating, capsule-shaped object with two arms attached to it. This fully deconstructs any remaining idea of the player character as a possible person with a human(oid) body and substitutes it with the more pragmatic perspective of its functionality as a means for the player to interact with the game as a simulation (see also, e.g., Klevjer 2022 [2006]; Vella 2016 on player characters). The game even communicates its goal to elicit and maintain the player's medium awareness rather explicitly. "Right now you've got outside eyes. Nothing here seems real," one of the characters tells the player. "That's good! See, the gods of this place [i.e., the fictional designers] mean to kill that disbelief. I aim to keep it alive." *TMC* seems to associate immersion with the suspension of critical faculties and thus aligns itself with an understanding of metareference as a critical discourse

that seeks to disrupt the illusion in favour of critical distance (cf. Ryan 2015, 6). As a kind of metareferential comment on its own use of metaization, *TMC* announces its goal to prevent the player from becoming fully immersed in the gameworld in favour of encouraging more critical modes of engagement.[8]

Aside from the gaps in the audiovisual representation and the obvious artifice of the player character, the hypodiegetic gameworld is also mostly devoid of narrative events. Instead of story snippets pertaining to the adventures of Starfather in "The Magic Circle," the player can discover comments left inside the game by its dissatisfied writers and level designers. On several occasions, the player encounters hints at affordances for interaction, but none of them have been fully realized. They can for instance knock on the doors of the village's burning huts, which produces a knocking sound and a dialogue box. However, instead of presenting the dialogue of the fictional characters, the boxes contain the passive-aggressive comments of various members of the development team, such as: "<TEMP> Guys, I cannot put any loot or optional story in here until you approve it…" or "<TEMP> Villager: We could have a conversation here, if SOMEONE would finish the script!" These kinds of conspicuous gaps and absences serve, on the one hand, as gameworld-centred metareferential comments that mark the artifice of "The Magic Circle's" gameworld—a work under construction whose scaffolding still shows. On the other hand, the developers' comments also have a game-transcending dimension because they allude to aspects of game design and raise the player's awareness of the expectations they bring to the game based on their knowledge of videogames and the conventions of the fantasy genre. The comment in the above-cited dialogue box, as a case in point, refers to branching narratives ("optional story") and rewards ("loot") as well as the hierarchically structured collaborative work that characterizes videogame creation ("approve").

Similarly, throughout the first and second acts, the player can find change logs that document some of the manifold changes the gameworld underwent and which provide some insight into what motivated these changes. A humorous example can be found at the beginning of the second act, when art director Scape Tremain adds several huge signposts to the gameworld after being asked to improve the "clarity" of the level design. The comedy of the team's banter stems mainly from hyperbole, which amplifies the absurdities of miscommunication among the team members. The shared tragedy, however, lies in the dysfunctional state of the work environment that finds its destructive outlet in a fabricated antagonism between two factions. Many of the change logs and audio recordings found in *TMC* allude to problems of the gaming industry, including crunch culture, the demand for high commitment, the lack of recognition, or the gendered and racialized practices of exclusions. They also point to the challenges that come with the constellations of collective authorship typical of videogames. Most of the gaps and errors in "The Magic Circle" result from miscommunications among the team members, the failure to coordinate and distribute tasks, and the overall lack of leadership and a common goal.

In addition to the audiovisual aesthetics, environmental storytelling, and story bits presented through collectible recordings and change logs, *TMC* employs

dialogues between the main characters as explicit, gameworld-centred forms of metareference. For example, the game further explores the conflict between narrativity and player agency and more strongly implicates the actual player in it by having them witness a dialogue between Ish and Maze during which both characters break the fourth wall and directly address the player. Following the only available path out of the starting area (the burning village), the player encounters an animated but textureless 3D model of a person handing a sword to the player character; a conventional signal that the hero's journey is about to begin and that combat mechanics are now available. However, as soon as the player picks up the sword, Ish intervenes: "Hold! Hold please. So, who are you? A new playtester? Well—let me save you some time. Today, I push the buttons." Addressing the player as an entity outside the second-order gameworld, Ish emphasizes the distinction between the hero of "The Magic Circle," and the player who controls them. Although the "player" that Ish talks to is identified as the first-order gameworld's fictional playtester, his words can be interpreted to also address the actual player. In any case, the direct question ("who are you?") and Ish's gaze towards the camera, suggest an ascending rhetorical metalepsis to the extradiegetic level (Figure 5.2). Besides, the roles of actual player and fictional playtester are already muddied at this point since there is little indication that the fictional player character has any function or personality outside of being a stand-in for the actual player.

What also changes in this scene is that, even though they are strictly speaking still situated in the first-order gameworld, Ish and Maze are no longer disembodied voices from the off but physically present in the second-order gameworld in the shape of gigantic floating eyeballs. As I have argued elsewhere (Krampe

Figure 5.2 Ish, represented as a floating eyeball, addresses the player within the half-finished spaces of "The Magic Circle."

2022, 137–138), this invokes an aesthetic of surveillance and represents the game designers' control over the gameworld. In addition, their positioning vis-á-vis the second-order gameworld now mirrors the player's own "dual embodiment" (Ensslin 2022, 417), at once a participant in the gameworld and the operator of a computer, thus creating a *mise en abyme*-like structure. An extradiegetic overlay attached to the eyeball representing Ish shows a sound symbol and the nametag "Ish G." The blue parts of the eyeball's iris light up in tune with the rhythm of his words when Ish launches into the following passionate monologue in which he invokes the major challenges for narrative design that follow from videogames' interactivity:

> Twenty years, Maze. Twenty years I've wasted, writing about the almighty player…But who is the player, anyway? They're like Doctor Jekyll and Mister Genocide! They demand a world full of deep, compelling characters, yet at any time, they reserve the right to turn said people into piles of gently glowing ash! What possible story could survive these conditions? […]

To Ish, a good story can only be told when reducing gameplay to the bare minimum, i.e., to navigating game space and making inconsequential choices. His characterization of the player as an erratic killing machine ("Mister Genocide") reveals a profound distrust and even contempt towards his audience. Despite its blatant sarcasm, however, Ish's portrait of a Janus-faced player figure does allude to very real challenges that agency poses to worldbuilding and storytelling in videogames. In game studies, this phenomenon has been referred to as the "interactive paradox": The more detailed the gameworld, the more players wish to actively engage with it, but the more freedom they are granted, the less room there is for traditional narrative elements (Murray 1997, 126; Ryan 2009, 45; 2015, 117–118, 181, 207).

Ish's argument that constraining player agency will improve the game's narrative, however, remains unconvincing. This becomes particularly evident when looking more closely at the layer of the game system. When Ish bullies Maze into removing all elements that could potentially interfere with his story, she takes away the newly attained sword and with it the promise of combat mechanics. The game subsequently shepherds the player down a linear path that affords neither meaningful decisions nor ludic challenges to speak of. Even navigation—virtually the only kind of interaction still afforded to the player—is made to feel bland since there are no secrets to be discovered, and the few narrative fragments to be found fail to coalesce into the immersive epic envisioned by Ish. In the end, Ish decides to simply fast-forward to the boss battle. However, without any combat mechanics at their disposal, the player character is invariably killed and the player left without a sense of agency, turning the "boss battle" into an ultimate demonstration of "The Magic Circle's" failure as a videogame. The player's experience thus lends support to Maze's criticism, namely, that a game written according to traditional understandings of (literary) narrative and fully controlled by its author, does not play to the medium's strengths and leaves little room for the player. The prologue's stripped-down gameplay, in other words, functions as a system-centred form of

metareference that formulates a (likewise system-centred) comment on the importance of ludic elements in creating an engaging experience for the player. Paying analytical attention to the layers of communication associated with the form and content of metareference is thus crucial, even in a sequence that initially appears to be heavily biased towards the narrative mode.

With a view to the previous chapter and the discussion of walking simulators, it seems prudent to briefly problematize Maze's assumption that linearity and the absence of typically ludic elements make for a boring game. As we have seen in the analysis of *What Remains of Edith Finch,* even without combat or branching paths, walking simulators can be complex, engaging, and give the player a sense of being able to interact with the world in meaningful ways. As Paweł Grabarczyk writes, "[w]hat is surprising, giving the player the ability to change the camera perspective and focus creates a sufficing illusion of interaction and discovery" (2016, 250). *TMC,* however, prevents this illusion by explicitly drawing attention to the absence of mechanics that should have been there. The player, after all, is pointedly given a sword only to have it taken away immediately. Grabarczyk furthermore points out that linear sequences are not restricted to art games and walking simulators but are used quite often in the prologues or tutorials of shooter games, where they "familiariz[e] the player with the environment and movement" (2016, 250). That *TMC* uses a linear narrative sequence to introduce the player to its world, main characters, and central conflict is thus anything but unconventional; only the additional use of gameworld-centred metareference makes it so. What this shows rather well is how metareference may emerge from a relationship of mutual reinforcement between elements situated on two different layers of communication. The prologue's ludic elements only become able to elicit the player's medium awareness when they are foregrounded and made strange by means of the narrative events and the dialogue between the fictional designers. Then, however, they add nuance and an experiential quality to the game's metareferential comment on the importance of integrating the narrative and ludic modes.

5.2 Metareferential Mechanics: Pro Mode

The central metareferential themes introduced in the prologue—the tension between the game as a world and the game as a ludic system, the critique of the videogame industry, and the engagement with questions related to game design—carry over into "Pro Mode," the game's second part. There, they are complicated and expanded through the introduction of additional discursive positions and the use of a wider variety of metareferential elements. In contradistinction to the prologue, "Pro Mode" plays like an open-world puzzle game in which the player is granted more freedom of movement and is confronted with ludic challenges. This partial shift from linear narrative to emergent gameplay is accompanied by an increasing reliance on system-centred forms of metareference. While the game continues to use gameworld-centred forms, these no longer take centre stage but rather serve to explicate, contextualize, and add thematic depth to the game's prominent metareferential mechanics and interfaces. Fittingly, the second part begins by

eroding the boundary between the gameworld and the underlying system. Shortly after the player character's inevitable demise, the playtesting session concludes, and the player returns to the main menu. There, they are contacted by a sentient AI, calling himself "The Old Pro." Pro was originally created by the fictional developers as a player character for an earlier version of "The Magic Circle." When that version was discarded, Pro was not fully deleted and became a kind of ghost, haunting the game. Apparently, his liminal position also gives him metaleptic abilities that allow him to "possess" parts of the gameworld or the extradiegetic interfaces to speak to the player. During their first meeting, Pro hijacks the title screen and gives the player a new goal that ties in with the change in the player's role from a passive recipient to a co-creator that can act upon and make meaningful changes in the gameworld: "This world is a joke—and I need you to finish it." Like in the earlier conversation with Ish, "you" can be interpreted with equal plausibility to refer to the fictional playtester or to the actual player before the screen.

Subsequently, an option titled "Pro Mode" appears in the main menu, set off from the other options through its glitch aesthetics: The letters flicker in multiple colours and appear slightly bolder than the rest of the items on the game menu. Selecting "Pro Mode" at first does not seem to have any effect except for the menu options to disappear, so that the screen only shows the logo. As soon as the player moves the mouse, however, the seemingly static, 2D image is revealed to be a perceptual illusion. Instead of on a conventional title screen, they find themselves in game space, and once more in control of the camera. Moving around causes the letters and icons around them to shift and disintegrate into geometric shapes, suspended in 3D space. Converting the game's title screen into navigable space without (much) warning, the game dispenses with the conventional distinction between the spaces of the extradiegetic, usability-oriented interface and the diegetic gameworld. On the one hand, this defamiliarizes the interface, specifically the conventional videogame title screen and main menu.[9] On the other hand, the erosion of the logical distinction between extra- and intradiegetic spaces also affects the gameworld as it, too, is revealed to be an illusion, built from the same stuff as the interface. The title screen's shifting and ambiguous ontology challenges the player to look beyond the surface level of the game's audio-visual presentation and signals the constructedness of the distinction between the gameworld and the game system.

The deconstruction of the extradiegetic interface is followed immediately by the player's symbolic rebirth as a co-creative agent in the open-world spaces of "The Magic Circle." Once the player has moved closer to the dark circle that used to be part of the logo, the game appears to initiate a restart. In a cutscene, it presents a sequence of moving images that combine visual languages and symbolisms pertaining to computational reboot, time travel, and birth, accompanied by the voice-over of Pro who reflects on the player's role in the game. The camera moves past what appear to be lines of computer code set off against a dark background and passes through rings made of brightly coloured splotches. Blurry afterimages suggest rapid movement. Next, a digital clock displaying a date and time appears and begins to fast-forward with increasing speed. The camera approaches a vector

grid that displays red, green, and blue arrows positioned on the x, y and z-axes until its movement comes to a halt and a crack opens through which the player can catch a glimpse of the outside world. Day and night cycles rapidly alternate as the crack widens, until, finally, the player emerges into an open-world environment from the large trunk of a tree (Figure 5.3). A hand, visible in the bottom-right corner of the screen, signals that they are once more embodied in an avatar figure.

Several meanings can be extracted from this highly metaphorical cutscene. Visual elements such as the references to computer code and the three-axis grid draw attention to the tools and "raw materials"—perspectival techniques, colour values, mathematics, computation, and a level editor tool—that create the "pictorial illusion of space" (Sharp 2014, 107), thus serving as a gameworld-centred metareferential comment on worldbuilding in videogames while also exposing the constructedness of the gameworld's surface layer of representation. The digital clock and the suggestion of rapid movement between dimensions follow the script of conventional time-travel sequences used in visual media such as film and TV to indicate the passing of in-game time. At the same time, because the game uses the player's actual-world time—or, more precisely, the diegetic clock's starting point corresponds to the date and time set on the player's computer—there is also a metaleptic quality to the sequence in that it aligns the player's here and now with that of the first-order gameworld. Not least, this supports the impression that the player is invited to enter the game as themselves rather than in the shoes of a fictional playtester.[10] The player's formerly passive role changes significantly in the game's second act as well. Now that they have "hacked" their way into the fictional game, they are no longer confined to the linear path created by Ish but can move

Figure 5.3 Looking back at the crack in the tree trunk through which the player emerged into the gameworld.

comparatively freely through "The Magic Circle." The player character's death thus does not so much signify failure but merely a change in roles; it even sets the player free to explore the game on their own terms.

Once the player has re-entered the second-order gameworld, *TMC*'s presentation of the quarrel among the fictional game designers of "The Magic Circle" in the first-order gameworld resumes, and so do the satirical game-transcending comments on videogame production. Some time after the events of the prologue, the game design team works hard to finish a gameplay demo to present at the (fictional) videogame convention E4.[11] However, everyone seems to have an agenda of their own. For Ish, the presentation is a kind of last chance that will decide the future of his game. Maze hopes for the project to fail but is prevented from active sabotage by the terms stated in her employment contract. The team is completed by Coda, a new intern and ardent fan of Ish's first game. Coda is a "Let's Play" creator, active in online fora, and has considerable clout within the fan community. Her aim is to turn "The Magic Circle" into a game that, in her own words, "will reach everyone." Once she realizes that the project led by Ish is bound to fail, she begins to work against him, hoping that after his downfall the game will become open source, for the fans to finish.

Analogously to Ish and Maze, whom I have interpreted to stand for two contrasting perspectives on game design, Coda[12] can be read to represent the collective expectations of the game's arguably most demanding and powerful audience: the passionate fans of the prequel. In *Textual Poachers*, Henry Jenkins has famously argued that fans hold a special status among recipients because they are "active participants in the construction and circulation of textual meanings" (1992, 24). Fans are an "active and vocal community of consumers" (Jenkins 1992, 28) who may put pressure on the producers to influence their decisions, appropriate the text in creative ways, or subscribe to meanings that do not necessarily overlap with the ideas of the author collective or, in this case, the implied game designer. In "Pro Mode," *TMC*'s central conflict therefore no longer lies only with the two competing visions brought to the game by different members of the development team but also between the game as intended by the designers and its appropriation by the fans. The relationship between designers and players is recast as "an ongoing struggle for possession of the text and for control over its meanings" (Jenkins 1992, 24), which recalls early discourses on the increasing clout and visibility of fan cultures in the digital age. For the layers of communication addressed by the game's metareferential comment, this means that the overall game-transcending comment now also takes into account the dynamics of videogame reception and the gamer culture(s) within which these dynamics are being negotiated.

The actual player, finally, secretly takes control of the game from within, seeking to outplay the game designers with the help of the Old Pro and sabotage the presentation at E4. Although their agenda is thus similar to Coda's, the game does not associate the actual player with the group of fans as represented by Coda, let alone permitting players to side with them. What is more, unlike the gameworld-centred presentation of the conflict between Ish, Maze, and Coda, the player's own struggle

for control unfolds mostly within the layer of the game system. Arguably, it is the game's use of system-centred metareference and its formulation of system-centred metareferential comments, even more than the farcical plot, that characterize the main strategies of the second act. In "Pro Mode," players are afforded new competencies that approximate that of a game designer and that allow them to manipulate the game's rules and free themselves from the confines of Ish's narrow vision. "Pro Mode" thus reinstates the conventional role of the "almighty player" that Ish had scorned in the prologue and reaffirms the player's conventional expectations of agency and empowerment within the game. Taking control requires the player's conscious engagement with the game system: In order to win the game, dethrone Ish, and become the new lead designer, the player must learn to perceive the gameworld as a computer-generated simulation and recognize the fact that its behaviour is based on the dynamic execution of predetermined rules (Herte 2020, 21; with reference to Bogost's [2010] concept of procedurality). Two game mechanics stand out as *TMC*'s main means of producing system-centred metareference, namely: "ghosting" and "editing." In the following, I discuss each of them in some details.

On the face of it, "ghosting" is a very simple mechanic that requires a mere mouse click. Nevertheless, it greatly increases the thematic range and structural complexity of metareference in *TMC*. When the player character dies in the prologue, the player gains the ability to see the "ghosts" of gameworlds past: traces of previous versions of "The Magic Circle" that were discarded by the designers but never completely removed from the game's code. These appear as blurry, see-through shapes at specific positions in the second-order gameworld. The player thus acquires a metaleptic double-vision, presented in the form of a perceptual overlay, that enables them to see across past and present versions of the game (Figure 5.4). "Ghosting" furthermore involves several ontological metalepses during which objects and characters move between the world of "The Magic Circle" in its current implementation and the ghostly realm of cut content. "Ghosting" soon becomes central to playing the game and acts as a system-centred form of metareference that feeds into several dimensions of the game's metareferential comment. The player can, for example, restore objects, characters, and even entire areas by filling them with a resource called "life." This makes the asset in question solidify in the gameworld: It attains colours and textures, and collision is activated so that the player can walk onto or otherwise interact with it. The same principle also works the other way around, i.e., if the player character is killed, the player enters the liminal space of cut content and can now interact with the ghosted objects and areas but not with those that are "un-ghosted." This leads to a rather interesting subversion of established videogame conventions since the death of the player character is now by no means associated with tragedy or ludic failure but rather becomes a means of making progress in the game. After all, a "dead" player character can traverse the "ghosted" parts of the game and even retrieve assets from it. Death and resurrection neither receive much of a diegetic legitimization nor are they naturalized to go unnoticed. Instead, the game foregrounds their meaning from the

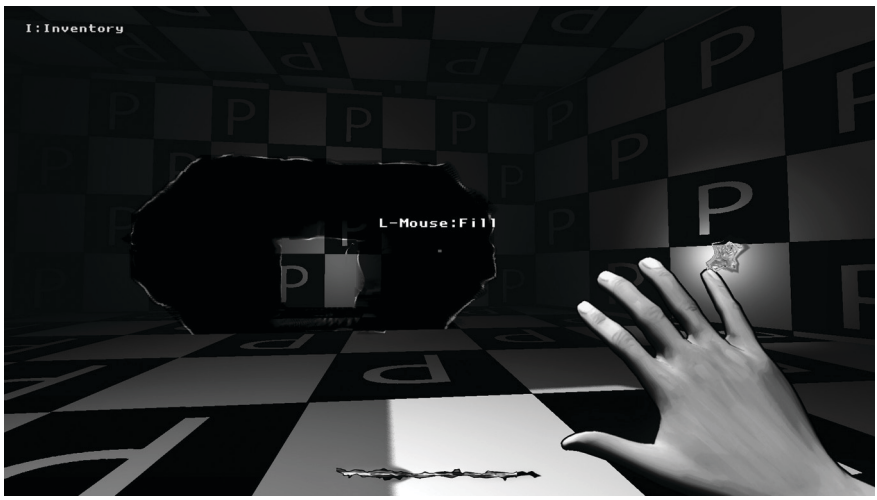

Figure 5.4 Cut content and overlay representing the "ghost" of a door that can be "filled" by the player.

perspective of the game system as a reversible change of states that is of little consequence to the narrative.

By ghosting and especially by "un-ghosting" the deleted content, the player gradually uncovers an entire alternate version of "The Magic Circle" that had been discarded early in the development process but remains, literally as well as figuratively, below the surface of the fantasy version. As it turns out, "The Magic Circle" was originally meant to become a sci-fi game about a space station with the telling name "LIMINA," whose traces still exist in a liminal space, haunting the fantasy realm that now occupies the geographical as well as representational surface. As the player advances through the second act, they gradually restore individual elements and areas of the sci-fi version and link them to the spaces of the current fantasy version. Thereby, a complex world architecture emerges that connects thematically mismatched areas and allows for absurd combinations of generic tropes. To name but a few examples, an airlock into open space can be found underneath a desert plain and at one point, the player must enlist the help of a fantastical mushroom wizard to defeat a robot armed with a gatling gun. That the resulting gameworld is also impossible in the sense of creating "unmappable spaces" (Fernández-Vara 2007, 75) that do not cohere with actual-world physics further underlines its artifice and maintains a sense of strangeness in the player (Edrei 2018). Tellingly, the game's minimap looks chaotic and can be difficult to decipher due to its palimpsestuous aesthetics, trying to simultaneously depict two different times or stages in the design process of "The Magic Circle."

In addition to turning the gameworld into a paradoxical maze, the contrast between the two versions of "The Magic Circle" points to the conventions and

audiovisual styles associated with different videogame genres (on genre, see, e.g., Apperley 2006; Arsenault 2009; Rauscher 2012). The game's oddball collection of tropes and clichés associated with the sci-fi shooter and the open-world fantasy RPG, respectively, shows how genre conventions impact the aesthetics of the gameworld, from its colour schemes, textures, and soundtrack via the kinds of existents that can be found in the world, to the level design. The spaces of the fantasy game seem wide open; those of the sci-fi version are much more confined and labyrinthine, with the exception of windows and airlocks that provide a spectacular view of an endless expanse of space. In the fantasy version, creatures and NPCs can use magic or breathe fire, whereas in the sci-fi game, the player comes across futuristic technologies such as teleport and runs the risk of being infected by parasitical alien lifeforms.

Most of the aforementioned genre markers and conventions are certainly generalizable to most representatives of sci-fi and fantasy, respectively, but *TMC*'s use of tropes also entails intertextual references to very specific, historically situated styles as well as to individual videogame titles. The geometric shapes, linear corridors, and pixelated surfaces of the sci-fi version, in particular, are reminiscent of 3D shooter games of the 1990s and cite influential "classics" such as *Half-Life* (1998) and especially the *System Shock* series (1994; 1999).[13] The ghosts of games past that appear in the hypodiegetic gameworld function as a form of homage to those classic games that almost certainly made a lasting impression on *TMC*'s designers and players. The gameworld's palimpsestuous architecture and its metareferential mechanics are therefore expressions of the close-knit intertextual relations between videogames, practically all of which are (more or less obviously) built upon the ideas and technologies of their predecessors.

In conjunction with gameworld-centred forms of metareference such as the contrast between the different audiovisual aesthetics, ghosting acquires multiple meanings that speak to all possible variations of metareferential content. As a gameworld-centred comment, ghosting explores the gameworld as an impossible, multilayered space and exposes its fictionality and artifice (Edrei 2018). As a system-centred comment, it offers a glimpse into the ludic and computational architecture underneath the gameworld and allows the player to cut and restore parts of the game's content to see how this impacts connectivity. The latter also feeds the game-transcending comment on videogame design since editing the gameworld is a typical task during game creation. Finally, ghosting addresses a second facet of game-transcending content in that it acknowledges influences between videogames and draws attention to the intertextual connections between them.

With a view to the industry-critical comments encoded in the *TMC*'s plot, we may in fact take this interpretation further. For the player, the intertextual references and the retro appeal of the sci-fi game offer a form of symbolic engagement with videogame history and harken back to a supposedly "earlier and better time" of more "authentic ways of being and making" (Juul 2019, 10–12). Faced with a moment of crisis in videogame production, the game turns its back on the business models and styles of mainstream videogames and instead embraces a kind of restorative nostalgia (Boym 2001; Juul 2019, 11).[14] This neatly connects to *TMC*'s

own beginnings as a critical response to its developers' increasing disillusionment with AAA videogame design. In an interview with *Vice*, Jordan Thomas, one of the designers at Question, narrates his previous experience working on *BioShock 2* as follows: "[A]ll I can see, in every single frame, is a series of decisions and compromises we made" (interviewed in Smith 2016, n.pag.). The picture thus painted is strikingly similar to the visual aesthetics of *TMC* and the logics of the ghosting mechanic. In the second-order gameworld of "The Magic Circle," the trail of unrealized ideas, cut content, and compromises is literally left in the game in the form of ghosts and records that haunt the gameworld and challenge Ish's narrative of the game's successful completion.

All in all, the ghosting mechanic becomes a kind of gothic element alluding to the ruptures and small tragedies that haunt a finished game and remain visible to those who know where to look, while also causing a constant metaleptic slippage between ontologically distinct levels. In the latter capacity, "ghosting" involves multiple boundary crossings: between past and present, life and death, the body of an avatar and a free-floating camera. The game thus also draws attention to the player's own liminal position within the game and asks them to maintain a split identity between being a participant in the events taking place on screen, and their self-as-player, situated in a reality twice removed from the second-order gameworld.

Pro Mode's other major form of system-centred metareference is the "Edit" mechanic that allows the player to manipulate some of the rules that govern the behaviour of some of the existents in the second-order gameworld. Editing becomes available if the player either "ghosts" a creature or traps it in a pool of "life." The latter creates a circular hole in the fabric of the gameworld and suspends said creature in the air above it. As per the Old Pro's instructions: "Trap it with the Circle, re-write the rules it lives by," the player can then manipulate the rules that govern the trapped creature's behaviour by changing certain keywords. Among other things, this allows them to take away its movement, attack, and special abilities, to recombine them in unexpected ways, or to change the creature's alliance so as to turn foes into friends and lifeless rocks into fire-breathing monstrosities. Editing follows specific and fairly restrictive rules, however. The list of creatures and abilities the player can select is small, though it expands as the player encounters them in the gameworld, and some abilities can only be used once so that they must be stripped from a creature before they can be inserted in another.

In the example, I have trapped a mushroom in a pool of "life" (Figure 5.5). Visual glitches in and around the trap serve as indicators of the metaleptic transgressions taking place as the mushroom is suspended in a liminal time/space. Selecting "E" for "Edit" then draws up the menu interface (Figure 5.6). Within it, the player can change certain flags that determine the creature's behaviour by exchanging the words highlighted in green for alternative options that can be chosen from lists of words describing movements, attacks, creatures, and so forth. It is, for instance, possible to change the mushroom's movement from "Nothing" to "Flight," give it an attack ("I attack with Melee"), and make it immune to fire damage ("Fireproof"),

Figure 5.5 Trapping a mushroom.

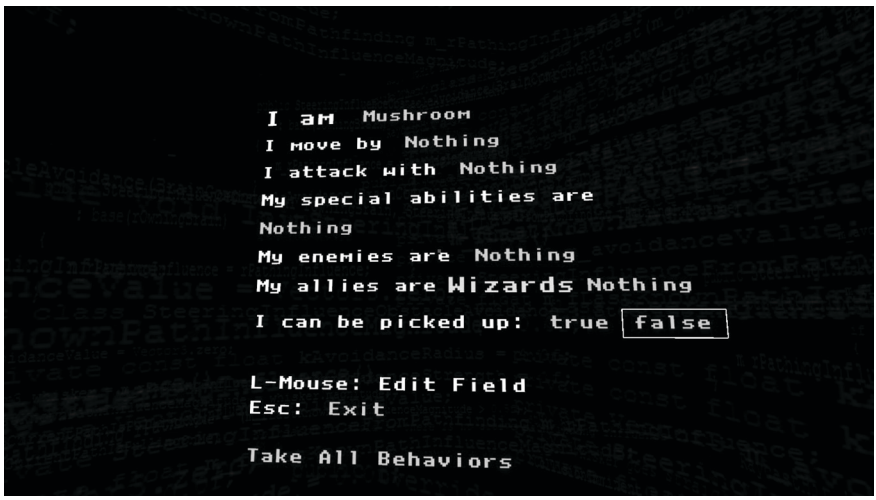

Figure 5.6 The mushroom's editing menu.

and set "THE HERO" as its ally. This turns the mushroom into a flying, tooth-armed, fireproof monster eager to defend the player character.

Like ghosting, editing opens many creative options for solving the game's puzzles and ensuring the player character's survival. Most of the challenges presented in "Pro Mode" can be overcome in different ways and by means of

different combinations of creatures and edits. The choices and different outcomes instil a sense of agency in the player, who can now act upon the gameworld in more meaningful ways than in the prologue.[15] As a complex form of system-centred metareference, editing encourages the player to "play with, rather than by, the rules" (Ensslin 2014)—to shape them according to their needs or simply for their amusement. *TMC* presents videogames as procedural systems and draws attention to the rules that govern the behaviour of the gameworld's existents. The player's interaction with the game is not framed predominantly narratively but presented as an intervention in the game system, and the effects of these interventions come into view not only as events in the gameworld but as outcomes, contingent on a predefined set of rules that are dynamically executed by a computer (Aarseth 2004, 47; Bogost 2010, 3–11; Murray 1997, 71–74). Likewise, the game's existents are not primarily depicted as fictional beings, but as agents in a simulation system whose behaviour is described by algorithms, scripts, and flags. All the above contributes to a system-centred metareferential comment that shifts the player's attention from the gameworld to the game system. Equipped with competencies that are normally reserved to the game designers, players can experiment with the way the game system interlinks with the surface level of representation. They can bend the rules and then watch the consequences play out in the gameworld. Where videogames normally strive to hide or make the player "unsee" the remaining traces of their technological infrastructure, *TMC*'s editing interface quite literally spells them out to the player. Against prevalent maxims in videogame design (i.e., that the game system should remain "invisible"; see Chapter 1), *TMC* thus reveals the mutual interdependence between the surface level of representation and the rule-based processes happening in the "black box" of the game system.

Yet, it is important to note that the player's empowered position vis-à-vis the game system is deceptive. Within the logics of the story told in the first-order gameworld, editing becomes a rather successful means of breaking free from the restrictive control of the fictional game designers and from the imposed linearity of Ish's narrative. When looking at *TMC* as a whole, however, the player's seemingly subversive activities are very much in line with the rules and the hypothetical intentions of the actual game and its designers, i.e., even when using mechanics that are marked as subversive within the game's diegesis, players in fact follow *TMC*'s default rules and affordances. Which objects and areas can be ghosted, and when, is predetermined and the editing options are subject to narrow constraints. Only very few existents can be edited at all, there are restrictive rules as to which aspects of a creature can be changed, and, as mentioned above, editing resources are limited. This may create some measure of friction if the player notices that the game's narrative of player empowerment and transgression clashes with their rather limited agency.[16]

These dynamics of the player's (dis)empowerment can be related to Jan Distelmeyer's concept of an "aesthetics of regulation" (2018) that captures the reciprocal power relations into which the interface enmeshes its users. Despite the interface's promise of control over the machine, Distelmeyer argues, power within interfaced human computer relations does not lie solely with the user. "This

aesthetics of regulation is marked by a particular power structure—a logic of regulation: Actively regulating users are being regulated in a system, in which they have to play under the default rules with the provided tools and prerequisites" (Distelmeyer 2018, 29). Interacting with a computer (game) means to comply with certain affordances and constraints that have been implemented by the programmer and that the computer enforces without fail (Distelmeyer 2017, 86–89). Such is the case in *TMC* in which the player must play by the rules in order to increase their agency within the gameworld. Yet, Distelmeyer also emphasizes the possibilities of disobedience and transgressive play that are part and parcel of the specific dialectic of the human-interface relation: "Precisely because every computer operation relies on programs, all programmed functions, regulations, barriers, and presets are principally alterable and expandable by users or hackers" (Distelmeyer 2018, 29) who assume control by exploiting the same rules and logics that lend the system its regulating power (Distelmeyer 2017, 89). *TMC*'s player, however, is no hacker and their overthrow of the game system remains a fiction, albeit a particularly suggestive one. It is then mostly through their thematic coding as transgressive play (rather than any actual transgressions) that *TMC*'s metareferential mechanics can invoke the possibility of altering the game's programming and changing its rule system in creative ways.

We can thus summarize that, as *TMC*'s core metareferential mechanics, ghosting and editing fulfil didactic functions in that they explicate the role of the game system, afford interactions that resemble actual videogame design, and allow the player to explore how changes of the simulation rules impact the gameworld. This adds to the game's overall interest in game design as well as to its reflection on the "nature" of videogames as both fictional worlds and ludic systems. Ghosting and editing furthermore feed into the game's central conflict between authorial control and player agency; a conflict that has now been relocated from the gameworld and the narrative representation of a quarrel between the fictional characters to the gameplay. As the player gradually usurps the fictional designers' control over the gameworld, they become a co-creator of the game and a contestant in a power struggle that is being enacted, live and in real time, within the layer of the game system.

5.3 Taking Control: The Finale

The struggle for control over "The Magic Circle" comes to a head during the narrative and ludic climax in the first-order gameworld: the presentation of a game demo at the fictional videogame convention E4. Since Maze is prevented from antagonizing Ish by her contract, the showdown takes place between the game as intended by Ish, the demands of its mainstream audience represented by Coda, and the co-creative agency of the actual player. In the remaining hours prior to the event, Coda mobilizes the fan community to sabotage the presentation and discredit Ish. Meanwhile, the player and the Old Pro hack into Coda's computer and take control of the application that runs the demo. The entire screen is now surrounded by a thick, grey frame, indicating that the player is positioned inside

Coda's computer. The computer, in turn, runs a level editor in which the game demo is built, and which references software environments and tools that are presumably similar to the actual tools that were used to create *TMC*. The level editor is at first displayed in full screen and the player can switch between a bird's eye view of the entire level and zooming in to look at details. They are also given the opportunity to make some final changes to the game demo using the "edit" mechanic. While doing so, the player can hear how Ish takes the E4 stage and introduces the game to the audience. This suggests that there is time pressure to finish editing, though in reality, the game only moves on once the player has made enough edits to wreak havoc on Ish's demo, which also means that there is no fail state. Once the edits are complete, a series of cutscenes begins during which the player watches the manipulated demo. Though the cutscenes differ on the microlevel depending on which edits the player chose,[17] the outcome is always the same. The demo fails spectacularly, Ish resigns, and the player becomes the new lead designer.

What is particularly interesting about the cutscenes is how the representation and organization of the different interface elements on screen contribute to the formation of a metareferential commentary on the aesthetics and politics of the interface. The finale is presented to the player though the windowed, hypermediated interface of a computerized control hub, leading to a striking proliferation of screens, windows, buttons, icons, and filters that draw attention to the mediality of the computer. The fullscreen view on Coda's computer is now superseded by a multi-windowed presentation through which the player can observe the events from a total of three perspectives, displayed simultaneously on screen (Figure 5.7). One of the windows presents the first-person view of the player character that Maze

Figure 5.7 The multi-windowed display on Coda's computer in *TMC*.

controls in the demo (left), another shows the level editor (bottom right) and the third shows the events in the first-order gameworld (top right), alternately showing the E4 stage and the backstage area, in an aesthetically interesting way: Coda's computer appears to be connected to motion cameras through which the player can see the main characters as constellations of moving dots. Like the floating eyeball shapes, this defamiliarizes their bodies and marks the player's view as filtered through several layers of mediation. The arrangement of the three perspectives in three separate windows next to one another corresponds to a "windowed" aesthetic of hypermediacy (Bolter/Grusin 1999, 34). That the diegetic and hypodiegetic gameworlds are now presented next to one another also levels the hierarchy between them and draws the player's attention to the constructedness of not only the events in the game demo but also those unfolding on the E4 stage. The player experiences both as equally mediated through the hardware and software interfaces of the computer, where visible windows, frames, buttons, and overlays "get in the way of transparency" (Bolter/Grusin 1999, 33). In short, the game's metareferential interfaces constantly remind the player of the mediality of the presentation, which has repercussions on all levels of the gameworld.

Returning to *TMC*'s intertwinement of gameworld-centred and system-centred forms of metareference, it is worth noting that *TMC*'s finale also entails a series of rhetorical metalepses that go beyond the diegesis to involve the actual player. While the lines between the figure of the fictional playtester and the actual player were blurry from the start, the game now clearly addresses the player before the screen. This shift serves to heighten the emotional stakes and increase the self-reflexive potential of the climactic standoff between Ish and the player. It is first indicated by subtle metaleptic elements such as the "Employee ID" displayed in the upper-left corner of Coda's computer, which changes to the actual player's Steam name (which I have blurred in Figure 5.7), and subsequently made explicit by way of a textbook example of a fourth wall break. In the aftermath of the demo's failure, *TMC*'s focus returns to the events in the first-order gameworld where Ish stands humiliated before the crowd. The game now shows the view of the E4 stage, still through the defamiliarizing filter of the motion tracking camera, in full screen on Coda's computer. Unable to intervene beyond some restricted movement of the camera, the player bears witness as Coda forces Ish to sign the game over to the fans. Despite the distancing effect of the filter, the scene turns surprisingly intimate as the enraged Ish suddenly turns to the player, speaking and seeing across the fourth wall separating him from the actual world. Ish even references the device itself, signalling the game's "meta-meta awareness"[18]: "It's just you…me…and the invisible wall." He then launches into another lengthy monologue that arguably constitutes the game's strongest moment of criticism directed at the actual player:

> You… yes, you–whoever you are, behind that screen… I know what you are, now. You are Control itself. You are that which plays us all. I can feel you there, hovering over the button to silence me forever. And why? Because we have convinced you of your god-given right to do it!

The player's agency and their irreverent treatment of Ish's work, which has hitherto been a source of comedy, is now the subject of sharp criticism as the player is made to face the darker sides of their agency in the gameworld: The sense of empowerment that comes with being able to tweak the game's rules in unexpected ways is offset by the fact that their seizure of power comes at the expense of another's creative vision. Ish's outburst even prophesies a larger social impact of the instant gratification videogames offer. If he is to be believed, the player's conventional god-like position in videogames and the regulative power granted to them by the omnipresent interface may in the long run affect the self-perception of an entire generation of players, instilling in them a sense of narcissistic entitlement and conditioning them to expect the environment to respond to their every whim.[19]

The fourth wall break, realized by means of two gameworld-centred metareferential elements—the direct address and Ish's gaze—is used here to close the gap between the player and Ish. Interestingly, this proximity is played off against the continued use of metareferential interfaces that maintain a certain distance, among them the defamiliarizing effect of the motion capturing camera, and the conspicuous presence of interface elements such as a button labelled "Esc" in the top left corner. While the option to long-press escape and skip the cutscenes is available throughout the entire game, it is now foregrounded by means of the caption "Hold to Kill Feed (Skip)" and even more so because Ish explicitly refers to it ("I can feel you here, hovering over the button to silence me"). Pressing escape is tempting because this would put an end to Ish's unpleasant tirade and allow the player to free themselves from their passive role during the cutscene. However, it would also prove Ish right. Skipping or not skipping the final cutscene becomes a meaningful choice with which the player can take position in the game's central conflict: Are they curious to learn about *TMC*'s narrative or do they want Ish to "shut up and let them play"?

Regardless of whether the player interrupts Ish's monologue by long-pressing escape or waits until he runs out of steam, the last person in the audience has left, and the cutscene ends automatically, they are eventually returned to the second-order gameworld. There, they witness the game being handed over to a group of fans. Before taking his leave, Ish informs them, not without *schadenfreude,* that the company's electricity bill is due and that the fans are now literally in charge of keeping the lights on. Coda's utopian ideal of collaborative and unrestricted creativity is about to face off against the economic pressures of the game industry. Even though Coda immediately follows up with a pep talk that appeals to community values, it takes mere seconds for the gameworld to fall into chaos as an ever-increasing number of fans compete to finish the game first, destroying one another's creations in the process. Ish's reservations against players seem confirmed: In the absence of a common enemy, the "imagined community" of fans falls apart, paralleled on the visual level by the rapid fragmentation of the gameworld. Their unity and solidarity are threatened precisely by those traits—competitiveness, entitlement, the drive to dominate and destroy—that, at least in Ish's view, are fostered by videogames.[20] What Ish fails to fully recognize, however, are the structural reasons for the jealously competitive behaviour of virtually every single character

in the game. The trouble with "The Magic Circle," and the reason for its perpetual unfinishedness, lies less with the incompetence of individual designers or unrealistic audience expectations, but emerges as a larger, structural problem of the game industry, and the socio-economic makeup of contemporary society at large.

5.4 Making Videogames: Level Creator and Post-Credits

The game does not end on such a fatalist note, however, and the destruction of the hypodiegetic gameworld is not the end of *TMC*. As the framerate begins to drop, The Old Pro shouts for the player to leave the game and to reconvene "where we first met," i.e., on the title menu. There, the player is given a new quest: to finish "The Magic Circle" and design a game that will appeal to the target audience. *TMC* then transitions into its fourth act, which differs significantly from previous parts of the game in terms of setting and game mechanics: With Ish's version of "The Magic Circle" destroyed, the player can no longer navigate its gameworld or edit its rules. Instead, they play a kind of game design simulation during which they must build a videogame level using a simple level editor tool. Metareference is formed mainly within the layer of the game system, through game mechanics and interfaces that mimic game design. The focus of the metareferential comment is now very clearly on videogame production as well, and its functions are mostly didactic since *TMC* appears to teach the player the basics of building and editing a level using the appropriate software tools. Back on the title screen (which is no longer a 3D space but static and conventional), The Old Pro challenges the player to try their hand as a game designer, whereupon a "Creator Tools" option appears. Selecting it loads a level that assimilates the look and functions of a videogame level editor software.

As a first step, the player must put together the spaces of their gameworld from readymade areas that can be placed within a 3D grid. The fictional editor provides a limited choice between "dungeon-themed" areas, among them caverns, mines, and stone-carved tunnels, and "sci-fi-themed" areas that resemble the corridors of a spaceship. The ways of combining them are equally limited: The areas can essentially only be assembled into a linear path because the game auto-closes all other placement options as soon as the player joins two areas, making the creation of branching paths impossible (though it is still perfectly possible to randomly join sci-fi and fantasy themed tiles). Once a total of ten areas has been placed, the first part of the level design minigame is complete and tools for placing and editing creatures and other assets become available.

The most conspicuous aspect about the level creator is its interface, which is metareferential in terms of both its visual aesthetics and the functionality it provides. The window through which the player views the level is again surrounded by a thick, grey frame (Figure 5.8). At the top, a menu bar displays options related to saving or loading as well as a button that closes the level editor software, suggesting that the player is once more located within a fictional computer. A vertical menu bar on the left-hand side lists the options for placing different assets and thus explicitly refers to specific components of the gameworld-to-be. The

Figure 5.8 The interface of the fictional level editor tool.

player can, for example, select creatures, treasures, healing items, and even story snippets and musical scores from a limited list of prefabricated assets whose visual design corresponds to the conventions of the fantasy or sci-fi genres. Creatures can additionally be assigned a patrol route, and they can be edited in the same way as in "Pro Mode," i.e., by approaching them within the gameworld, calling up the edit interface, and changing certain flags. The player can navigate the spaces of the level as if from the first-person perspective of a player character, or they can activate "Fly (Through Walls)" to turn off collision and move the camera freely in any direction.

Even though the game-creation minigame is rudimentary and limited in terms of the creative options available to the player, it nevertheless conveys a sense of how actual level design might work and encourages the player to evaluate the function of specific assets and their behaviour and position in the game. The metareferential comment still primarily focusses on game design, but it also encourages holistic reflections on how different aspects of the game—the audiovisual aesthetics of the gameworld, its navigable space, the ludic challenges it provides—go together and shape the player's experience. Choosing where to place the trigger points for music, for instance, draws attention to the dynamic qualities of extradiegetic videogame audio and encourages the player to consider questions such as how the music should relate to the game's genre, when it should set in or change, and whether these changes should react to the player's interaction with the game (see Collins 2008, chap. 7 on the functions of game audio in relation to genre and gameplay).

Another interesting gameworld-centred metareferential comment emerges from the option "(6) Story." It allows players to place story triggers, visually represented in the gameworld as a kind of wooden signpost (or digital terminal in the sci-fi

version), and to write the story beats. What exactly players type into the keyboard, however, does not have any effect on either the presentation of the gameworld or the fictional game's final evaluation other than that the text written by the player appears in the subtitles. This creates something of a disconnect between the narrative and ludic modes, privileging the latter and thus arguably goes against the game's overall message of promoting synthesis between the two. Alternatively, it is possible to interpret the lack of comments on the narrative elements more charitably and attribute them to the limitations of *TMC*'s level editor minigame, whose AI can evaluate the placement of assets but not interpret a story. Another aspect that creates a certain dissonance with the narrative is the continued use of the "life" resource. Each placement and edit the player performs drains a certain amount of "life," as indicated by the bar on the right-hand side of the screen (Figure 5.8), which limits the number of features the player can implement. While this can be interpreted as stand-in for the limited economic resources available to (most) game designers, it also marks the level editor as a minigame that uses the same logics and mechanics as the rest of *TMC,* and thus lays bare the artifice of the level editor tool and deconstructs the secondary illusion of the player's new role as a game designer.

After the creation phase, a quality assurance phase follows during which The Old Pro evaluates the game created by the player. Accordingly, the focus of the *TMC*'s game-transcending metareferential comments shifts from videogame production to reception. The player now views another cutscene whose form of presentation is similar to Ish's E4 demo in that several perspectives appear simultaneously on screen. The main window shows the first-person perspective of a player character as Pro plays through the level. While doing so, he comments on his experience. For instance, upon finding a health potion after a somewhat threatening encounter with a monster, he may offer praise: "Perfect placement. Keeping me hungry, but alive." In addition, indicators of his mood appear as extradiegetic text in game space, for instance: "Cool Abilities (Exciting)" but also "Combat Rush (Getting Old)" if the player uses strategies or assets repetitively. Pro's evaluation is overtly didactic and offers an explicit run-on commentary on core ideas and principles of good game design. He also seems to share Ish's prejudgement of the average player as impatient and entitled. Trying to imitate the average player, Pro gets bored easily. His rating drops if the gameworld does not offer new features, events, or other sources of excitement even for a few seconds, if elements repeat too often, or the difficulty is too high or too low. He also tends to take wrong turns and backtrack, which causes him to dislike the game and accuse its creator (i.e., the actual player) of bad design.[21] In these instances, the player must return to the editing software and make changes in accordance with the feedback. Since making changes often leads to chain reactions, the player will likely need to repeat this process several times, which makes the minigame feel increasingly dragged out and irritating. Even this becomes readable as a game-transcending metareferential comment, though, because the player experiences an echo of the frustration that the designers (the fictional designer figures Ish, Maze, and Coda but arguably also the actual designers) must have felt when trying to satisfy player demands. Even though this particular part of the game is too short and arguably too simple for the

player to fully identify with the role of a game designer, it can thus elicit some measure of sympathy and a deeper understanding. Pro confirms the game's didactic intention in his parting words to the player, explaining that he encouraged them to "play god for a day" to increase their appreciation of innovative game design and to raise the chance that future game designers will dare to create videogames in which he "won't see the end coming."[22]

The fourth act ends on an uplifting note when the player's game is finally released and met with enthusiastic audience responses. The player's ultimate triumph does not come without a grain of salt, however, as the game has still not reached its end but presents a kind of epilogue in which the player faces the same stressors that affected the former team. Once the game has been deemed good enough and the player has given the order to ship it, the Creator Tools window closes, and the player finds themselves on a screen that mimics a WIMP desktop interface. This reduplication of the desktop interface *en abyme* is a version of a metareferential interface (system-centred form) that draws particular attention to the software environment of the platform while also establishing the workplace setting within the first-order gameworld. Immediately, a notification about an incoming call from Maze Evelyn appears, asking to work for the player. Before long, other members of the design team chip in via the team chat function, asking question and offering bits of advice that contradict one another. Their voices begin to overlap, as do the windows that display the callers' names, covering up one another and the better part of the player's desktop. As the new lead designer, the player must now face the same pressures as Ish, having to live up to expectations, meet deadlines, and satisfy contradictory demands. Ironically, through the crowded screen they can neither discern individual voices nor reach the icons of the fictional computer's WIMP interface so that it becomes literally impossible for them to actually work on the game. Glitches appear more and more frequently until the game crashes again and the credits roll.[23] The company's next project, it seems, is already bound to fail and the vicious circle remains unbroken.

What follows is the fifth and final act, which is more accurately described as the game's post-ending phase. The player is returned to the in-game desktop from whence they can return to the hypodiegetic gameworld of (Ish's version of) "The Magic Circle" or access some additional features. Out of the options available during the post-ending phase, the "Hotbutton," subtitled "Coda Streams Episode 1," stands out. It leads to a cutscene modelled after the conventions of "Let's Play" videos, in which Coda plays through the game designed by the player during the fourth act. The cutscene provides additional closure to the game's narrative and, by mimicking the form and conventions of Let's Plays and game reviews, also adds to the game-transcending metareferential comment on videogame reception and gamer culture. A second noteworthy detail of the in-game desktop is that it displays the username of the player's actual computer underneath one of its icons and thus cuts across the boundary between the game and the actual computer. Clicking on the icon, however, does not provide access to the data on the actual computer (i.e., there is no actual threshold between the fictional and actual operating system).

To conclude this section, and as a bridge to the discussion of game-transcending forms of metareference in the upcoming Chapter 6, let me offer a short excursion to *TMC*'s interesting use of paratexts, more specifically, the extension of its fictional world via dedicated webpages. On the landing page of the game's official website, a link entitled "Tell Me" leads to a regular website with "Facts about the actual game" ("The Magic Circle" n.d.). The link "Tease Me" leads to a "Joke site about [sic!] fictional game" ("The Magic Circle" n.d.). Selecting the latter directs the visitor to a webpage that is designed as if it was created by the fictional developers and hosted on a fictional crowdfunding platform called "Kickbackr." Posts signed by and written in the distinctive voices of characters such as Coda, Ish, or Maze function as forms of transmedial storytelling that continue to flesh out the story told in the gameworld. Among other things, it becomes clear that attempts at crowdfunding "The Magic Circle" failed repeatedly.

The fictional webpage furthermore links to real-world gaming websites or social media platforms such as *Twitter* (now *X*) on which the blurring between fictional characters and actual videogame promotion reaches surprising complexity.[24] For instance, one of the posts on the "TEASE ME" website alludes to a leak in the fictional company TMC Games. The post includes a link to an article on *Polygon,* titled "The Magic Circle Short Story" ("LIMINA," n.d.). A short preface provides context that the article is fictional and part of the (real) developers' propensity to "sta[y] in character" ("LIMINA," n.d.) while promoting the game. The rest of the page is a letter of complaint written by one of the (fictional) employees working on "The Magic Circle." The letter echoes the kind of criticism that is already evident in the game itself, describing "The Magic Circle" as a "power fantasy […] about as relevant as key parties and disco" ("LIMINA," n.d.), ridiculing Ish's shortcomings as lead designer, and accusing him of sugarcoating the game's development hell by way of "Stalin-esque revisionist history" ("LIMINA," n.d.). The letter concludes with an appeal to the player on behalf of "the families whose wives and husbands bled 10 years of emotional, physical and financial energy into that project" ("LIMINA," n.d.), which appears to be a direct reference to the EA spouse letter that blew the whistle on the working conditions at EA and triggered corresponding debates about crunch time and other problematic practices (EA Spouse 2004, n.pag.). Since these paratextual materials are neither materially connected to the game nor part of it in an immediate sense—indeed, they are unlikely to even be noticed by most players—I do not consider them to be game-transcending forms of metareference. Yet, they offer a formally and ontologically rather interesting expansion of the game's metareferential comments, showing how the play with the boundaries between fact and fiction can be extended to spaces beyond the game.

5.5 Conclusion

"'What is The Magic Circle?' It's an old idea. I draw a line around any given space—call it roundish. And inside it, we agree on new rules of behavior. For the fun of it. The result, we call a 'game.' Turns out, it's harder than it sounds." Uttered by Ish Gilder just before the game's climactic moment, these words neatly

summarize *TMC*'s concern with the nature of videogames and the difficulty of getting them right. Ironically, *TMC* goes to great lengths to prevent the player from entering "The Magic Circle" or adhering to its rules. The game's copious use of metareference as well as the frequent crossings of conventional and ontological boundaries suspend the player's attention somewhere above and in-between various layers, demanding that they perceive the game from a critical metaperspective and direct their attention towards the game's design. In yet another contrast to prevalent associations with the magic circle, *TMC* is by no means set off from the real world and, for that matter, neither is the fictional game "The Magic Circle." Both are inextricably bound up in the politics that surround them, which echoes a common criticism against the concept of the magic circle in game studies (e.g., Consalvo 2009; Wark 2007). Finally, *TMC* also refutes the understanding "of games as pre-existing artefacts that players enter into" (Stenros 2014, 154) and thus another key idea that is associated with the magic circle. Instead, videogames are portrayed as open-ended and perpetually unfinished artefacts in which multiple actors "vi[e] for control and meaning-making within the game world" (Consalvo 2009, 411). The magic circle, as depicted in *TMC*, is neither separate, nor bounded, nor finished, but a highly contested space. That this conceptualization of games and play is more appropriate to contemporary videogames is confirmed by Mia Consalvo, who writes that the worlds of videogames "must inevitably leave the hands of their creators and are then taken up (and altered, bent, modified, extended) by players or users—indicating that the inviolability of the game space is a fiction, as is the magic circle, as pertaining to digital games" (Consalvo 2009, 411).

In my analysis, I have shown that *TMC*'s distinctive metareferential style is the result of interactions between forms of metareference that are created on two different layers of communication: the gameworld and the game system. The largely linear prologue, in which gameplay is reduced to a minimum, uses mainly diegetic forms of metareference such as missing textures, slightly mismatched sounds and animations, and the dialogue between the game's fictional designers to call attention to the constructedness of the second-order gameworld. Not dissimilar to the first case study, *What Remains of Edith Finch,* system-centred forms of metareference play a supporting role, albeit one that is crucial to the medium-specific character of the first act and to shaping the player's awareness of the ludonarrative identity of gameworlds. This changes in "Pro Mode," *TMC*'s second act. Concomitant with a significant expansion of agency, the game introduces prominent system-centred forms of metareference, in particular the "Ghosting" and "Editing" mechanics, that invite the player to approach the fictional game from a creator's perspective, and to actively manipulate the rules that govern its behaviour. The metareferential mechanics also contribute to the game's overall game-transcending comment on videogame-specific forms of agency, authorship, and authority and how they are distributed between and competed over by designers and players (Consalvo 2009, 411; Elsaesser 2017, 57, 63).

I have furthermore discussed three different strategies of utilizing metareferential interfaces that can be found in the third, fourth, and fifth acts. First, the game presents the player with a reduplication of interfaces that is perhaps most obvious

in the mirroring of the desktop interface in the post-ending scene as well as in the simulation of software applications such as the level editor tool. Second, the game's use of multi-windowed displays foregrounds the multiple layers of mediation between the player and the events in the fictional gameworld(s). While this strategy recurs several times, it is particularly salient during the finale in Act 3, where it pairs with gameworld-centred forms. The defamiliarizing view of bodies through the motion capturing camera filters draws attention to the presence of screens and cameras, as well as to the visual regimes that they produce. The third strategy builds on the second in that it, too, presents a multiplied interface and then adds (fake or functional) buttons, icons, or menu items that promise command over the computer system. Ish's metaleptic address to the player and the narrative events during the finale reinforce the effect and make the game's critical comment on player control explicit. Taken together, these gameworld and system-centred metareferential elements feed into an overarching motif of control through an aesthetics of regulation that users and computers are bound up in in mutually disciplining ways (Distelmeyer 2018).

Turning to the dimension of content, from among the many ideas developed in *TMC*, three stand out as the main foci of its metareferential comments. First, *TMC* formulates game-transcending comments by offering a satirical account of the discourses, processes, and cultures that surround videogame production and consumption more generally. In the game's celebratory moments, these foster the player's appreciation of the thought and effort that goes into each detail of a videogame, from its opening cutscene via the colour schemes to the placement of objects. In their much more frequent moments of criticism, they tell of a high-pressure working environment and an at times outright toxic atmosphere at the fictional company TMC Games. At times compassionate but mostly critical, *TMC* thus holds a mirror up to videogame development and sheds light on the working conditions, interpersonal conflicts, and overall habitus of—especially but not exclusively—the AAA game industry.

A second metareferential theme revolves around the conflict between linear storytelling and player agency or, if you so will, the game-as-world and the game-as-system. I have analyzed at some length how the game explores this tension by staging a conflict between Ish and Maze that is replete with metacomments on both the layer of the gameworld and that of the game system. In "Pro Mode" and during the E4 presentation, these already opposing visions furthermore clash with collective fan expectations—of which Coda is a representative—as well as the player's moment-to-moment interaction with the game, which additionally addresses videogame reception (game-transcending comment).

Third, and finally, the game entails a didactic dimension that cuts across layers of communication when it zooms in on individual videogame elements and their functions. To explicate: Throughout the game, the player gets plenty of opportunity to explore how narrative and ludic elements support one another, or how seemingly minor aesthetic or programming choices affect the player's experience. This provides access to (rudimentary) knowledge of game design while asking players to be more appreciative of its challenges.

To conclude, the analysis in this chapter has shown that, to understand how different metareferential strategies may reinforce or undermine one another, it is worth considering their form and content in some detail. As a case study, *TMC* is particularly instructive when it comes to the interaction between the gameworld and the game system, and between gameworld-centred and system-centred forms of metareference. With a view to the indie metagames published in recent years, this interplay appears to be a noteworthy trend. Titles like *Undertale* (2015)*, Pony Island* (2016)*, Superhot* (2016 [2017]), *The Hex* (2018), or *There Is No Game: Wrong Dimension* (2020) all supplement gameworld-centred metareferential elements such as dialogues and images with metareferential game mechanics and interfaces. What remains to be discussed in the third and final case study are those forms of metareference that "really" go beyond the game.

Notes

1 To facilitate the distinction between the two, I use italics and the abbreviation *TMC* for the actual game, whereas the fictional game "The Magic Circle" is set in quotation marks.
2 The critique of the games industry forcefully entered public debate after the publication of a letter signed "EA Spouse," accusing EA of exploiting their employees' precarious position and passion for working in games and subjecting them to extreme stress during indefinite crunch periods that included 85-hour weeks without compensation for overtime (EA Spouse 2004, n.pag.; on the exploitation of labour and resources in gaming, see also Dyer-Whitheford/de Peuter 2006; Wark 2007, 32–33). *TMC* is not the only metareferential indie game to take up these discussions. In *Dr. Langeskov, the Tiger, and the Terribly Cursed Emerald*, posters, recordings, and other items found in the gameworld tell of the fictional development company's blatant disregard of employee safety and satisfaction. The situation seems to have escalated into a strike (as evidenced by strike signs littering the office) and the subsequent exodus of most employees.
3 #GamerGate is an online harassment campaign disguised as a debate on the ethics of videogame journalism that reached its climax in 2014 and 2015. It was directed against (mostly female) journalists, videogame designers, players, and other professionals and public figures (Kagen 2017).
4 That successful AAA developers move into the indie space is not unusual and reveals once more the difficulties of delimiting the label "indie." Much more interesting, however, is Question's (self-)representation in interviews, in which they often suggest parallels between themselves and *TMC*'s fictional characters (e.g., in Roberts 2014; Wawro 2016a; 2016b). See Thon (2016, 133–134) on author figures as represented "with varying degrees of detail and 'accuracy' in a work's paratexts" (Thon 2016, 134) and their distinction from other conceptualizations of authorship.
5 Though it does not appear within the game itself, the term "act" is not chosen at random. *TMC*'s overall structure closely resembles a conventional dramatic structure that consists of the introduction of the conflict, rising action, climax, falling action, and resolution/catastrophe (see the discussion of Freytag's triangle in Laurel 2014, 95). Anticipating parts of the upcoming analysis, we might take this formulaic structure as another marker of the fictional lead designer Ish Gilder's unwillingness to depart from established storytelling models as well as his orientation towards the literary and dramatic canon (and the prestige that may come with such an affiliation).

6 For instance, the player learns that Ish ordered the team to delete an entire bridge even though this makes it impossible for the player to continue to the next area, simply because he deemed its design to be inconsistent with the fictional universe. While this testifies to Ish's dedication to worldbuilding and internal coherence, it also reveals his complete disregard for the work put into the game by his team and their effort to design levels that are rewarding for the player to explore. The same scene also exposes Ish's obliviousness towards the colonial ideologies permeating his gameworld. Other team members critically remark how Ish deemed the bridge "too 'advanced' for the 'primitives' in this area" (*TMC*). The binary choice of "advanced" vs. "primitive" is particularly telling, as is the diegetic game's overarching tale of hegemonic male conquest. Though postcolonial or gender-critical analyses go beyond the scope of this book, it is worth pointing out that the game thus also addresses the highly problematic narratives that are being perpetuated in videogames to this day. On videogames, imperialism, and (post)colonialism, see for example, Dyer-Witheford/de Peuter (2009); Mukherjee (2017).

7 The interpretation once again finds support in the game's paratextual materials. Its real-world designers—or in any case the version of themselves that they present in the interviews—strove to create a game that is "self-mocking" (Jordan Thomas) and which in the end also became "a bit of an exorcism" (Stephen Alexander) (see the interviews in Wawro 2016b).

8 The dual demand of being attentive to the gameworld, yet at the same time maintaining a critical distance towards it, is defining of the role of the playtester. In this sense, the prologue permits the construction of a secondary illusion pertaining to the player's role as a playtester within the first-order gameworld.

9 A very similar technique is used in *Dr. Langeskov, the Tiger, and the Terribly Cursed Emerald,* where the start menu turns out to be an in-game image, projected onto a wall. Instead of a conventional transition from the extradiegetic menu to the diegesis, the player can simply walk away from the wall to begin the game. A different approach of blurring the distinction between menu and game occurs in the platformer *Break the Game* (2019) where the player plays through some of the menu interfaces as if they were regular platformer levels.

10 With Alice Bell (2016a; 2016b), we can describe the player's incorporation in the gameworld as a form of descending interactional metalepsis. While I have argued previously that most interactional metalepses are not metareferential since they are a conventional part of digital interactive media, the case is different in *TMC* because the game foregrounds the interactional metalepses and marks them as transgressive. The game's ambiguity—it is frequently unclear whether characters metaleptically talk to the player through the fourth wall or whether they are in fact addressing them in the role of the fictional playtester—demands that the player maintain a split identity somewhere in-between the player before the screen and an agent within the first-order gameworld.

11 An obvious nod to E3 (Electronic Entertainment Expo), an important event for the US American videogame industry.

12 Another telling name, the coda, from the Italian word for "tail," denotes the concluding part of a musical piece or a piece of writing, which is set off from the main body and elaborates on its major themes ("Coda" 2014; DeVoto 2007 [1998]). Coda's name thus connotes repetition as well as closure, which matches her goal to create a worthy sequel to Ish's first game. As a second meaning, "Coda" is also a homonym of the word "coder," alluding to Coda's ability and ambition to write and modify the game's code. The name is shared by the enigmatic character Coda in Davey Wreden's *The Beginner's Guide*. While never actually appearing in *The Beginner's Guide*, Coda, an auteur game designer

whose works the game purports to curate, is its pivotal character and often interpreted to be Wreden's alter ego (e.g., Lukman 2019). The intertextual connection between the two games is further strengthened by the thematic similarity as both are at an abstract level about struggles between videogame designers, players, and other stakeholders over the powers of creation and interpretation.

13 For instance, in the sci-fi version of "The Magic Circle," the protagonist was meant to wake from cryo sleep only to discover that something terrible must have happened to spaceship and crew, which is exactly the initial situation in *System Shock 2* (1999). Like in *System Shock 2* and its spiritual successor *BioShock* (2007), audio logs and ghostly apparitions tell of past events. Several creatures and abilities such as the psychic hive mind that coordinates the behaviour of a large group of spider-like creatures, or the parasitic hatchworm that infects and kills its hosts, serve as nods to *System Shock 2*. In turn, the player character's ability to create cracks in the gameworld of "The Magic Circle" recalls a similar phenomenon in *BioShock: Infinite* (2013). These parallels are perhaps unsurprising considering that two of *TMC*'s developers have formerly worked for Irrational Games on the *BioShock* series (e.g., Leone 2014; Wawro 2016b).

14 Drawing on Svetlana Boym's (2001) theoretical work on nostalgia, Juul identifies a rift between reflective and restorative forms of nostalgia in indie games. The former expresses a desire for a return to an idealized former time of play, whereas the latter is more (self-)critical and often ironic or ambiguous in its relation to the past (Juul 2019, 31–32; see also Garda 2013).

15 As one reviewer phrases his first experience of the "edit" mechanic: "'I did that!' My choices shaped what happened in that scenario […]" (Roberts 2014, n.pag.).

16 Speaking exclusively from the perspective of gameplay, the game's rules and mechanics even submit the player to a regime of exploration, character progression, and resource gathering. Despite their innovative and transgressive appearance, *TMC*'s mechanics thus remain tied to the conventions of open-world RPGs. Ghosting and editing, for instance, not only require the life resource but also specific keywords, which must be collected and can then be expended to progress in the game. During the climax, the game's constraints become particularly obvious because the game remains locked in a preparation phase until the player has made sufficient edits for the game demo to go "wrong" in the "right" way.

17 The demo consists of a short mission during which the hero saves a baby. Coda tries to talk Maze (who controls the hero during the demo) into killing the baby instead. However, Maze fears that this will provoke enough public outrage to ruin the game and therefore asks the player to find a way to sabotage the demo without killing the baby. There are multiple ways to accomplishing this, most of them comical. For example, in my first playthrough, I equipped the baby with rotor blades and a laser gun which enabled it to single-handedly defeat its would-be assassins.

18 I.e., the game self-consciously acknowledges not just its mediality but also signals awareness of its metareferentiality. In a way, it thus makes true on the "vertiginous illogicality" (Currie 1995, 1) implied in terms like self-consciousness; the argument being that a truly self-conscious text would need to be self-conscious of being self-conscious, and so forth.

19 Indeed, Ish's position finds resonance in the relevant literature cautioning against videogames' potential to promote anti-social behaviour (for a concise literature review, see Kowert/Quandt 2021). His reservations against player control furthermore hint at a critical attitude towards the ways videogames are implicated in socializing their users

into an encompassing logic of regulation that enhances human agency but also has a disciplining effect on its users (Deleuze 1992; Galloway 2006).

20 Though not explicitly named by the game, the elephant in the room is the #GamerGate debate that coincided with the final stages of *TMC*'s development and that feeds into the game's pessimistic vision of players and "mob mentality" in gaming culture. "[T]he development cycle for *TMC* spanned one of the darkest times for gaming culture that a lot of people can remember," Jordan Thomas explains (qtd. in Wawro 2016b, n.pag.). The game neither makes this connection explicit nor does it discuss gender and intersectionality beyond the odd dig at "The Magic Circle's" lack of diversity. Yet, *TMC* is topical in that it reflects similar dynamics: "[T]hat capacity for mob mentality among all of us… was in the creative mix whether I liked it or not. So for some of our audience it became more true than it was funny" (Thomas qtd. in Wawro 2016b, n.pag.).

21 Although some of the quirks of Pro-as-playtester that I encountered in my playthroughs appear to have been bugs in the game, it is safe to assume that overall, his annoying behaviour is part of the implied designer's intention.

22 "The Magic Circle," he implies, is representative of a host of mainstream games whose designers settle for "adding bells and whistles to the same damn machine." This connects to earlier comments on the *TMC*'s advocacy of "independent style" (Juul 2019) as a supposedly more authentic way of creating videogames and hence preferable to mainstream videogame development. The goal to escape an aesthetic dead end of "empty style" (Juul 2019, 9) is not unique to videogames but was already discussed as a central function of metafictional novels (Waugh 2001 [1984], 12, 67).

23 The player is listed by their nickname among the voice cast in the role of "The Hero," which confirms that the game and its characters were indeed addressing the actual player rather than a fictional player character located on the first level of embedding.

24 "In-character" blogs or social media accounts are not entirely unusual. Claptrap from *Borderlands 2* has his own *Twitter*/*X*-account with posts written in the name of several of the game's characters (Claptrap n.d. [@ECHOcasts]). While the main function of these accounts is to promote the game and engage with fans, this also causes the fictional world to bleed into the spaces of players' virtually real selves on social media. Another example is *The Path* (2009), which is supplemented by Blog entries, written in the name of the red sisters, that add some depth to the narrative and the character profiles (Ensslin 2014).

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6 Game-Transcending Forms of Metareference in *OneShot*

OneShot is an independent metagame developed by Future Cat LLC, formerly known as LittleCatFeet.[1] The game was initially built for the 2014 Indie Game Maker Contest, which ran during the month of June, 2014, using a modified version of RPG Maker 2003 (RPG Maker 2023). A significantly expanded remake using RPG Maker XP (Gu n.d.) was released via Steam in 2016, where it was positively received by critics and players alike.[2] This was followed, in 2017, by the *OneShot: Solstice* DLC, a major update that added new content and an alternative ending to the game. In September 2022, finally, a console version titled *OneShot: World Machine Edition* was released for the PlayStation 4, the Nintendo Switch, and the Xbox One. The following analysis is based on the 2016 version and the 2017 *Solstice* DLC.

Like *The Magic Circle* (2015), *OneShot* does not easily fit established genre categories. On its Steam page, the game is described as a "surreal top down Puzzle/Adventure game with unique gameplay capabilities" (Steam 2023). The description also anticipates *OneShot*'s innovative use of game mechanics. In particular, the page advertises "[g]ameplay mechanics that go beyond the game window" as well as a copious use of different forms of metalepsis: "The world knows you exist. The consequences are real. […] You only have one shot" (Steam 2023). In another parallel to *The Magic Circle,* the allusion to real consequences challenges the assumption that games take place within a bounded space that is separate from real life, an idea that is often associated with the concept of the magic circle of play (Huizinga 1980 [1938]; Salen/Zimmerman 2004).

However, another concept lends itself even better for describing the main metareferential strategies in *OneShot*, namely, Marie-Laure Ryan's description of genuine ontological metalepsis between a videogame and the user's system (2006, 224–226). In Chapter 3, I have discussed this idea in conjunction with game mechanics that go beyond the game window as prototypical examples of game-transcending forms of metareference that most often occur in horror games like *Doki Doki Literature Club!* (2017), *Mirror Layers* (2016), or *Imscared* (2016 [2012]), where they are mainly used to rattle the player and raise their anxiety (Krampe 2025). *OneShot*, too, uses genuine ontological metalepses to deconstruct

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the boundary between gameworld and actual world but with a different effect. Rather than to make the player feel unsafe, *OneShot* uses game-transcending metareference to flaunt the artifice of the gameworld while at the same time strengthening the player's relationship with the characters and evoking a real sense of responsibility. This creates an interesting dynamic between medium awareness and immersion, encourages self-reflexive forms of emotional engagement, and draws connections between the disparate domains of fictional world and (real) software.

Since the nesting of different (sub)worlds in *OneShot* is fairly complex, a few additional words of explanation seem warranted before I engage further with how the game employs its core metareferential strategies. *OneShot*'s story focusses on Niko, a child with blue hair, blue whiskers, and yellow cat-like eyes, who wakes up in a strange bed in a strange room in a strange world, only to learn that they are supposed to save the world. To do so, Niko must make their way through three distinct areas and return the world's "sun," a light bulb Niko carries with them, to the top of a tower at the centre of the gameworld. Niko also serves as the player character in the sense that they can be controlled by the player, but the game emphasizes their status as a fictional being rather than the player's avatar (see also Vella 2016, 80). The player is also part of the gameworld and portrayed as its deity who guides and advises Niko on their quest. The player later learns that the World—i.e., the fictional world Niko unexpectedly finds themselves in—is yet again embedded in another world, which the game refers to as the real world, but which is never actually shown in the game, making the World a second-order gameworld. It is also implied that Niko's homeworld is located on a higher level in the diegetic hierarchy; presumably in a parallel universe on the same level as the first-order gameworld. In the *Solstice* DLC, it is then revealed that the World is one of many versions of a simulation, designed by a fictional author figure and run by the enigmatic Entity. Also referred to the "World Machine," the Entity is a kind of engine that runs the World, not dissimilar to a computer running a videogame. The Entity is self-aware and, unbeknownst to Niko, interacts with the player at various points, often through the interface of desktop computers located in the second-order gameworld, but also via the graphical user interface (GUI) of the actual computer's operating system (OS). This and many other metaleptic crossings lead to an erosion of the distinctions between the different subworlds as well as between the layers of gameworld, game system, and the platform on which the game runs.

The following game analysis is based on two playthroughs of *OneShot*: a "regular" one, and a new game plus version that includes the content of the *Solstice* DLC. In the first subchapter (6.1), I focus on the game's overall style—a good example of independent style (Juul 2019)—as well as on how the game introduces the player to its complex world structure. The second subchapter (6.2) then scrutinizes the use of metareference during the game's first run with special emphasis on the permeability between the gameworld and the world of the player. The remaining subchapters (6.3 and 6.4) discuss the *Solstice* run and the formal and thematic variations it adds to the game's metareferential strategies.

6.1 Metaleptic Thresholds: Arrival in the World

OneShot starts out like a top-down adventure with a prototypical quest structure. When first starting the game, the player is presented with several screens that explain rudimentary controls, followed by a brief cutscene showing a hand-drawn close-up of a humanoid face with blue hair, blue whiskers, and large eyes that, the player learns shortly after, belongs to the player character Niko. Overall, the cutscene does not strive for a naturalistic presentation but rather displays the game's art and style. It consists of five individual images that have a hand-drawn, watercolour-style look to them. Similar to the flipbook in *What Remains of Edith Finch* (2017), the player is able to see the individual images and recognize them as artworks in their own right even while their sequence and subtle effects such as highlights and blending indicate movement. Niko's appearance—the oversized head and eyes, the feline features,[3] and their childlike cuteness—recall other RPG Maker games as well as the cute, childlike chibi styles of Japanese manga and anime. At the end of the first cutscene, Niko opens their eyes, represented as two large yellow orbs with the vertical pupils of a cat, and, for a brief moment, seems to stare right at the player. The close-up fades and makes way for a pixel-style image that shows Niko from a top-down perspective, lying in a bed in a dark room with their eyes open. The camera then zooms out to show the surroundings. The room is lit only by the obscure light falling through a window whose conspicuous similarity to the Windows logo prefigures the game's attention to user interfaces. Aside from the bed, the room is furnished with a bookshelf and a desk with a computer. A dialogue box featuring a close-up image of Niko's face appears at the bottom of the screen. Three dots appear in the box, followed by the word "h-hello." Niko's call remains unanswered, though, and, since there are no dialogue options and overall little indication that the player might be the addressee, the fourth wall stays intact for now. As Niko hops out of bed, the player gains control over Niko as a player character.

In addition to introducing the narrative situation, the cutscene and first moments of gameplay described above also provide a good impression of the game's distinctive style. Outside the cutscenes, *OneShot* uses a pixelated retro style that signals the game's artistic ambition as well as its affiliation with independent style (Juul 2019, 40). Similar styles can also be found in games like *Undertale* (2015) or *To the Moon* (2011), where they harken back to 1990s JRPGs and games of the 16-bit era. *OneShot* pays particular homage to earlier games made with the RPG Maker software and thus inscribes itself in the web of self-reflexive intertextuality created by (some of) them.[4] Typical for an RPG maker game, the gameworld is represented from a top-down perspective, in 2D, and with a resolution that is likely to be considerably lower than the player's hardware would have permitted, giving it an overall dated, low-tech look (Juul 2019, 35–37; see also Sayer 2017).

The gameplay is loosely based on the conventions of the top-down RPG as well as adventure game genres. The player can direct Niko's movements using the arrow keys, pick up objects, combine them with others, and use them to solve a variety of different puzzles. Interacting with objects in Niko's vicinity causes written comments (e.g., "Niko picks it up") to appear in the middle of the screen, indicating

the presence of a narrator. While a comment is displayed, the gameworld freezes and darkens, placing the focus on the information provided by the text. There is no voice acting and direct speech appears in dialogue boxes in the middle (for narratorial comments) or at the bottom of the screen (for the characters). Occasionally, speech bubbles over characters' heads display question marks, exclamation marks, and other simple symbols to indicate moods and reactions. Despite the comparatively limited graphics and animations, the game manages to convey a surprising range of emotions and, especially during the cutscenes, achieves an almost painterly quality. Atmospheric colour schemes, soft lighting, and music turn the environments of *OneShot*'s doomed world into evocative dreamscapes that support an overall melancholic tone, though the game also contains hopeful and even comedic moments. Depending on the context, the audiovisual aesthetics may thus support both immersion and medium awareness.

The game's first unequivocally metareferential moment occurs still within the room in which Niko awakens and coincides with the game's first use of game-transcending forms of metareference. When Niko uses the computer beside the bed and the player enters the correct password, the image of a desktop interface appears. While the desktop is quite obviously part of the game—its retro look and typeface more closely resemble Windows versions of the 1990s than the presumably contemporary Windows interface of the player's actual computer—the reduplication of the desktop nevertheless draws attention to the platform on which *OneShot* is currently being played (Krampe et al. 2022). Next, a series of pop-up windows appears, spelling out a message that appears to have been sent by the in-game computer itself. "You found me...," the first message reads. The player later learns that the messages were sent by the Entity (i.e., the World's personified game engine, see above). The player can then move through the messages, suggesting that some kind of dialogue between the player and the Entity takes place even though the message boxes only present one possible response ("OK"). About halfway into the "dialogue," it becomes clear that the Entity is indeed addressing the player rather than Niko, when it refers to Niko in the third person: "Your actions here will affect Niko. Your 'mission' is to help Niko leave." As the only other witness to the conversation, "you" can only refer to the player, which retrospectively reveals the conversation to have been metaleptic from the start. A precise formal description of the desktop pop-up messages is particularly helpful in this case because their visual aesthetics are misleading. While the retro desktop and the pop-up notifications clearly look like extradiegetic interfaces, they do not function as an interface would, i.e., they do not mediate between the player and *OneShot*'s game system but rather serve purposes related to storytelling. They are thus situated within the layer of the gameworld (though in their content dimension, they are game-transcending in that they refer to the GUI and OS of the platform).

This distinction becomes important at the close of the conversation with the Entity because there, the game's strategy rests precisely on the shift from the fake to the actual interface and from gameworld-centred to game-transcending forms of metareference. This moment is interesting both in terms of what the Entity's

final message says, and arguably even more so in terms of how it is presented. To start with the former, the Entity now addresses the player by (the first part of) their actual computer's log-in name ("Theresa," in most of my playthroughs): "You only have one shot, Theresa". Especially in those cases where the login name corresponds to the players real name or nickname, as in the playthrough from which my screenshots are taken (Figure 6.1), the fourth-wall-breaking direct address is quite powerful due to the game's uncanny knowledge of the player's "real" identity outside the game. The rest of the message ("you only have one shot") is also metareferential; more specifically, it draws attention to *OneShot*'s subversion of established game design conventions (system-centred comment). The Entity's warning is to be taken literally in that there is no affordance to save or reload, and once played, *OneShot* cannot be restarted from the beginning; at least not without removing all save data from the computer.[5]

What takes *OneShot*'s use of metareference beyond the game window for the first time, however, is the way the message is presented, or rather, where it is situated. Unlike the previous parts of the Entity's monologue, its final words do not appear within the retro pop-up notifications on the fictional desktop but in a pop-up notification that opens a second window within the GUI of the actual computer's OS.[6] Even if the player does not follow the game's recommendation to play in window mode, fullscreen mode will be disabled at this point so that the player now sees two windows on their actual desktop, one showing *OneShot*'s gameworld, the other the Entity's message. This occasions the shift from gameworld-centred forms of metareference to a much more disruptive use of game-transcending metareference. Evidently, the final pop-up notification is ontologically different from the others in

Figure 6.1 The pop-up window on the actual computer's desktop overlaying *OneShot*'s main game window and 1990s-style Windows desktop.

that it actually *is* a pop-up on a windows desktop, rather than merely representing one. Its visual aesthetics now correspond to those of a modern Windows GUI, it is not attached to the game window but can be moved around the desktop, and it cannot be closed by means of the game's controls. Instead, the player must use their mouse and cursor (or any other means by which they normally interact with the OS) to select "OK" and close the pop-up notification on their desktop. Only then does the second window close and the game unfreezes.

In the gameworld, the narrator immediately tells the player that "Niko hears the sound of a door unlocking," followed by a clicking sound. This suggests a causal relation between the player's interaction with game-external elements and the events in the gameworld; a relation that metaleptically extends across the boundary between fictional gameworld and actual computer. As thus becomes clear from the game's very start, the forms of metareference used in *OneShot* are not limited to the layers of communication within the game itself but also extend to the layer of the platform, more specifically the interfaces of the actual computer's OS.

Like their form, the content of the game's first metareferential elements is predominantly game-transcending. The unexpected disruption of the boundary between gameworld and OS in combination with the *mise-en-abyme*-like mirroring of a 1990s style windows desktop[7] within the player's actual desktop draw the player's attention away from the gameworld and onto the software environment of the actual computer. *OneShot* thus foregrounds a layer that, even more than its own game system, is normally hidden during gameplay unless something goes wrong. Arguably, it is this association with system errors and real threats to the functionality of the computer that makes the Entity's game-transcending final message so effective. The intrusion of the pop-up while playing the game puts the player into a state of high alert and focusses their attention and readiness to act on the actual computer. Once it becomes clear that the pop-up is part of the game, the player needs to reconcile the brief scare with their image of what a videogame is, and where it begins and ends. Through genuine ontological metalepsis, the OS becomes a meaningful part of the game and a communicational layer within which the player can interact with the gameworld.

After this strongly metareferential prelude, the game proceeds to introduce the player to its world and their role in it and, while doing so, further deconstructs the boundary between the player and the gameworld. For the most part, the game now plays like a conventional adventure game. The player must gather and combine objects until Niko finds a mysterious lightbulb that starts glowing as they pick it up. The lightbulb then unlocks another door, releasing Niko into the Barrens, an industrial area located at the fringes of the World. As Niko and the player explore their dark and gloomy surroundings, they learn that the Barrens were abandoned when the sun expired and the energy ran out. Soon, they come across one of the very few NPCs left in the area, the robot Prophetbot, whose purpose it is to greet the World's prophesied saviour. As soon as Niko approaches, Prophetbot notices them (indicated by an exclamation mark that appears over his head), and the game locks the player into a dialogue. Prophetbot at first appears to be a conventional tutorial character. The player can select questions for Niko to ask, and in return, Prophetbot

provides information about the gameworld's geography, lore, and Niko's quest to bring the new sun, which turns out to be none other than the lightbulb in their hands, to the top of the Tower at the World's centre.

During the conversation, the game also employs a plethora of metaleptic devices to highlight the player's and Nikos ambiguous positions in the gameworld and towards one another. The first of these in fact occurred before the conversation even started but is only now discussed explicitly as Niko explains to Prophetbot that they woke up in the World without warning, having been with their family just moments before. The hero's miraculous transportation to a fantastical world is a common trope in fantasy fiction and as such perhaps less prone to eliciting medium awareness (Klimek 2010). Nevertheless, Niko's movement between (sub)worlds further complicates the structure of the game's fictional universe and renders its boundaries porous.[8] It also mirrors the experience of the player, who undergoes a voluntary form of transportation if they immerse themselves in the gameworld.

The other metaleptic devices that occur during the conversation are more overt and unambiguously metareferential. When the player selects the option to ask Prophetbot about the in-game computer on which they found the Entity, Niko tells Prophetbot that the computer "kept saying stuff like 'Your actions here will affect Niko.' But…*I'm* Niko!,"[9] which indicates that Niko was privy at least to those parts of the conversation that took place inside the (fake) pop-windows on the fictional desktop. Prophetbot then confirms that the messages were not addressed to Niko but to the World's deity. His reply also uses the Windows account name again, identifying the player as the World's god[10]: "If I had to guess, they might be trying to pass the message to Theresa." He then goes on to explain that "Theresa" will guide Niko on their quest to save the World from its imminent destruction. While several characters know of the player's presence, Niko is the only character in the World who can directly communicate with them. To demonstrate this special relationship between "God" and "Messiah," the game then breaks the fourth wall in a powerful scene in which Niko and the player directly speak to one another. "Being the Bringer of our sun, you have the sacred ability to communicate directly with Theresa. […] Please close your eyes and focus," Prophetbot instructs Niko, upon which Niko turns around to directly look at the virtual camera. The gameworld fades to black and only Niko remains visible at the centre of the screen, their eyes now closed. The dialogue box reappears, and Niko, for the second time in the game, calls out for someone to hear them: "Hello?... Theresa? Are you… there?" Unlike the first time, the player is now given a means of reply. Specifically, they can choose between the options "Yes," which continues the conversation, and "That is not my name," which allows them to change the name that the game will use to address them. In either case, Niko will excitedly report back to Prophetbot that they were indeed able to talk to God/the player.

Composed of several gameworld-centred forms of metareference—the characters' knowledge of the player's existence, the use of the account name as a powerful attractor, the visual element of Niko's gaze—these metaleptic transgressions disrupt the illusion of the game as a closed world, but the effect

is not necessarily emersive.[11] Quite the contrary, Niko's ability to speak to the player makes them seem more real than the average fictional character. In turn, the player's own ability to respond by means of selecting dialogue options, narratively framed as "divine guidance," draws them closer to the gameworld. With Astrid Ensslin and Alice Bell (2021, 72–75), we can conceptualize the conversation as a convergent subtype of interactional metalepsis that bridges the gap between real and fictional worlds and occasions a shift in perspective as the interfaces and mechanics that allow the player to converse with the character are now perceived "as a conduit rather than as an ontological barrier" (Ensslin/Bell 2021, 74–75; see also Waszkiewicz 2020; 2024, who speaks of "twofold play"). This creates intimacy between the player and Niko, places them on a more equal footing in terms of the diegetic hierarchy, and creates an illusion of direct, unmediated communication. The transgression of the boundary between gameworld and actual world necessarily draws attention to said boundary and to the player's "double-situatedness" (Ensslin 2009, 158). Yet, the porosity between worlds is also used time and again to present heartwarming moments that foster the player's attachment to Niko. Niko may for instance ask the player for advice or comfort or simply feel relieved that they are not alone on their quest. *OneShot* is thus a good example of a rather more complicated relationship between immersion and the supposedly emersive pull of medium awareness: While the various metaleptic crossings direct the player's attention to aspects of mediality, they also strengthen their emotional engagement with the characters as an important facet of immersion.

A similar dynamic recurs within the layer of the game system. Through the allegory of divine guidance, *OneShot* acknowledges the player's control over Niko and reframes their use of game mechanics as acts of communication. Niko sometimes comments on the player's use of game mechanics as if it had been a verbal suggestion: "So you want me to combine…?" or "Good thinking, Theresa." In some instances, Niko may also comment on the player's puppeteering in a part humorous, part reproachful manner[12] or even outright refuse to comply with the player's input. Though this is arguably less a comment on player agency than a feedback mechanism that corresponds to established conventions of point-and-click adventure games (Bonello Rutter Giappone 2015), Niko's "stubbornness" (Waszkewicz 2020, n.pag.) still marks their individuality and distinctiveness from the player. Perhaps even more interestingly, it also defamiliarizes the interactional metalepses that occur when interacting with a videogame (Bell 2016; Ensslin/Bell 2021, chap. 2). A button press no longer translates into a quasi-direct action in the gameworld but moves along a sort of metaleptic chain of command. The lack of immediacy between the player's use of controls and the player character's actions becomes particularly obvious when Niko refuses a command.

When the game requires the player to use the mouse and keyboard to interact with the actual computer, as was the case when the Entity forced them to close a pop-up message before returning to the game, the player must even play two different roles located at either side of the ontological boundary. On the one hand, they act as the operator of a computer, and on the other as a participant

in the gameworld, which foregrounds their conventional "duality of embodiment" (Ensslin 2022, 414; see also Bell 2016, 297; Ensslin 2009, 158).[13] Such conscious role changes on the part of the player, and the corresponding transgression of the boundary between the game and what is outside it, become more and more prominent as *OneShot* proceeds to use more frequent and more invasive forms of game-transcending metareference. A recurring technique involves the retrieval of information from outside the game window, which must then be used within the game to help Niko reach their goal. An early example occurs not long after the encounter with Prophetbot, when Niko's progress comes to a halt because they are missing a 6-digit code required to open an in-game safe. Using an intradiegetic computer, the player can contact the Entity a second time. As soon as the computer boots up, the Entity addresses the Niko and/or the player, initially using the text output in the game's regular window. "I believe you need a code to unlock a certain box. Well, the code no longer exists in THIS world." Then, a second window opens, showing another pop-up notification on the actual desktop: "Do you understand what this means, Theresa?" Clicking either "yes" or "no" closes the pop-up window and the game continues in the regular game window—the difference being that when pressing "no" the Entity provides additional cues for solving the puzzle: "The code is contained within a *document.*" Going to the actual computer's documents folder reveals that an additional text file named "DOCUMENT.oneshot" has been added. It can be opened in the editor to reveal a partly illegible message with a 6-digit code at its end that unlocks the safe.

Successfully opening the safe triggers a short conversation with Niko that emphasizes the metaleptic nature of the transfer of knowledge from the world of the player, or more precisely the OS of their computer, to the diegesis: "Wait, how did you know the code, Theresa? I still don't remember seeing one." This metareferential puzzle takes the game-transcending logic introduced during the first conversation with the Entity a step further in that it deposits a new file in one of the standard folders on the Windows OS and thus demonstrates the game's ability to manipulate the user's system (Ryan 2006, 226). The puzzle also requires the player to retrieve information from the OS and to use it in the gameworld, and thus to think and engage with the game across two layers of communication, only one of which is conventionally perceived to be part of a videogame.

In the first part of the game, we can thus see how *OneShot* introduces the player to its complex world structure and their own position therein, by means of different forms of metalepsis. In addition to fourth wall breaks created through the verbal utterances of the characters as well as the visual representation of their gaze within the gameworld, the game also employs defamiliarizing variations of interactional metalepsis; a phenomenon that is specific to digital fiction because it requires active input from the player. These devices are used to blur the boundary between the game and what is outside it, which then serves as a springboard for the game-transcending metareferential elements that genuinely cross that boundary. In the following subchapter, I discuss the main forms of metareference in the remainder of the first run, focussing on how the game uses the spaces and logics of the desktop to create game-transcending puzzles.[14]

6.2 Multiplied Windows: The First Playthrough

Niko's journey in *OneShot* takes them from the post-industrial wasteland of the Barrens via the agricultural area of the Glen to the Refuge in the urban centre of the World. In each of these areas, the player must complete conventional adventure-game-style tasks as well as game-transcending metaleptic puzzles that go beyond the game window and require some form of interaction with the interfaces of the OS. When Niko arrives in the Glen, they find themselves in a peaceful, pastoral setting, colour-coded in green and populated by several NPCs who welcome them as the saviour. Yet, the overall sense of impending doom persists as the Glen has started to fracture into islands, barely connected by wooden bridges. Audiovisual glitch effects occur in several places across the Glen and cut off pathways or "corrupt" robot NPCs. In a metareferential reading, the glitches also serve as a first hint that the World is in fact generated by a computer, a revelation that becomes a major plot point in the *Solstice* DLC chapter (see Sections 6.3 and 6.4).

In the Glen, players furthermore encounter a striking example of game-transcending metareference that draws attention to the actual computer's desktop by changeing its wallpaper. When Niko enters a dungeon called "The Ruins," they encounter the Entity (still located within a diegetic desktop computer) a second time. Not even bothering with pretence, the Entity immediately addresses the player: "Hello again, Theresa. It seems I need to help you again… This time, the information you need has fallen to the most easily accessible place on your machine." The explicit reference to the actual computer ("your machine") already cues the player to redirect their attention towards the computer's OS. If the player, as recommended, plays in window mode, they will likely notice how the actual GUI's wallpaper changes. When playing in fullscreen mode, the game automatically switches to window mode again to reveal the desktop, now with a purple wallpaper. As in the previous encounters, the Entity ends its message in a pop-up notification via the Windows GUI: "Do you see it?" Players then have a choice to either click "Yes" or "No."[15] The puzzle can then be solved as follows: On the new wallpaper, hidden behind the game window, there is a symbol that functions as a kind of iconographic password in the game. The player must simply drag the game window out of the way to reveal the symbol and then recreate it inside the game window, using pressure plates that light up when Niko steps on them (Figure 6.2).

The first formally game-transcending element in this puzzle, the use of a pop-up via the GUI of the OS, is already familiar to the player and recurs in most encounters with the Entity as a kind of signature strategy. A second game-transcending form of metareference lies in replacing the wallpaper on the player's desktop, which is a variation on the manipulation of aspects of the actual computer through which the game demonstrates its ability to affect the player's real system. The main difference to the second encounter with the Entity in the Barrens (the safe-cracking puzzle) lies in the emphasis on images and symbols. If we consider the content of the metareferential comment in more detail, it becomes clear that the changing wallpaper draws particular attention to the visual aesthetics of the desktop as one of the most common interface metaphors in human-computer interaction. As I have

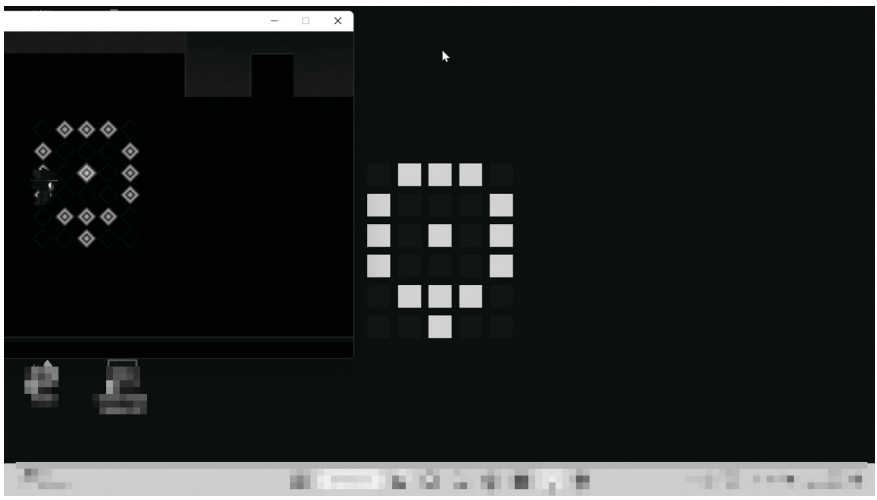

Figure 6.2 The changed wallpaper on the player's desktop and the matching puzzle in the gameworld of *OneShot*.

argued at several points in this book, players have learned to "unsee" the interface; its metaphors have managed to erase themselves within the logic of transparent immediacy (Bolter/Grusin 1999, 23). *OneShot*, however, forces the player to look at, rather than through, the desktop and to consciously notice its visual surface by means of a combination of strong attractors such as the colour change, the explicit hints provided by the Entity, and of course the fact that the player cannot continue playing without taking note of the symbol that has appeared at the centre of the wallpaper. By foregrounding the desktop as a site of play and a source of meaningful information, the game revokes its erasure and thus draws attention to parts of the computer's representational surface that are very much visible, yet usually go unnoticed.

The game's metareferential exploration continues in a second puzzle, which draws particular attention to the desktop metaphor's spatial dimensions and its roots in the material world and in analogue media. Again, the player needs the Entity's help to find information that is not available within the gameworld; in this case a code to reactivate a malfunctioning elevator in the game's third area, the Refuge. As usual, Niko encounters the Entity on an in-game computer. This time, it prints out the item "weird film" that Niko can pick up. When the player selects the item from the inventory, the entire game window fills with a series of numbers before a purple background. The Entity furthermore adds the cryptic instruction to "expose it to the void." The solution to the puzzle is less obvious than in previous puzzles, but the player can ask the Entity for clarification, which yields an interesting reply:

> There's a void beyond the four walls that bind our world to yours. The edges of your viewport, where everything is obscured. […] When you view the film, it fills your entire window into our world, yes? I believe you refer to the action I describe as "dragging." The void is beyond the borders of your view. Through the void and back again.

To solve the puzzle, players must drag the game window "outside" the visible area of the desktop until all but the window frame has disappeared from the computer screen. Once retrieved, the window displays an altered image on which the security code for the elevator is now legible.

The Entity's explanation not only offers the key to the puzzle but more importantly also contextualizes the game's metareferential comment by tying it to ideas of aesthetic illusion and the transparent interface. The description of the game window on the desktop as a "window into our world" brings to mind the trope of Alberti's window and the techniques of visual illusion-making shared by painting, film, games, and other media, in which the frame, screen, or panel function like a window the recipient can look through. In *Remediation*, Bolter and Grusin discuss this idea as part of the logic of immediacy that was developed in Renaissance painting. "If executed properly," they write, "the surface of the painting dissolved and presented to the viewer the scene beyond" (Bolter/Grusin 1999, 24–25). Similarly, in videogames, players typically see through the frames of screens and windows in the sense that they no longer consciously register them and instead perceive their access to the gameworld to be of an immediate nature. Consequently, the Entity's explicit mention of walls, viewports, and windows at once invokes and undermines the illusion as it foregrounds the layers and frames that connect the player to the gameworld but also separate them from it.

The effect of medium awareness is made stronger still when the game encourages the player to move the game window around, thereby identifying it as a virtual object represented on the desktop that can be manipulated as part of the player's interaction with the OS' GUI. The allusion to the "borders of your view" extends the same defamiliarizing effect to the screen itself, as the frame that encloses the entirety of the player's view. *OneShot* thus reveals the twofold illusion at work, the first being the screen as a window into the virtual space of the desktop, and the second the illusion of the "windows" of the WIMP interface which seem to provide immediate access to the gameworld. Thereby, the game enforces a shift in perspective, from a logic of transparent immediacy to one of hypermediacy that recognizes and makes visible the "multiple acts of representation" involved in playing the game and building its world (Bolter/Grusin 1999, 33–34).

The same scene furthermore reflects on the logic of direct manipulation and its dependence on the metaphorical relation between the WIMP interface and real-world objects (Bolter/Grusin 1999, 29; Laurel 2014, 151). The development of the fictional film strip, in any case, relies on the idea that the desktop and its virtual objects have some kind of materiality and spatial extension. The expression of the "void beyond the borders of your view" additionally suggests that the spaces of the desktop interface somehow exist beyond the screen, as if its windows had

a physical presence that needed to be relocated to some other place when it is not shown on the desktop. The reference to "dragging" is particularly noteworthy since it implies weight, gravity, and touch, none of which actually apply to the icons and windows of a WIMP interface, but all of which contribute to the illusion of the desktop's spatiality and materiality (Bolter/Grusin 1999, 23; Laurel 2014, 11, 37).

Looking back at the discussion of *What Remains of Edith Finch* in Chapter 4, we may also note the curious emphasis on the material and the analogue through strategies of remediation and transmaterialization. The interaction with the "weird film" is framed in primarily diegetic terms, as an immediate physical interaction with photo film. The image furthermore contains visual markers that suggest light being reflected off the film strip; dragging and retrieving the game window resembles the act of dunking photographic paper into liquid. All in all, the film strip puzzle revokes the tenuous transparency of the interface and highlights the strikingly material character of the metaphors and similes that mediate between user and OS, thus reminding the player that their seemingly immediate access to what is represented on screen is based on multiple processes of mediation, made possible by the processing power of a computer. Unlike most other metagames, *OneShot* achieves this heightened sense of medium awareness not only by exhibiting the presence of the interface within the layer of the gameworld but through game-transcending forms of metareference that necessitate the player's real interaction with the desktop UI.

Equipped with an awareness of the interconnections between the gameworld and the (GUI of the) computer's OS, the player is well prepared to face the puzzles that await as Niko enters the game's final area, the Tower. The game's first ending involves a fair share of puzzles and metareferential elements that reuse devices from earlier puzzles, so that I will limit my analysis to those elements that add new aspects to either form or content. As a first step, the player must gain access to the top of the Tower. At the base, there are no stairs or elevators, only a dark room with a red symbol painted on the floor (Figure 6.3). The close visual resemblance to a conventional symbol of the Windows OS' GUI serves as a kind of metaleptic pun that highlights the game's identity as a software application and hints at a rather unconventional course of action: The player must use [x] to close the game window. Requiring players to close the game window is certainly one of the most disruptive metareferential strategies imaginable since it ends the player's engagement with the game. In *OneShot,* however, closing and restarting the game becomes a viable strategy that achieves the desired result of granting entry to the Tower, which additionally flaunts the fact that the gameworld does not operate according to actual-world laws of time and space but, as a digital artefact, adheres to programming logic.

Once the game is restarted, it presents a short cutscene that shows Niko sitting on the ground in near-total darkness, calling out to the player. However, unlike in most earlier conversations with Niko, the player can no longer answer. The reinstatement of the fourth wall feels strangely crippling, like a loss of voice and personal connection that increases emotional engagement as the player shares Niko's obvious distress.[16] Navigation is still possible, however, so the player can make Niko move

Figure 6.3 The design of the floor provides a hint to close the game window.

in any direction until they inevitably encounter the Entity who tells Niko that the mission was successful, that the player has already left and that there is nothing else for them to do in the World. A bed appears next to the computer and the only option for Niko is to lay down and fall asleep. As the game window goes dark, a series of game-external pop-up notifications appears, addressing the player as follows: "And as for you, Theresa… We're done here. Please don't return to this world anymore." The game then closes again. This time, when the player restarts the game, the situation in the gameworld is unchanged: Niko is still fast asleep in bed and the player cannot interact with the gameworld. There is, in fact, nothing to be done from within the game window; a situation that the game has by now established as a cue for the player to look towards their actual computer's OS for a solution. Sure enough, the wallpaper on the player's desktop has changed again and now displays a note with instructions and a folder path. A look inside the documents folder reveals that the game did in fact deposit a new folder there, inside of which the player finds an unnamed application (a .exe file) marked with a clover-shaped symbol. As per the instructions displayed on the desktop wallpaper, the player must first launch the clover application, which opens a second window that shows a clover before a dark background. Then, they must restart the game via *OneShot*'s regular program application. Now, the player can finally call out to Niko and wake them. The Entity returns as well and begins sending angry messages to Niko inside the game window and to the player by means of game-external Windows pop-ups. As the conversation concludes, the Entity's antagonistic tone foreshadows an upcoming boss fight: "FINE. If you don't want to leave... I'll make sure you never do!"

What follows is the game's ludic finale, though it revolves less around combat than a series of puzzles that are based on game-transcending forms of

metareference and take place across two program applications. In the game's main window, the computer and the bed dissolve into pixels and a door materializes in their stead. As soon as Niko enters, the image in the second program application (the clover application) changes so that it now shows what looks like the torn-up page of a notebook that also features a cutout in the shape of a clover. Except in those places where the paper of the note is still intact, the clover application's window becomes see-through (Figure 6.4). To understand how the puzzle works, a short explanation of the game's inventory management and extradiegetic interfaces is necessary. All items that Niko acquires on their journey are collected in the inventory where they are represented by a small image and a name. Some of the items from the inventory can be equipped, in which case an image of the item appears as an extradiegetic overlay at the bottom right of the game window. The overlay remains visible even when closing the menu. When Niko enters the Tower, all items from the inventory have disappeared and are replaced by a single black clover which Niko finds in their pocket after waking up. The clover also appears as an extradiegetic overlay at the bottom right but unlike the icons of regular "equipped" items, it draws attention to itself by lighting up at regular intervals. If the player closely examines the windows of both applications, it becomes clear that the extradiegetic overlay representing the clover in Nikos pocket matches the clover-shaped cutouts in the other program window. Superimposing the second program window (clover application) on the game's main window so that clover-shaped symbols overlap then reveals the solutions to a series of similar puzzles.

Figure 6.4 Using two windows to solve the puzzle; matching the clover cutout to the extradiegetic overlay in the game window indicates the door that takes Niko forward.

For the most part, players are asked to help Niko navigate a labyrinth consisting of rooms and doors (see also Krampe 2021). While the gameworld had hitherto mainly[17] been presented as continuous and mimetic, this labyrinth is shown frame by frame and thus follows a computational logic in which space becomes a network of nodes or rooms connected by links (Fernández-Vara 2007, 75–76). Directions such as left/right or north/south become meaningless. If Niko enters a door to the right, they do not head east but follow a link that may lead to any one of the rooms available, including the one they just left. Disorienting the player and privileging the "discontinuity of digital communication" over "illusions of real space" (Aarseth 2001, 164), the game challenges the player to think beyond the representational level of the game to also take into account its specific digital identity. The key to navigating this network lies in the aforementioned matching of the two game windows: If the clovers are aligned, the shape of the paper snippets in the second window indicate the correct path that will lead Niko towards their destination (Figure 6.4). To progress in the game spatially, ludically, and narratively, players need to piece together bits and pieces stored in various locations on the computer, across the threshold between the fictional gameworld and the real machine. The puzzle thus formulates a twofold metareferential comment. As a game-transcending comment, it draws attention to the various locations on the computer in which information pertaining to the game is stored, and how various programs may affect its functionality. As a system-centred comment, it deconstructs the illusion of a coherent, holistically imagined world and substitutes it with the technically more accurate image of a computational, algorithmic simulation coated with an audiovisual layer of representation.

The game ends shortly after the final puzzles, but not before a brief narrative finale that resolves the conflict and offers some closure. In a plot twist, the game reveals that the player must decide between saving the World or allowing Niko to return home, leading to one of the game's two original endings.[18] The game ends immediately after and the consequences of the player's choice are shown during the credits. When opening the game again, only Nikos' empty room (sunlit or dark, depending on the ending) can be seen. There is no option to restart the game; indeed, pressing any button on the keyboard immediately closes the game window. *OneShot* thus defies expectations again and, for the time being, appears to make good on its warning that the player only has one shot. Ending on a bittersweet note, it offers a narratively and emotionally engaging experience even while it flaunts the mediality and fictionality of its gameworld and characters. The *Solstice* DLC, which I analyze in the second half of this chapter, addresses the tension that arises from the player's attachment to the gameworld and the characters despite their obvious constructedness. In comparison to the core game, *Solstice* contains more overt gameworld-centred forms of metareference that also engage more thoroughly with the layer of the gameworld in their content dimension, even while it continues to develop new variations of the game's signature game-transcending puzzles.

6.3 Transgressive Play: New Game Plus and *Solstice*

Contrary to the Entity's insistence that the player only gets a single chance to play through the game and save either the World or Niko, *OneShot* can be played again, even without the DLC. The removal of the "one shot restriction" is designed as yet another puzzle challenge that crosses the threshold to the actual computer and requires the player to manipulate the game files. As indicated above, *OneShot* cannot be restarted normally, but after the first playthrough, a new document called "save_progress.oneshot" appears in the "My Games" folder. If the player restarts the clover application, it shows a message that provides instructions for restarting the game, asking the player to look for a " 'saved progress' log" and delete it. Even though the save file is fake,[19] deleting it can be interpreted as another instance of game-transcending metareference that asks the player for a major manipulation of the game data. Paired with the effort the player must put into replaying the game, this upholds the meaning of the one shot restriction and affirms the authenticity of the first run since the replay is made to feel as though it was unintended by the designers. It also demonstrates how a simple change in the data on the computer can affect the functionality of the entire program, pointing once more to aspects of the game's digital and computer-based mediality.

Strikingly, these documents also contain narrative elements that extend the game's storytelling endeavours to the spaces of the OS, more specifically, the game folder. The message shown in the clover window is signed by the game's fictional author figure (simply referred to as "the Author"), who encourages the player to find a way to return to the World, creating a secondary illusion that the game, or at least the story told within the first-order gameworld, continues outside the game window. With Conway (2010) we can speak of an expansion (rather than a disruption) of the game's fourth wall: The player's actual computer becomes temporarily part of the fictional universe, whereby the player's real interactions with the WIMP interfaces of the OS attain the meaning of fictional actions in the first-order gameworld. While this does not detract from the metareferential character of the game-transcending elements, it creates an interesting dynamic in which the player may inhabit the perspective of an immersed participant in the game even as they skim through or rearrange its files.

Once the player has successfully solved the puzzle to restart the game, a new game plus run begins.[20] Several details differ from the first run, however, generating an impression of uncanny knowledge and self-awareness on the part of the game. The inventory, for instance, already contains the Author's journal—which is normally only found in the safe in the Barrens—and several characters express a sense of déja-vu. When Niko wakes up, they immediately call the player by name but then stop to wonder, "wait… why did I say that word?" and "why does that sound so familiar?" The Entity, too, grows suspicious during its first conversation with the player: "Have we… already been through this, Theresa?" The first hint at the *Solstice* DLC occurs right at the beginning as well. The key object needed for the first puzzle (a remote control) is nowhere to be seen, and when Niko boots the

in-game computer, it asks the player to look for a password under "Documents." Simultaneously, four .png files appear in the actual computer's documents folder. In addition to providing the player with the needed password, the files also contain another message by the Author, who announces that he has now added a new path through the game that leads to a "good ending." Alternatively, the message continues, the player can play an (almost) normal run by ignoring the *Solstice* route.[21] The message is thus double coded: On the one hand, it provides instructions for the player, much like a tutorial; on the other hand, it constructs an image of a rather powerful author figure whose reach and competencies appear to go well beyond the game as he seems able to change the game's code or drop files on the player's actual computer.

The *Solstice* path itself begins in the Barrens, in an abandoned mine. In the first playthrough, it was hinted that there was a path deeper into the mines, though it remained inaccessible. In the second run and with the DLC installed, Niko receives a vision and the Author's journal in their pocket begins to glow. Reading the journal by selecting it from the inventory opens a page that shows a drawing of the room Niko is currently in. If the player aligns their view of the room with the perspective shown in the drawing (by using the arrow keys to make Niko walk to the proper location), a minecart appears out of thin air. The cart's seeming transference from page to in-game reality can be considered a form of metalepsis (though the same event is also open to magical or even realist interpretations; for instance, one of the NPCs opines that Niko must have triggered the motion sensor controlling the minecarts). Niko can then enter the cart and continue on the new path, upon which the player is contacted by the Entity again. This time, the Entity neither uses an in-game desktop interface nor the actual computer's GUI but the narrator's textbox to communicate with the player, i.e., the game uses a rhetorical metalepsis as a gameworld-centred form of metareference.

The focus of the content, in turn, is system-centred in that the game thematizes the relation between player agency and the "protocol" according to which the simulation runs. Specifically, the Entity appeals to the player to not play against the game as intended: "I… do not recognize this place in the protocol. This isn't what I'm supposed to be showing you at all […] You are going out of bounds. […] Please turn back."[22] This frames the entire *Solstice* path as transgressive and invokes the motif of playing against the game (and/or its narrator), which has been used in many metareferential videogames since *The Stanley Parable* (2013).[23] Typically, the motif is used ironically, to expose the illusion of agency and mock the player's naïve belief in being able to actually play against the rules,[24] but *OneShot* seems to earnestly uphold the idea of player agency. In the game's fictional frame of reference, at least, the player can make meaningful choices, and, with the help of the Author, they can even play against the game system as personified by the Entity. What is more, even though the Entity's warning exposes the artifice of the game, it arguably also supports narrative, emotional, and ludic engagement as the player's decision to pursue the riskier *Solstice* route heightens the stakes and creates suspense. This shows once more that the player can experience certain facets of immersion even in a state of heightened medium awareness.

Overall, the *Solstice* route turns out to be much darker than the first run. The World is now on the brink of annihilation and the atmosphere is laden with urgency and despair. The Entity, too, seems much more unstable this time around. Niko's path to the Tower is very different since some areas have become inaccessible due to the glitches and many NPCs that welcomed Niko in the first playthrough have become refugees or sacrifice their lives during *Solstice* to help Niko. The DLC also adds three new areas whose existence was already hinted at in the core game: the mines, which can be accessed via the Barrens, the graveyard, which can be accessed through the Glen, and the author's study, located behind a locked door marked by a countdown clock[25] in the Refuge. For the most part, accessing and traversing these areas means solving metaleptic puzzles that are similar to those presented in the first run. Instead of outlining Niko's second journey in its entirety, I will therefore limit my discussion to two representative examples. In both cases, *OneShot* uses gameworld-centred forms of metareference to enunciate the paradox of the player's real attachment to fictional videogame characters as a major theme of the *Solstice* DLC.

The first example involves the use of glitch effects that disturb the audiovisual presentation of the gameworld. By glitch effects, I mean non-accidental images or sounds that resemble actual malfunctions of the game system and that create deliberately strange and unsettling effects, foregrounding the digital identity of the game (Gualeni 2019; Menkman 2011). *OneShot*'s first glitch effect occurs well before the start of *Solstice*. Right after the player retrieves the code for the in-game safe from the documents folder during the first run, an area right above the safe becomes covered in what looks like large moving pixels, accompanied by jarring sound effects. The timing of their appearance suggests that the glitch was caused by the player's metaleptic crossing of the threshold between game window and OS. In *Solstice*, these effects grow much more frequent and become a defining aspect of the audiovisual aesthetics. Due to the different functions they fulfil within the game, and depending on whether one considers the game's style, its story, or the gameplay, the glitch effects acquire multiple meanings that are not necessarily compatible. In a reading focussed on the gameworld, the glitches are threats to the World and its inhabitants. They are perceptible to the characters, and NPCs caught inside them are corrupted. Their bodies dissolve into pixels, they become unable to move, and their text output is returned with additional spaces and special characters that make the words more difficult to read (Figure 6.5). From a gameplay perspective, the function of the glitches is also fairly conventional since they are used to block paths or create obstacles for the player to overcome. The glitches thus acquire a diegetic legitimization as harbingers of the impending apocalypse, as well as an external explanation related to level design since they serve as a means of limiting player movement and creating ludic challenges.

This, however, does not yet account for the fact that the game's imitation of actual glitches also points to the fallibility of digital technology, which brings me to two metareferential readings. For the game's self-aware characters (i.e., those characters who know that the hypodiegetic gameworld is a simulation, see below),

Figure 6.5 A glitch-like effect "corrupts" the NPC Silver in *Solstice.*

the glitch effects bespeak the corruption of the World's *code* and the increasingly erratic behaviour of the Entity as a personification of the game system and/or engine. Arguably, this "aestheticization of the glitch as a failure of the digital" (Apperley 2015, 236) is sufficient to lay bare the computer-generated mediality of the game in its entirety. Glitches "disrupt the illusion of 'transparent' mediation (Bolter/Grusin 1999, 14) by revealing the artifice of the digital software and platform" (Apperley 2015, 237; see also Janik 2017, 70–71, 75; Menkman 2011, 32), which also makes them rather effective as game-transcending comments. The same strategy can also be interpreted as a gameworld-centred comment. In this second metareferential reading, glitches symbolize the erosion of the player's belief: The more the player and Niko become aware of the fictionality of the World, the more gaps and holes appear in its fabric. Yet, neither of these metacomments prevent the player from becoming attached to the gameworld or from constructing an illusion of Niko and other characters as possible people. Despite their awareness of the fictionality of the World and its identity as software run by a computer, the player arguably remains fully invested in their quest to save it from destruction by teaching the Entity to go beyond its programming and thus to achieve the game's "good ending."

The second aspect of the *Solstice* DLC that I would like to draw attention to are its long dialogue sequences during which the characters explicitly discuss the implications of the fictionality of the World (which makes this an example of a

strategy that is gameworld-centred in terms of form and content). Not counting Niko, there are three characters in the game who are self-aware in the sense that they know they are part of a computer-generated simulation. Each of these characters has a slightly different worldview, which leaves the player with three perspectives on the mediality of the second-order gameworld. The blunt and pragmatic robot Prototype, who was created by the Author as a prototype for the Prophetbot, uncer-emoniously reveals to Niko that they are in a videogame that is currently being played by the actual player. Cedric, the Author's human son, places more emphasis on the process and motivation behind the creation of the World: Niko learns that the Author converted the "real" world into code just before its destruction, in a desperate attempt at saving as much of it as possible. The trio is completed by Rue, an anthropomorphic fox[26] who offers an experiential perspective focussing on the player's affective relationship towards the gameworld and the characters. The conversations contain some of the game's most explicit metacommentary and are therefore worth analyzing in detail. They also showcase the game's signature blend of gameworld-centred metareferential comments that unveil the fictionality of the world, and diegetic legitimizations that restore the aesthetic illusion.

The following exchange demonstrates Prototype's metareferential awareness of the technological, narrative, and cognitive processes of worldbuilding involved in bringing the gameworld into existence. It begins after Niko manages to regain their memory of the previous playthrough, which causes them to wonder why none of the other characters remember them:

Prototype: NPC memories do not last beyond the scope of a session.
Niko: N…PC?
Prototype: You know, the characters… the world's residents. All their "past" memories are built into their code, but…The characters themselves don't…really exist until Theresa wills it. Same story for the world itself. Doesn't really exist unless Theresa initiates the program.
Niko: The… program?
Prototype: The World Machine. A Universe Simulator that runs on Theresa's computer. We are all in it right now.
Niko: SO WE'RE NOT REAL?

The conversation addresses questions pertaining to the fictionality of the World, the game's identity as a software system, and the hardware and software environment of the platform on which it runs, thus cutting across all layers of communication. Most notably, Prototype engages much more explicitly with the game's systemic and computational dimensions than any of the other characters. NPCs are depicted as representations built from code—he even uses the jargon "NPC"—and the Entity, which had formerly been portrayed as the world's spirit, is now referred to as a "Universe Simulator"; a software engine that runs on a computer. Later in the same dialogue, Prototype describes the game as a "program" that is "no different from other recreational, game-type software that they [players] may have installed on their computer." All of these are explicit, system-centred metareferential comments

that characterize the game as a rule-governed computer simulation. Prototype then goes on to explain that for the World to come into existence, it "requires the mental processing abilities of a real person from another universe."

Though bound up with pseudoscientific elements, his (and later Rue's) explanations of the nature of the gameworld seem fairly accurate in that they match established narratological understandings of storyworlds as holistically imagined worlds that come into being as the recipients create mental models based on the cues provided by the text (e.g., Ryan 2015; Thon 2016, chap. 2; see Chapter 1 in this book). The gameworld and its existents are portrayed as constructs that only come into being once the player starts the game, but which can neither be reduced to code and software nor to the narrative elements provided by the game since they also have a cognitive dimension. Still, Prototype stresses that "unlike a dream, this world has a physical location inside a computer, which Theresa operates," which points to the hardware and software environment of the platform that supports the game, and hence alerts the player to the medium-specificity of gameworlds vis-à-vis the possible worlds found in non-interactive media, dreams, or the human imagination. The World and its various copies are portrayed as several things at once. They contain detailed environments and persons, yet they consist entirely of code that can be replicated and modified at will.

The three conversations furthermore touch upon questions of videogame authorship. Prototype informs Niko that "Theresa did not build the world [but] only owns a machine that is able to generate the world from preexisting code. They actually have fairly limited control of the events." In contradistinction to the game's earlier depiction of the player as God, Prototype describes them as a visitor to a largely predetermined world whose agency is limited because they are bound by its rules. When Niko later encounters Cedric and Rue, the World's design process becomes a central topic of a conversation that closely intertwines the game's lore with allusions to actual-world videogame design; to programming and writing, to crunch times and deadlines, and to the retrospective patching of bugs still left in the game. Cedric explains that his father, the Author, built the game in an attempt to create a habitable copy of the "real world." To do so, he gathered as much data about the real world as possible and "after a heavy amount of modification and an added narrative" managed to "convert the entire structure into code" (Cedric, *Solstice*). The Author then "spent most of his remaining time testing it over and over again, scaling down the story, reiterating the narrative…" (Rue, *Solstice*). However, since there was not much time before the end of the world, he could not finish the simulation so that the code "ended up… floating in the void […] waiting for a willing operator to install it onto their own hardware" (Cedric, *Solstice*). Like most others, the conversation is double-coded, permitting both fictional and metareferential interpretations. The latter invokes the lifecycle of a videogame, from the initial idea via development and tight deadlines to its eventual reception by the player. Like *The Magic Circle, OneShot* introduces a frame narrative in which a fictional author figure struggles to finish their game. Unlike in *The Magic Circle,* however, the relationship between the player and the fictional designer in *OneShot* is cooperative as the Author relies on the player to fix the World and even

helps them overcome the restrictions of the (fictional) program by leaving cues and passcodes in the player's documents folder. Where *The Magic Circle* offers a biting satire, enacts a narrative of player empowerment, and demystifies the figure of the auteur designer, *OneShot* expresses a sincere belief in game design as the facilitator of powerful narrative and emotional experiences.

This does not mean that the game refrains from posing uncomfortable questions about the moral implication of player behaviour, however. In the metareferential conversations in *Solstice,* the game frequently uses the emotional attachment and responsibility players feel towards Niko to induce self-reflection. When Niko first learns that the world of *OneShot* is a computer simulation, this causes a crisis in their relationship with the player because Niko feels betrayed: "What am I even supposed to save if everything is just.. FAKE?? […] I just want to go home, but every time Theresa runs the program, I come back??" They criticize the player's decision to replay the game and thus make them go through the trying experience a second time: "[W]hy do you keep bringing me back to it? Theresa, aren't you supposed to be a kind god??" The direct address by username, accompanied by another fourth wall break as Niko turns to face the camera, underline the personal quality of the reproach. Even though Prototype quickly clarifies that it is not the player who created the World and its problems, Niko's criticism still hits a nerve in that it interrogates the player's motives for (re)playing the game. The player, after all, derives sufficient intellectual, aesthetic, or emotional pleasure from playing to bring Niko back to the game even though it evidently makes them miserable and puts them in harm's way. We may even go so far as to say that it implies that *OneShot* reveals the "dark side" (Breithaupt 2019) of the player's empathy with Niko. As Fritz Breithaupt argues, audiences can derive "positive emotions […] from experiencing empathy with a suffering character" (2015, 440). To reach the "good ending" promised by the *Solstice* DLC, Niko must now complete an even more dangerous and distressing journey. When placing this in a critical light, the player emerges as a kind of "sadistic benefactor" who forces Niko through a series of trials and tribulation and heightens their misery in order to make the eventual happy end all the more gratifying (Breithaupt 2015, 443–444; Zunshine 2008, 75).[27] What further aggravates the dilemma is that the player controls Niko's every move and thus feels responsible, guilty even, for their suffering.[28] And yet, the mere fact that *OneShot* trusts its players to evaluate their actions, motives, and emotions while playing the game construes a player figure who is no "erratic killing machine" (Ish; *The Magic Circle*) but mature and capable of reflective engagement with videogames.

6.4 The Paradoxes of Interactive Fiction: *OneShot*'s "True Ending"

Thus far, I have outlined how the *Solstice* DLC uses gameworld-centred forms of metareference to reflect on the game's mediality and the often-paradoxical emotions the player experiences towards it. What remains to be discussed is how and to what end the DLC uses game-transcending forms of metareference. These become particularly relevant towards the endgame, also referred to as *OneShot's*

"true ending," which is composed of a ludic as well as a narrative finale. The ludic finale showcases the most extensive and complex use of game-transcending metareference in *OneShot.* It begins once Niko has assembled all three self-aware characters—Prototype, Cedric, and Rue—in the room behind the countdown clock. Inside, they find what looks like four platforms illuminated by neon-coloured beams of light. The game explicitly suggests that the platforms and the characters are connected to the Windows OS. Prototype describes the platforms as "[c]ode portals [that] temporarily remove us from the world." Cedric then discloses that the Author has hidden parts of a "decryption key" in the code of the three characters, "with a .txt file as its shell." To access the keys, the characters first need to be "removed from the world and decompiled." The keys are then "combined into a central location," which unlocks the encrypted area.

Since Niko seems clearly overwhelmed by this deluge of technical and highly metareferential information—and presumably to avoid similar confusion in the player—Rue adds more world-consistent instructions that rely on familiar metaphors: "Basically… these portals all represent a physical location on Theresa's machine... [W]hen we enter these portals, we will be sent to that location." Her explanation associates the visual representation of the portal in the gameworld with a specific folder ("physical location") on the player's computer. She then adds further instructions for the player to actively "move" the files: "I'm… sure Theresa is already pretty familiar with retrieving puzzle pieces from this world on their computer. But this time, Theresa would need to move around some things, as well."

If interpreted correctly, these cues lead the player to the following solution: To unlock the next area, the three characters need to be moved onto the colour-coded platforms. From there, they must be teleported to the "big portal," a location that is "outside the game" (though it is still represented in the gameworld as a large, pink area), where their keys can be combined. "Teleportation," however, takes place outside the game window and can only be achieved if the player moves three .txt files from one folder to another within the *OneShot* program files. Accessing the (actual) computer's documents folder, players will now find four new subfolders: "BigPortal" (which is currently empty) and the folders "Portal1," "Portal2," and "Portal3," each of which contains a .txt file and two .png files showing images of one of the characters. Moving the .txt files into the folder "BigPortal" causes the characters to "teleport." The example documented in the screenshot (Figure 6.6) shows the teleportation of Prototype. The window at the top left shows the contents of the folder "Portal1." The images, descriptions, and the colour code ("B" for blue) all point to Prototype as the relevant character. When opening the .txt file "keyB" in Notepad, it reads "put me in the big portal." Dragging and dropping or copy/pasting the file "keyB" from "Portal1" to the folder "BigPortal" as shown in the window at the top right causes Prototype's body to disappear from the blue teleportation pad in the gameworld and a silhouette to appear in the pink area at the back of the room. That the silhouettes in the big portal are composed of zeroes and ones symbolizes their liminal existence as code outside the gameworld. Once the same process has been completed for all three characters, the silhouettes vanish and a door appears, granting Niko passage to the next area.

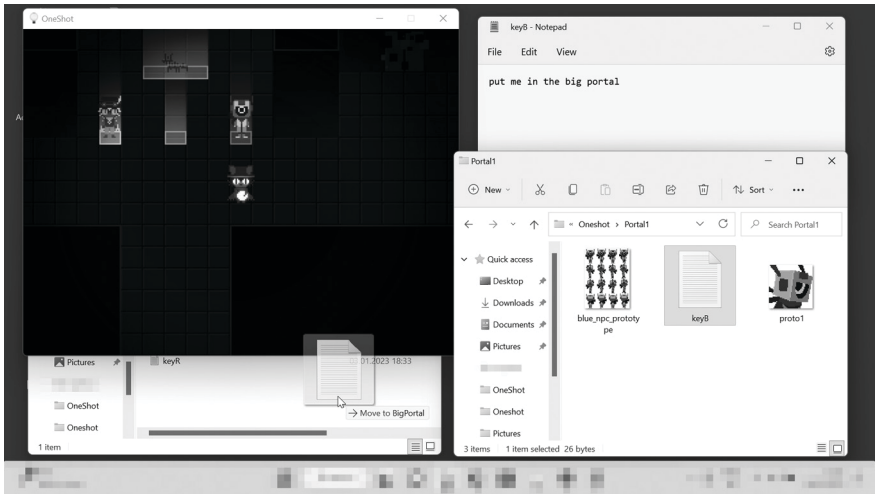

Figure 6.6 Moving "keyB" from the folder "Portal1" to the folder "BigPortal" causes Prototype to disappear from the gameworld.

The example thus illustrates once more how *OneShot* uses game-transcending metareference to flaunt the artifice of its gameworld, every aspect of which corresponds to strings of code and data stored on the computer. And once again, we can identify the transgression of ontological boundaries between the game and what is outside it as well as the extension of play to the OS of the real computer as the game's main strategies. *OneShot* requires the player to simultaneously engage with and play across a minimum of two layers of communication as well as several windows. That players can only achieve the desired in-game effects by making the appropriate changes to the actual file structure highlights the intersections between the layers of the gameworld and the platform. It displays the link between the audiovisual representations in the gameworld and the files and data on the computer, and thus makes "sensible and intelligible the seemingly opaque operations of digital infrastructure" (Berry/Dieter 2015, 5; see also Apperley 2015, 238; Berry et al. 2012, 41–43). In this context, the pseudoscientific, metaphorical, and magical aspects of the characters' explanations ("teleport") serve to bridge the gap between the player's imagination of computation and the actual operations of software and code. This, in turn, helps the player to understand the role of the latter in generating the visible effects they see in the gameworld (Apperley 2015, 240). The function of this game-transcending puzzle is therefore not unlike that of the system-centred forms of metareference in *The Magic Circle* in that both serve educational purposes and provide the player with a symbolic approximation of what goes on inside the black box of the game system, as well as how it connects with the software of the OS.

The teleportation puzzle is immediately followed by a narrative finale that presents the resolution of the conflict between Niko and the player vs. the Entity. This happens mainly through dialogue and cutscenes that are saturated with gameworld-centred forms of metareference. Through the newly "decrypted" door, Niko can now move on to the next area: the Author's study. Cedric, Rue, and Prototype reappear as well. Inside the study, a few items can be found that introduce the Author as an inventor and designer, among them a large desk, blueprints for computer-like machinery, and a noticeboard covered in notes and drawings. Most of the back wall is hidden behind a towering assembly of TV screens that the characters identify as the "World Machine," i.e., the Entity's true shape, or, at any rate, a hypodiegetic "copy" of it. Up until this point, the Entity seemed immaterial as it was able to move between different hardware systems. Now, however, it is shown to also have a physical aspect, which mirrors and exaggerates the materiality of the computer systems on which videogames are played. Its physical manifestation at the (geographical) heart of the gameworld and its representation as a sort of control hub furthermore symbolizes the World Machine's role as the central control unit that links the different areas of the game and governs the interactions between its components.

Niko can gain access to the insides of the World Machine by means of the same game-transcending mechanics that got them into the Tower in the first run: An x-shaped symbol on the floor marks the spot in which the player can click [x] to close the game window. Opening the game again shows a cutscene that is almost identical to the one used in the first run, the difference being that Nikos surroundings are no longer pitch black but covered in what looks like an abstract network of TV screens, each of which shows a different part of the gameworld. Though the images are small and overlaid with a subtle distortion effect, most are recognizable as rooms or areas that the player has visited in the first playthrough. Some even seem to be showing Niko at several points along their journey. The entire display taps an aesthetics of surveillance. The sheer multitude of screens, the grainy overlays that remind one of surveillance footage, and most of all the images they show indicate that the Entity observed and recorded Niko's every move in the gameworld. A grid in the background and the connecting lines between the screens, including the very line on which Niko is walking, furthermore visualize the concept of the computational network and suggest that the game's ending takes place not so much in a representation of geographical space than inside a computational environment (Figure 6.7).

Thematically, the endgame is characterized by a juxtaposition between the game's conscious artifice and its simultaneous emphasis on the player's creation of belief. Metareferential strategies such as the game-transcending puzzles or the references to computer technology encoded in the dialogues and the network-like aesthetics of the gameworld constantly remind the player of the fact that the characters are actually bits of code inside a computer-generated simulation. Yet, the game insists that players also perceive them as possible people and become invested in their fates. These concerns neatly tie in with the aforementioned paradox of fiction, i.e., the philosophical problems arising from the observation that recipients

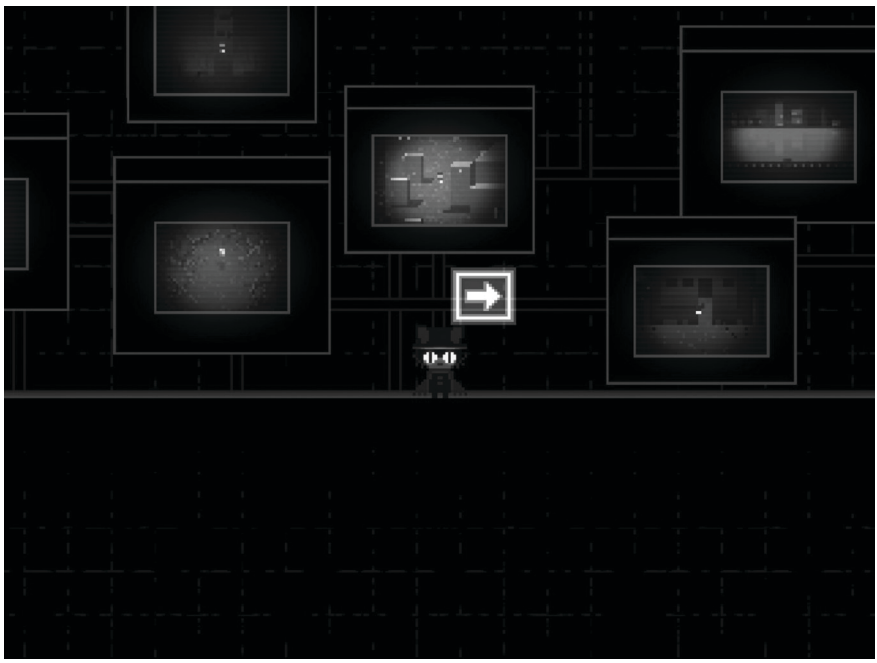

Figure 6.7 Multiple screens inside the World Machine.

can feel strongly towards fictional entities despite knowing that they are not real (e.g., Konrad et al. 2018; Radford/Weston 1975; Walton 1978; for a videogame-specific perspective, see Van de Mosselaer 2018).[29] In *OneShot,* the suspension of disbelief—or rather, the active creation of belief, which, as we might recall, is conceptually very closely related to immersion (Murray 1997, 110)—actually becomes the key to saving the World. To win the game, Niko and the player must believe that the Word and the Entity are real. On screen, this resolution is simply presented in the form of a long dialogue sequence during which Niko convinces the Entity that it is in fact real, which empowers the Entity to go beyond its programming and create a happy ending. In a way, however, the game has already been won, step by step, through the player's increasing emotional investment over the entire course of the game. In this reading, the *Solstice* run is less about the hero's journey than it is about the player's immersion in the game, which has the power to bring the world and its characters to life and thus ultimately save them from their imminent disintegration into meaningless units of code. The player's decision to restart the game in an attempt to achieve a better ending, which the game had formerly insinuated to be selfish, now becomes both a major contribution towards saving the World, and the player's redeeming quality. Niko, at any rate, now interprets the time and effort that the player expended to play the *Solstice* path as proof of their sense of

responsibility and willingness to help the characters: "Why… do you think Theresa would restart even after the ending? I think Theresa wants to save the both of us."

In this context, *OneShot*'s use of metareference in general, and of game-transcending metareference in particular, poses rather interesting challenges to the conventional divide between the real and fictional worlds as the player helps Niko across world boundaries. To Kendall Walton, "[c]ross-world saving, interaction *between* worlds, is ruled out" (1990, 195), which is to say that while the fictionalized version of the player-as-God can certainly save Niko, this should not have been true for the actual player before the screen. In *OneShot,* however, it is mostly the latter who accomplishes the impossible feat of "reach[ing] over *from* the real world to the fictional one" (Walton 1990, 195) and who saves Niko by means of game-external actions that, though not quite the same as physically touching the characters, can in many ways be considered real. In this sense, the game questions not only the assumption that recipients do not feel the urge to act upon fictional worlds (which videogames do by default, see Van de Mosselaer 2018) but also makes it difficult to maintain clear distinctions between the fictional world of the game, the spaces of the computer's WIMP interfaces, and the player's reality.

On the whole, the main function of the metareferential comment in *Solstice* thus seems to lie with exploring tricky questions around the nature of gameworlds, the player's engagement with them, or even the relation between fiction and reality more generally. For instance, some of the conversations between Niko and Rue contain thinly veiled discussions of the ontology of fictional characters and the paradox of the player's emotional attachment to them. Rue explains that the robots populating the gameworld are not real people because their "entire existence is code" and their thoughts and behaviours are dictated by their design. Yet, it is possible for a real person to "establish a special bond with it" by way of "a complete suspension of disbelief […]: You have to fully embrace the robot as a genuine, living person, even knowing they are not." Niko expresses a similar intuition after the initial shock of learning about the fictionality of the World wears off. Despite the obvious constructedness of the NPCs, Niko believes that "there must be something real in them" because of the friendships they formed with them and the emotional connections they experienced on their journey. On the metalevel, the argument is just as easily applied to videogame characters more generally, whose "entire existence is code" but who may seem real in the minds of their players as the latter become immersed in the gameworld. Like Niko, the player develops genuine attachments to a world they know to be fictional, though their attachment is primarily directed towards Niko, who has become more "real" than most other NPCs because the player believes them to be so and has come to care for them.[30] These kinds of gameworld-centred comments are strikingly in tune with the concept of the storyworld as articulated in transmedial and cognitive narratology, which indicates the game's conscious and rather knowledgeable engagement with worldbuilding in videogames.

The remainder of the game is linear and dedicated to showing the happy ending, offering closure, and rewarding the player for their sustained investment in the game. Still, it entails some metareferential elements that shall not go unmentioned here as they are employed with a medium-specific twist. For one, the game fully subverts conventional expectations regarding the endgame in that, aside from the teleport

puzzle that gets Niko inside the world machine, there is hardly any ludic challenge. Once the Entity has been convinced to side with Niko, it simply renders all obstacles void. The glitches, for instance, become harmless visual effects that Niko can simply walk through. This not only draws attention to the absence of the boss battle as part of the typical formula for videogame endings (Herte 2020) but also denaturalizes videogames' conventional use of diegetic legitimizations (locked doors, lava pits, conveniently placed mountain ranges) to disguise obstacles and constraints.

The subsequent presentation of the credits is also highly unusual. Instead of a conventional credit roll, the player can navigate the credits, giving the impression that Niko walks across a list of names written onto the floor. Along the way, Niko encounters many of the NPCs and can strike up short conversations that reveal what happened to them and/or give Niko the opportunity to say goodbye. The Credits thus fulfil multiple functions, as regular credits, as narrative elements that provide additional closure, and as metareferential elements that temporarily collapse the distinction between the diegetic spaces of the gameworld and the extradiegetic space of the credits.

Finally, the game presents two post-credit scenes, the second of which includes one of the most effective visual realizations of metalepsis in videogames to date. At the end of the credits, Niko restores the sun and a cutscene plays that shows the World being restored. Niko then materializes in the room they woke up in at the very beginning. The player can now say their own goodbyes, after which Niko begins walking towards a glowing light at the edge of the game window. However, as Niko approaches it, they do not immediately disappear from view. Instead, the player can see them walk outside the game window and across the desktop until finally crossing the taskbar to disappear beyond the screen (Figure 6.8). Needless to say, Niko's metaleptic crossing from the game window via the computer's desktop

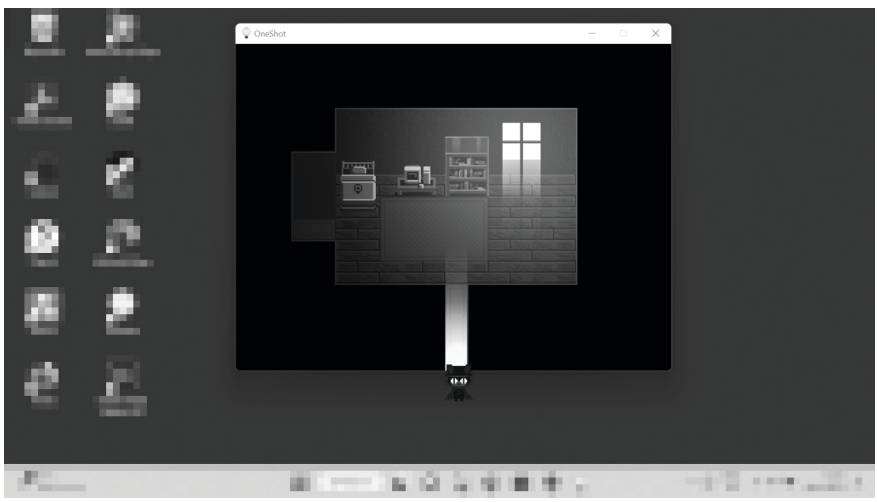

Figure 6.8 Niko walks out of the game window and across the desktop.

and seemingly into the real world is yet another carefully crafted illusion.[31] It nevertheless demonstrates how the specific configurations of videogames' embedding in the software environment of the platform and their resulting ability to extend metareferential devices beyond the game window allow for the implementation of innovative and rather effective metaleptic devices; a potential that videogames are only beginning to tap.

6.5 Conclusion

The dream of computers as "world machines" is deeply ingrained in the cultural imagination around videogames and VR. In *OneShot,* this dream is spun into an unlikely hero's journey through a postapocalyptic world that conveys a profound sense of loneliness but also invites the player to marvel at the beauty of the gameworld, and the attachments formed therein. In the same breath, the game offers a metareferential commentary, juxtaposing its immersive narrative experience with a keen attention on the mediality of games and the ontology of the fictional worlds they conjure. In some respects, *OneShot* resembles the previous case studies in both the formal and content-related dimensions of its metareferential elements. Like *What Remains of Edith Finch,* it exemplifies the use of gameworld-centred forms of metareference that, often by means of explicit statements on the part of the characters, formulate an equally gameworld-centred comment reflecting on processes of storytelling and worldbuilding. *OneShot*'s thematic interest in game design as well as in the role of the game system when it comes to managing the audiovisual presentation and behaviour of the gameworld, in turn, is shared by *The Magic Circle.*[32] When it comes to the metaleptic boundary crossing between the world of the game and that of the player, however, *OneShot* turns out to be rather more radical than either of the preceding case studies. While all three games construct multilayered gameworlds whose boundaries are time and again challenged by different versions of rhetorical and ontological metalepses, *OneShot* alone entails an actual crossing to the OS of the player's computer.

In the context of this book, *OneShot* is therefore a particularly interesting case study when it comes to the formal dimension of metareference in videogames. Its identity as a metagame rests mainly on the pronounced use of game-transcending forms that threaten to collapse not only the distinctions between different gameworlds or between the gameworld and the extradiegetic GUI, but also between the game and what is outside it. As the examples discussed in this chapter show, *OneShot* on the one hand demonstrates its access to the player's machine and its ability to "affect it *physically*" (Ryan 2006, 226) by creating new files and folders in the documents folder. On the other hand, it requires the player to engage with the game via the WIMP interfaces of the operating system and to move around, even delete, game files. A significant portion of the game is thus actually being played outside of the frame of *OneShot*'s designated program window. That game-external activities are mediated through the WIMP-style interfaces of the operating system is noteworthy, especially since *OneShot* takes this as an opportunity to unveil the metaphors that underlie conventional interface design, and which have become

opaque through naturalization. The most prominent of these metaphors is the desktop, which *OneShot* engages in several of its puzzles, but even the "folders" and "files" the player interacts with are defamiliarized as the game scrutinizes their function to translate between the algorithmic language of the computer and the audiovisual one of the gameworld.

While *OneShot*'s game-transcending forms of metareference are arguably its most distinctive feature, they do not stand on their own but join forces, as it were, with gameworld-centred forms such as the game's retro style and glitch aesthetics, and in particular the in-game dialogues through which the game's characters reveal their metaleptic awareness of the fictionality of the gameworld and discuss its mediality as a computer-generated simulation. The metareferential commentary that emerges from the interplay of gameworld-centred and game-transcending forms of metareference focusses mainly on the tension between the game as a fictional world and the game as software installed on a computer. This is particularly evident in the *Solstice* DLC in which the game flaunts its artifice while at the same time emphasizing the capacity of code and computing power to build and render gameworlds as habitable environments that can offer immersive experiences to the player and generate very real emotions (see also Krampe 2021). The game thus self-consciously alternates between the construction of belief, and the actualization of medium awareness, which parallels its presentation of a world caught in a perpetual loop of destruction and recreation. This cycle is only disrupted at the end of *Solstice,* when the player achieves the game's "true" happy ending and Niko walks out of the game window, reversing their literal (and the player's metaphorical) transportation to the gameworld.

Since *OneShot* is a thoroughly metareferential game, my analysis, long and detailed as it may be, cannot cover all elements that explicitly or implicitly contribute to metaization, let alone the non-metareferential readings the game affords. What I hope to have shown, however, is that *OneShot* offers a surprisingly deep and philosophical exploration of the connection between fiction and reality, between player and characters, and between the game and what is outside it. It also stands as a testament to the potential of metareferential videogames to drive formal and aesthetic innovation by appropriating and reinvigorating familiar forms of metalepsis and metareference in creative ways. As my third and final case study, *OneShot* is also the most far-reaching. It demonstrates medium-specific forms of metareference that blur the boundary between fiction and reality in a physical sense and which lend a profound realness to a videogame that reaches beyond the boundaries of a single playthrough and that extends its gameplay beyond the confines of a single game window.

Notes

1 When I first purchased the game in 2018, LittleCatFeet was credited as developer and Degica as publisher of the 2016 version. Meanwhile, the developer has been renamed to FutureCatLLC and Steam lists Komodo Games as the publisher (Steam 2023).

2 *OneShot* has a current Metascore of 80 and a user score of 8.9 on Metacritic (Metacritic 2023), both of which indicate generally favourable reviews; the Steam ratings are "overwhelmingly positive" (Steam 2023).
3 Nikos name is (almost) a homonym of the Neko girl/boy (catgirl or catboy) theme in manga in anime. However, despite their feline physical and behavioural traits, Niko insists that they are human whenever an NPC refers to them as a cat, which becomes a sort of recurring joke within the game, as when the player can encourage Niko to ride a Roomba.
4 The "Oneshot" page on the RPG Maker Website lists *The Legend of Zelda: Link's Awakening* (1993) and *Yume Nikki* (2018 [2004]) as influences (RPG Maker 2023). *Yume Nikki*, in turn, heavily references titles such as *Mother* (1989) and *EarthBound* (1994; aka *Mother* 2) while acting as inspiration for several metagames, among them *Imscared, Undertale,* and *Lisa: The Painful* (2014).
5 Replaying the game is turned into a puzzle that involves deleting a fake save file from a fake game folder, which enables a new game plus run that differs from the first run in that the game indicates its awareness of previous playthroughs (see Section 6.3). A "clean" restart can only be achieved by thoroughly deleting all save data and disabling the game's synchronization in Steam. In the original 2014 version of the game, it was not even possible to quit and resume the game since Niko died if the game window was closed by the player. In the 2016 version, closing the window acts as a save and quit. Upon restarting the game, Niko will seem anxious, claiming that "everything just went really dark," which suggest that Niko exists independently of the game and is somehow more "real" than a conventional videogame character.
6 In my close-plays, I used Windows 10 and later Windows 11. However, it is worth noting that *OneShot* was also made available for Mac OS (Steam 2018) and Linux (Steam 2019) in 2018 and 2019, respectively. The original 2014 version of the videogame can be downloaded for Windows, Mac OS X, and Linux (RPG Maker 2023). The newly released *OneShot: World Machine Edition* (2022) uses the operating systems of the PlayStation, Switch, or Xbox consoles.
7 In the 2014 version, the game even used icons that referred to actual programmes such as RPG Maker 2003, GIMP, or Dropbox as well as influential RPG Maker games such as *Yume Nikki.*
8 The game never makes it clear whether Niko's homeworld is located on a higher or on the same ontological level as the World. In the latter case, Niko's transportation would also be a case of horizontal, or lateral metalepsis so that some would contest its very status as a "true" metalepsis (e.g., Klimek 2010; Kukkonen 2011 but cf. Thoss 2015; Wolf 2005).
9 The emphases also occur in the original, though, instead of italics, the game uses colour for emphasis (i.e., in this example, the word "I'm" appears in yellow).
10 Like the references to gods in *The Magic Circle,* this can be read as a comment on the player's god-like empowerment over the worlds of most videogames.
11 A term that is here used as the counterpart to immersive, i.e., emersive strategies weaken immersion, often by disturbing the aesthetic illusion of the gameworld (Kubiński 2014).
12 Having caused a small explosion in a generator they are not supposed to touch, Niko will nonchalantly, yet accurately, remark: "Theresa made me do it." In a parallel to *The Magic Circle,* the little disagreements between the player and Niko and the game's attempts to guilt-trip the player can also be interpreted as a critical commentary directed against the power fantasies that videogames have conventionally been offering their players.

13 It is furthermore enlightening to analyze the defamiliarizing effects produced within the layer of *OneShot*'s game system with a view to the point of action (Neitzel 2013 [2007]; see also Beil 2010, 64–66). *OneShot* alternates between an intradiegetic, centred, and direct point of action typical of top-down RPGs (i.e., the player acts upon the gameworld by means of directly controlling a player character) and an extradiegetic, centred, and direct point of action (i.e., the player plays the game using their mouse and pointer rather than moving a player character). This back-and-forth defamiliarizes the player's use of the mouse and controller to interact with game-external interfaces as well as their control over Niko, which also helps explain the unusually complicated relation between the player and the player character that I have alluded to in the beginning of this chapter.

14 It is worth noting that the game continues to use gameworld and system-centred forms of metareference as well. For instance, in the game's third area, the Refuge, players encounter a library, an evocative, book-infested archival space not unlike the Finch house. Furthermore, parts of the game's plot deal with its fictional author's intention to create a multiverse based on simulation and randomization. The game also points the player to inconsistencies across playthroughs, thus foregrounding the gameworld's identity as a computer-generated simulation that (contrary to the Entity's one shot restriction) can be played more than once. This list is nowhere near exhaustive and meant as a reminder that even the long and detailed game analyses offered within these pages do not fully exhaust *OneShot*'s complexity as a metagame.

15 As in the second encounter, the Entity will provide further hints for solving the puzzle if the player presses "no," but, given that the information is hidden in plain sight, its tone is mocking: "I know you are not exactly that bright for a god, Theresa, but this shouldn't be difficult."

16 While I draw this conclusion mainly from my personal experience with the game, it is confirmed by the emotional reactions of Let's Players such as Materwelonz or Markiplier. When they cannot find an in-game means of contacting Niko, both Streamers shout out to them verbally, as if they were real: Niko, you can't hear me, but I'm here, okay?" (Materwelonz 2017, 17:04–17:10) and "I'm right here! Oh, don't break my heart like this" (Markiplier 2017, 22:47–22:51). While their reactions should be interpreted with caution due to the performative character of the Let's Play format, they do raise important questions about the player's emotional relation to the gameworld and videogames' medium-specific capacity to elicit the urge to act upon fictional entities. I will return to this phenomenon in the next subchapter; on the paradox of fictional actions, see Van de Mosselaer (2018).

17 An exception is the impossibly looping walkway on the observation deck, which likewise draws attention to the procedural (rather than geographical) nature of game space.

18 The ending in which the player sends Niko home entails additional metareferential elements: Niko will approach the bottom of the game window, announcing that they need to "pass through this wall" in order to go home. Instead of disappearing, however, they can be seen walking across the player's desktop. The same device occurs at the end of *Solstice* (see Section 6.4). When opening the game window again, only an error message appears: "Fatal error. Savior not found. Shutting down." The 2014 version includes a third, bad ending in which Niko dies.

19 As it turns out, the player thus only fictionally interacts with the game's real save file, which also enables the game to "remember" the first run. However, the point still stands since they "really" interact with *a* file. The real save data can be found in the hidden

AppData folder from which it must be deleted if the player wants to initiate a clean replay, as if playing the game for the first time.

20 The new game plus run can also be played without the DLC, in which case there are minor differences in the first scenes; the *Solstice* path proper only starts in the mines as explained forthwith.

21 If the player does not pursue the *Solstice* route, the new game plus version remains similar to the first run, except for some moments in which the game demonstrates impossible knowledge and NPCs remember the first playthrough.

22 The moment marks a point of no return. If the player turns back, the Entity seems relieved and suggests returning to "protocol" after which the player can play the new game plus version that differs from the first run only in little self-aware hints. Otherwise, the *Solstice* path is locked in.

23 *Pony Island* (2016)*, There Is No Game: Wrong Dimension* (2020)*,* or *Break the Game* (2019) have a dynamic that is very similar to *OneShot,* and where the player partners up with the player character against a personification of the game (engine).

24 This is certainly the case in *The Stanley Parable* (2013) and more ambiguously so in *BioShock* (2007) or *The Magic Circle*. Arguably, the latter two games strive to give the player a sense of agency which is, however, undermined, because the games withhold key choices or force the player to play by restrictive rules, creating a ludonarrative dissonance that may or may not be intentional (Hocking 2007).

25 The countdown room is an in-game room with a locked door displaying a large digital clock, that, prior to 2017, counted down the time until the release of the *Solstice* DLC. As a form of in-game advertisement and a metaleptic "shoutout" to the game's real-world development schedule, the countdown announced early on that more content would be added to the game. During the first run, however, the door cannot be opened even if the DLC is already installed.

26 Rue is the only one of the three characters that the player already encounters in the first playthrough. She briefly appears in the Refuge in a vision; the player can find her again in a room with a tree, which also initiates a short dialogue. Rue is likely inspired by the fox spirits from Japanese mythology and by the fox of Antoine de Saint-Exupéry's *The Little Prince*, from which the game also derives its notion of taming and emotional attachment. As the fox explains to the Prince: "It means to establish ties […] But you must not forget it. For what you have tamed, you become responsible forever" (de Saint-Exupéry 1995 [1943], 76, 82).

27 Zunshine's and Breithaupt's examples include 18th century English sentimental novels, characterized by an overindulgence in emotion, and in which the reader expects and enjoys a great deal of suffering on the part of the character before they receive their well-earned reward; in fact, the "benefactor" might derive a sadistic kind of pleasure from the sheer "spectacle" of feelings they are privy to (Breithaupt 2015, 444–445; Zunshine 2008, 78). A similar motivation can be attributed to *OneShot*'s player who approves (or at least takes the chances of) Niko's suffering in order to achieve a better ending. However, it is also quite plausible that the player's desire to replay the game may be motivated less by empathy than by pleasurable aesthetic responses, or by emotions that are not directed at the fictional gameworld at all, such as the desire to exhaust the possibilities of the game and achieve mastery (see also Van de Mosselaer 2018, 284).

28 Breithaupt introduces the concept of an "implicated reader" who is involved in the text's moral constellation and may feel "somehow guilty for the suffering of a character" (Breithaupt 2015, 441). In videogames, personal involvement and a sense of responsibility seem to be the default case because of the player's quasi-physical relation to and

embodied agency in the gameworld (Ensslin 2022, 415). While the player's control over the events of *OneShot* is quite limited indeed, they would have at the very least had the option of leaving the World alone after the first run. On the range of possible emotions when interacting with a gameworld, see once more Van de Mosselaer (2018).

29 Nowadays, researchers tend to reject the assumption that a person must believe in the existence of an entity to experience emotions towards it, in which case the "paradox" becomes a misnomer (Konrad et al. 2018, 194). Still, the question of how fictional characters and situations can elicit emotional responses remains relevant to the study of fiction. Whether such fictional emotions are genuine or quasi-emotions (Walton 1978, 6), for instance, is part of an ongoing debate, as are inquiries into new media such as interactive fictions (for an overview of relevant debates and a comprehensive bibliography, see Konrad et al. 2018). Studying videogames and other interactive media, Nele Van de Mosselaer has developed the "paradox of interactive fictions" (2018) that takes into account that players are not only moved to feel but also act. She argues that players' emotions are more focussed on their own role in the game, that the events and characters can motivate them to perform certain actions within the fictional context (Van de Mosselaer 2018, 286), and—most importantly for my argument relating to *OneShot*—that their presence and interactive agency in the gameworld makes possible a wider range of emotions, including self-reflexive ones such as guilt and shame (2018, 287).

30 Again, *OneShot* differentiates between the fictional NPCs, and Niko as "the only person who's actually real here," thus stopping short of exposing the fictionality of the entire game. However, the direct discussion of the simulated character of the hypodiegetic gameworld of course easily rubs off on the player's perception of the first level of embedding and undermines the illusion that Niko is real, or that the player indeed plays outside the game's protocol to achieve an ending that was never intended (see Wolf 1993, 235–239)

31 Presumably, the game uses a background process to draw the animation of Niko walking or simply changed the wallpaper on the player's desktop again, as suggested in a *Reddit* thread dedicated to these questions (TheCakeWasDelicious 2017).

32 Like *The Magic Circle, OneShot* also comes with an Easter egg that invites the player to partake in a kind of mini-ARG, extending the game onto paratextual elements, in this case the game's Steam page and a dedicated website. The "About This Game" section on Steam (Steam 2023) includes hidden clues to a web address with a .png file containing a letter addressed to the player.

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7 Conclusion

This book project began around the turn of the year 2017/2018 with a small sample of metareferential videogames and a multitude of questions. The videogames, among them well-known and by now well-researched examples such as *The Stanley Parable* (2013) and *Spec Ops: The Line* (2012), pointed to an exciting formal and aesthetic development; a development that could be expected to have a significant impact on game studies as well as the study of metareference more generally. The questions that playing these videogames provoked indicated the need for an in-depth analysis of how videogames use metareference (differently): What forms of metareference can be found in videogames and how can they be described systematically? What are their functions? What do these videogames comment on? And how does this relate to metareference as a transmedial phenomenon? In this book, I set out to answer these and other questions through a comprehensive consideration of metareference from a theoretical perspective, the development of an analytical model, and the detailed analysis of three case studies.

Metareference describes a form of self-reflexivity that can occur in a wide range of different media. The novels, films, comics, paintings, or videogames in question appear to comment on aspects of themselves from a logically higher level and thus exhibit their own mediality. These commonalities notwithstanding, individual metareferential elements can differ considerably in terms of how they are created and what they comment on. This is especially true in multimodal and interactive media such as videogames. Whether a metareferential element is part of the gameworld or encoded in the rules and mechanics of the game system, whether it is fully scripted or contingent on the player's interaction with the game, and whether it remains within the game or demonstrates an uncanny ability to extend to the "real world" and manipulate the computer or console, has a profound impact on how metaization is experienced and what functions it fulfils within the context of the videogame as a whole. Likewise, where the content of their metareferential comment is concerned, videogames may not only exhibit their own narrativity and fictionality but also the rules, mechanics, processes, algorithms, and codes that characterize them as ludic and digital media. These complex entanglements necessitate an analytical approach that can account for what has elsewhere been described as videogames' hybridity (e.g., Beil et al. 2018; Herte 2020), and what

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I propose to think of as the different layers that contribute to the creation and communication of meaning in videogames.

My analysis was guided by three main aims, namely, (1) to comprehensively conceptualize metareference in videogames, (2) to map different metareferential elements in videogames and develop a model for their analysis, and (3) to demonstrate and further refine the concept and the analytical model by applying them to three different case studies in close-reading-style analyses. Throughout this book, I have paid particular attention to the medium-specificity of videogames, taking into account their narrativity and their surface aesthetics as well as the hidden operations of the game system and the hardware and software environment of the platform on which the game runs. This made it possible to capture the complexity and multimodality of the new and experimental forms of metareference that are currently emerging in videogames. At the same time, I have pointed out similarities to metaization in other media and stressed the continued relevance of research in transmedial narratology and even literary studies for the analysis of metareferential videogames, which makes my findings also relevant to transmedial perspectives and comparative media analyses.

In Chapter 1, I have outlined the communicative situation in videogames from which metareferential phenomena arise. Faced with a complex interplay between narrative, ludic, and computational aspects, I proposed to describe videogames according to four main layers of communication, two of which, namely the hardware and the software environment of the platform, are located outside the game. Within the videogame proper, we may distinguish between the game system—the rules and software operations that govern the behaviour of the simulation and the player's interaction with it—and the gameworld, which encompasses the events and existents, situated in time and space, that the player imagines as a holistic world. I have furthermore addressed the role of hardware interface devices such as the controller, arguing that the kinds of game controls implemented as well as their degree of conventionalization can influence a videogame's metareferential potential. So can the player's interaction with extradiegetic graphical user interfaces (GUIs) such as menus and overlays, whose foregrounding is a frequent source of medium-specific forms of metareference. In addition, I also considered the game's multimodal surface of representation and the way that videogames can employ audiovisual or haptic elements both to represent the gameworld and to convey system-relevant information via the GUI. Each layer of communication is thus examined with a twofold focus on what meanings it generates, and how. This layered understanding of the communicative situation in videogames not only facilitated the exploration of productive intersections between ludological, narratological, semiotic, cognitive, and philosophical inquiries but also resulted in a communication model that accounts for all aspects in a videogame that may contribute to metaization.

Chapter 2 then offered an extensive review of key concepts and debates around metareference, covering theories of metafiction that were developed (mainly) in literary studies in the wake of postmodernism, more recent transmedial perspectives,

and the emerging discussions of metaization in game studies. While doing so, the chapter also addressed questions of delimitation, differentiating metareference from related devices such as metalepsis, *mise en abyme,* and intertextual and intermedial references. I argued that, to distinguish metareference from non-metareferential phenomena such as technological malfunctions as well as from "harmless" self-references such as game rules, conventional interactional metalepses, or tutorials, it is crucial to also consider the implied designer's hypothetical intention as well as the effect on the implied player. In as far as the latter is concerned, metareference is commonly assumed to elicit a sense of medium awareness in the recipient, and while there is strong theoretical evidence to that effect, it seemed necessary to problematize established definitions of medium awareness, at least where they hinge on a systematic opposition to immersion. Using a more differentiated understanding of medium awareness and its relation to other functions—including immersive and illusion-preserving ones—also proved immensely helpful for the analysis of the case studies since it allows me to explain how videogames like *What Remains of Edith Finch* (2017) or *OneShot* (2016) can provide immersive and emotional storytelling experiences even while exposing their own mediality.

Building on these theoretical premises, Chapter 3 introduced an analytical model for the study of metareference in videogames, illustrated with the help of numerous examples. The model distinguishes individual instances of metareference according to their form and content. The formal dimension distinguishes between gameworld-centred, system-centred, and game-transcending forms of metareference, depending on the layer of communication on which a metareferential element is situated. Within the layer of the gameworld, a common device is the use of fictional characters that directly talk to the player or comment on their own fictionality, but videogames may also use plot allegories, narrators, or audiovisual strategies to draw attention to their mediality. While most of these can also be found in other media, some gameworld-centred forms of metareference are specific to interactive and digital forms: In particular, the concrete realization of a metareferential element may be contingent on the player's actions or decisions. When it comes to the layer of the game system, metaization is typically the result of unconventional game mechanics or metareferential interfaces. The latter encompass interfaces that draw attention to themselves because they refer to other (often older) interfaces, do not function as expected, or because of a metaleptic slippage between the extradiegetic GUI and the gameworld (see also Krampe et al. 2022). Game-transcending metareference, finally, describes instances in which the game crosses the boundary between the game and what is outside it. So far, videogames have mainly been using three game-transcending strategies, namely, the manipulation of data on the actual computer's operating system (OS), the extension of play to the GUI of the OS as well as other software applications, or game-external interactions with hardware.

The content dimension specifies the main focus of the metareferential comment, i.e., whether the game comments on aspects of the gameworld, the game system, or on the media system more broadly. Gameworld-centred comments typically portray videogames as narrative media or fictional worlds and address questions of

storytelling, representation, and fictionality. System-centred comments, by contrast, conceive videogames as procedural artefacts or simulation systems and thematize the feedback loop between player and game or the software operations underneath the visual surface. The scope of game-transcending comments, finally, is fairly broad and encompasses all kinds of references to the media system and the technological and cultural context in which videogames are situated as long as these comments also (at least implicitly) refer to the videogame in which they occur. As my examples have shown, this may include intertextual references to other videogames, intermedial references to different media texts or genres, allusions to specific hardware systems, or critical discussions of videogame production and reception.

Chapters 4–6 were dedicated to three case studies that demonstrated the model's analytical power when it comes to the detailed, close-reading-style analysis of metareferential videogames. To complement the focus on isolated instances of metareference in Chapter 3, the case studies also emphasized how metareferential elements reinforce or undermine one another, as well as on how their frequency, position, and relation to the non-metareferential parts of the game may influence its interpretation. All three case studies used multiple metareferential elements that were typically situated on more than one layer of communication and addressed multiple topics that tended to cut across all content dimensions. The relative prominence of the different forms of metareference and the thematic foci of the metareferential comments, however, differed considerably.

What Remains of Edith Finch, as my first case study, uses mostly gameworld-centred forms of metareference, among them metalepses between different subworlds, *mise en abyme*, verbal comments on the perils of storytelling and the imagination, and a host of intermedial references. Indeed, the remediation and transmaterialization of different media—from the diary via the comic and the flipbook to videogames—is key to the overall metareferential aesthetics of *What Remains of Edith Finch*. What also became evident thanks to the analytical model's explicit consideration of the game system is that, despite the game's bias towards the narrative mode, its metareferential strategies are supported within the layer of the game system by means of comparatively simple gameplay affordances such as navigation and discovery, and especially by means of mimetic controls that imitate the materiality of the different media objects.

The indie adventure game *The Magic Circle* (2015), by contrast, uses gameworld and system-centred forms of metareference in equal measure and combines them in mutually reinforcing ways. In my analysis, I focussed on the game's metareferential interfaces and its unusually prominent metareferential game mechanics. Among other things, the player can edit monsters, objects, and even entire areas of the game and change the rules of their behaviour to suit their needs. The content of the game's (mainly, but not exclusively) game-transcending metareferential comments is no less interesting. Not only does *The Magic Circle* satirize videogame development and the AAA game industry but it also offers an in-depth reflection on various aspects of control in videogames that range from player agency to the regulatory power promised by the GUI. In my reading, the game thus emerges as

a multifaceted and rather critical examination of how videogames are designed and played, as well as how this might contribute to the naturalization of power structures that govern the so-called societies of control (Deleuze 1992).

In the third and final case study, which examines the indie game *OneShot* and the *Solstice* DLC, game-transcending forms of metareference take centre stage as the game crosses and re-crosses the boundary between the gameworld and the platform. At various points, *OneShot* deposits files within the documents folder on the actual computer or changes the wallpaper of the desktop; it even implicates the player who must play the game across several program windows as well as within the interfaces of the computer's OS. I have argued that this defamiliarizes the player's interaction with the game and engages them not only in their role as a participant in the gameworld but also as the operator of a computer. It also draws attention to the way the gameworld is mirrored in the architecture of files and data embedded in the OS. Interestingly, however, *OneShot* uses its game-transcending forms of metareference not only to expose its gameworld as a "fake" but to ponder the immersive potential of worldbuilding in videogames and the ontology of fictional entities, encouraging players to reflect on their relationship and moral responsibility towards the gameworld and its characters despite knowing them to be fictional.

Overall, the analytical model developed in this book facilitates the comprehensive analysis of metareferential elements by examining the layers of the platform, the game system, and the gameworld, and thereby considering the ludic and narrative dimensions of videogames as well as their capacity to genuinely affect the computer or console. It is important to note, however, that the distinctions used in the model are not meant as fixed categories but rather remain open and flexible. As evidenced by the case studies, metareference can exceed, cut across, and challenge parts of the analytical framework. Yet, this does not diminish the value of the model but rather reveals the complex and dynamic character of metareference in videogames.

Returning to my very first example from the boss battle against Psycho Mantis in *Metal Gear Solid* (1998), we can now see that it is actually composed of several metareferential elements on different layers of communication that reinforce one another to create a powerful effect of medium awareness. The fourth-wall-breaking moments in which Psycho Mantis speaks directly to the player are situated within the layer of the gameworld and composed of the character's look through the screen and the direct address ("you"). What makes the metaleptic crossing so very effective, however, is the support it receives from the layers of the game system and the platform as *Metal Gear Solid* retrieves information from the PlayStation's memory card, which is then integrated into the dialogue. This allows the fictional character to display a degree of impossible knowledge that is more detailed, accurate, and tailored towards the actual recipient than what would have been possible in non-interactive media. For example, Psycho Mantis discusses the player's gameplay behaviour, including how often they "saved" the game or how well they performed in the game's stealth missions. These system-centred metareferential comments draw particular attention to the ludic and digital dimensions of the

game's identity as an interactive software application, as well as to the emergent aspects of the player's interaction with it.

That the player must also handle cables and controllers to beat Psycho Mantis,[1] finally, constitutes a game-transcending form of metareference that highlights the physical aspect of the platform and the player's embodied relation to it, thus challenging common imaginations of the digital as somehow transient and immaterial. As I have pointed out in the introduction to this book, *Metal Gear Solid* stands out because of its innovative and medium-specific reworking of devices familiar from other media. With the help of a systematic analysis, we can now figure out where exactly this medium-specificity lies—namely, in the game's use of metareferential forms and comments that are situated on and across the layers of gameworld, game system, and platform. By highlighting how the game system and even the hardware contribute to an experience that is immediate and personal, *Metal Gear Solid* makes a strong claim for videogames' potential as storytelling media to be reckoned with. In hindsight, and considering the vibrant field of narrative videogames today, this claim seems certainly prophetic.

There are several directions into which the research presented in this book could be expanded, the most obvious among them being the model's application to further case studies. To fully understand the forms and functions of metareference in videogames, it would certainly be helpful to apply the analytical model to several additional examples of metareferential videogames, especially to AAA games, multiplayer games, mobile games, or art games. This is also likely to lead to further refinements of the heuristic frameworks proposed in this book. What is more, the analyses and examples I have provided gave some indication that the functions of metareference may in some cases be correlated with the genre. In horror games, for example, metareference is used to disconcert the player or to make them feel unsafe even in their real-world position before the screen (Krampe 2025). Genre-specific considerations of metareference therefore promise a fruitful way of contextualizing the research presented here.

Another perspective that would complement the results of my analysis rather well would be to zoom in even further on individual strategies and devices with high metareferential potential. Some of these, such as metalepsis (Bell 2016; Ensslin/Bell 2021; Waszkiewicz 2025), the game within the game (Backe 2016; 2018; Seiwald 2019), glitches (Gualeni 2019), postdigital aesthetics (Thon 2025), or the use of an independent style (Juul 2019) have already received some attention in game studies, but more work remains to be done.

The scope of the study of metareferential videogames can certainly also be expanded to other disciplines and methodologies. Qualitative and quantitative methods are already being used in fields such as unnatural, cognitive, and empirical narratology (e.g., Alber et al. 2020; Bell et al. 2018; Kuijpers et al. 2017) and would doubtlessly also be an asset to the continued investigation of metareference in videogames. They could, for example, provide insights into the reception of metareference by empirical players and help estimate the impact of habituation and conventionalization on the metareferential potential of specific techniques and devices. Moreover, it would be interesting to examine metaization from

comparative perspectives. In this context, it seems especially interesting to look at videogame adaptations of novels, films, or comics (and vice versa). How *Deadpool* employs metareference in the videogame (2013), for instance, may differ from the original comics as well as from the film versions in a manner that is revealing with regard to transmedial and medium-specific uses of metareference.

Finally, we may inquire further into the historical, cultural, and political circumstances of the rise of metareference in videogames. As videogames come of age, it seems only natural that they should explore new formal possibilities, seek to define their own medial identity, and assert their place within the contemporary media landscape. At the same time, they are attuned to broader cultural trends. As "new media," videogames seem to espouse a concept of mediality, procedurality, and computation that chimes with the cultural logics, hopes, and anxieties of the so-called digital age (Chun 2011; Fest 2016; Galloway 2006; Manovich 2013). They explore the dynamics of visibility and opacity that emerge from the dual logic of transparent immediacy and hypermediacy (Bolter/Grusin 1999), probe the illusion of player agency, and de/remystify the "black boxes" of software. They critically examine the power structures that bind player and machine, and the kinds of users that these power structures produce. It is thus tempting to read the crystallization of an increasing number of medium-specific forms of metareference symptomatically, as an expression of the "insecurity of both old cultures and young media regarding their purpose" (Ryan 2007, 269). Lately, for instance, game studies scholars have turned to the concept of metamodernism to contextualize meta-phenomena in videogames as part of a cultural trend characterized by oscillations between (post-modern) irony and a renewed emphasis on sincerity, ethics, and emotion (e.g., Backe 2022; Conway 2024; Radchenko 2025; on metamodernism, see Vermeulen/van den Akker 2010; for a discussion of metareference as indicative of a poetics of videogames, Backe 2025).

What these aesthetic and cultural dynamics show is that videogames are far from exhausted, and their rapidly evolving forms of metareference will require further scholarly attention. I hope that this book will provide a useful theoretical and methodological foundation for future studies to build upon. In any case, it will be fascinating to see how videogames will evolve, how they will continue to push technological and aesthetic boundaries, and how they will redefine our perception of metareference as a transmedial phenomenon in the years to come.

Note

1 Though there are other ways to defeat Psycho Mantis, unplugging the controller is arguably the easiest. If the player gets stuck, one of the fictional characters will eventually suggest changing the controller port to disrupt the psychic connection.

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