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Framing Uncertainty

Computer Game
Epistemologies

Markus Rautzenberg

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Computer Game Epistemologies

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PREFACE

I remember vividly what one of my professors told me more than twenty years ago, when I began in (German) academia. I was about to write my master's thesis and had decided on two topics, which on the surface could not be further apart. The first was 'Ernst Jünger and the Philosophy of Anti-Rationalism' and the second, 'Aesthetics of Computer Games'. My professor was very interested in both topics, which was not the norm in 2002 to begin with, but he put his doubts about my computer game interests this way: 'Nice topic, but I think, if you really want to do it, you have the choice between a possibly innovative piece of work on games or a career in academia.' I very much appreciated his sense of humor but felt this was not really a joke. Even in 2002 the topic of 'computer games' was not taken seriously, to the point where a person could easily risk his or her career in academia over it, or so it seemed.

To be honest, I struggled a little but in the end I really wanted to write about computer games from a philosophical standpoint because in 2002 there barely was a research topic called 'game studies', and particularly not in Germany. Espen Aarseth's *Cybertext: Perspectives on Ergodic Literature* was one of the few books that really opened up new perspectives on the medium, but at the time even what is today a more-or-less historic debate between 'ludology and narratology' was still a hot new topic.

Despite my title at the time—"Mirror-Games. On the aesthetics of Screen-Games"—the most fascinating aspects of computer games for me did not, and do not, reside in aesthetics, but rather in the epistemic realm.

That is why a critique of the intensive violence or the disruptive content, for example, for me does not reach the substance of the problem. Sigmund Freud observed, not unrelatedly, that the tangible content of a dream cannot be analyzed without the underlying thoughts of a dream. What we should be concerned about is therefore the mode of world apprehension within computer games. We also need to explore the epistemic core that becomes visible here. The computer is not a mimetic but rather a generative device. This is what the computer as a medium shares with game and play. The generativity is where play and computers meet and point to something that is essential for an understanding of today's mediatic state of things.

Computer games wean and disburden from the experience of contingency, because digital computers cannot produce true randomness. Randomness however is necessary for contingency to exist. Because of a lack of contingency it is the pleasure of a discharge of affect that drives the game. This is not a threat to the player, because the sting of an unmediated experience of contingency has been removed. This is the point at which a critique of computer games should start. Perhaps far more important, though, is the fact that the incapability of contingency that governs even big data research is not conceived as a problem or conceptual frailty, but rather is promoted as being normal. This misconception leads to the alleged 'normal' being constitutive of the world in general. The opinion that everything might be possible, but that nothing is really necessarily so, is not a popular conviction in the exact sciences of today. On the contrary, the common belief is that it is only a matter of time until the perfect algorithm is discovered that will unveil necessity behind the curtains of what looks like contingency.

I felt that what we have to understand is that the computer is not just a tool to simulate climatological phenomena, to mention one example. It is rather the decisive epistemic component that leads to our understanding of phenomena such as climate change. Under the prejudice of the digital computer as the end result of enlightened rationality, it might sound paradoxical to state that its epistemic power is in line with religious conceptions. Like in medieval theology before, big data and digital media today are more and more perceived as some kind of 'book of nature', where we just need to find the right key (or filter) to let knowledge reveal itself. I am not denying the possibility that computability and decidability,

e.g. the proposal that computer simulation of the human brain may just be a problem of granularity, i.e. resolution, computing power and available memory. My point is that the fact that digital computers rely on decidability is no reason to conclude that everything that exists is computable. This sounds like a common-sense statement, but it has become surprisingly unpopular.

Additionally, when I started working on computer games from a philosophical perspective at the beginning of the twenty-first century, the notion of ‘gamification’ would not have been understood as it is today. At that time, the term would have meant the dissolution of the real in favor of a postmodern ‘anything goes’, perhaps synonymous with a term like ‘aesthetisation’. While computer games became a very large industry during the early twenty-first century, nobody would have been able to foresee the pervasive extent of gaming today. In the age of big data, geotagging and self-optimization through ‘achievements’ and ‘rankings’, game studies need to consider a broader notion of what game-related fields of research may be. In the past we loved to pose ontological questions, and for a long time game studies were expected to deliver definitions, thereby answering the questions ‘What is a game; and what is its nature?’ but, at least for me, the more interesting way to approach this is to observe what kinds of questions arise when we think about games. This is what this book is about. Because, obviously, thinking about play and games is not just about different cultures and approaches to gaming but also about ludic principles as catalysts and prerequisites for thinking, feeling, understanding and other ways to create an understanding of the world. The ubiquity of ‘gamification’ (the application of game mechanics in non-game contexts), for example, allows us today to differentiate at least three distinct layers that in combination constitute ‘game’ as a specific mode of world apprehension today:

1. Self-optimization;
2. Risk management; and
3. Mediation of paradoxes.

All of these elements may be utilized to enhance the human condition both ethically and aesthetically, as Kant, Schiller and Huizinga have

argued, but at the same time they are used in the ‘games’ of global capitalism where all of our lives are ‘at stake’. For Schiller, self-optimization would have taken the form of a pedagogical system of playful education. In today’s work environments, elements of gaming are often used as superficial gratification systems that mimic playful competition in order to make people work or consume more efficiently. Risk management is the only part of games that is of interest to the *mathematical* theory of games, and this in turn is the basis for the market-predicting algorithms upon which the global markets of today are based. Standard & Poor’s and their colleagues do nothing but ‘play games’ with the populace’s future, and that is indeed a core ingredient of gaming itself.

Games are all about predicting the future, regardless of whether this future is the immediate one or a hundred years from now. Uncertainty is both at the core of what is fun about games, and the reason why mathematical game theory rules economic theory of today. It is all about living with contingency. The mediation of paradoxes seems to be the last remaining resort of human freedom, and the place where the arts at last come into their own, but this is again just one side of the story. By making connections perceivable that would otherwise be incompatible, the risk of loss or the destruction of known boundaries is indispensable for games to work. By letting markets collapse and deliberately ‘raising the stakes’ in the process, profits are maximized and wars are won. In an effort to conceptualize a truly interdisciplinary approach to a philosophy of computer games that would have to bring all these aspects of gaming into the equation, we have to consider that the notion of the intrinsic humanistic quality of games may be purely romantic.

Instead *we* have to decide how to approach games as one of the great cultural resources of humanity. Gaming and playing does not mean passively to embrace indifference; on the contrary, it is an active encounter with difference and computer games in particular, being digital media, allow us constantly to practice navigating uncertainty. Historically, game studies and their subject matter, what I call the ludic epistemology of today, are heirs to postmodernity in that they do not fit well with intellectual laziness and superficial relativism, and especially not with essentialisms. The following chapters that consist of unaltered articles (previously published only in German) on the subject from a timespan of over seventeen years of working philosophically on computer games deal with horror as well as concepts of uncertainty and paradoxes, a theory of computer games as a theory of caves (speleology), ludic mediality, the game

Portal as an experimental ensemble, or how videogames became obtrusive, to name a few topics. The book is written from the perspective of (continental) philosophy and media theory.

Playing games is a way to be in contact with the world, a contact that does not allow for quick answers and handy definitions. It might be a mad world out there, but the dance of paradoxes is not just something to be feared but rather something to be explored, and games as framed uncertainties allow just that. Therefore *Framing Uncertainty* will be the overarching topic that holds all chapters of the book together, because notions of framing as well as uncertainty are what computer games are all about. ‘Framing’ as in ‘framing a picture’ but also in the sense of ‘to be framed’ because what computer games do (among many other things) is to betray us about, and at the same time shelter us from, the existential threat of contingency by domesticating it within the ‘magic circle’ of game rules and computational technology that excludes contingency by replacing it with mere uncertainty.

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CHAPTER 1

Through the Looking Glass: Aisthesis and Semiosis in Computer Games

This chapter is a translation of a small book on the topic of computer games issued as one of only two academic monographs on the topic in Germany in 2002, therefore it has both historical as well as theoretical value as it is an early attempt at a theory of computer games as a medium *sui generis* in German academia. Applying phenomenological, semiotic and psychoanalytic approaches, this part is very much influenced by a specific kind of German media theory that was, and remains, interested in the ‘materialities of communication’, i.e. the medium itself. This perspective today is very well known outside Germany too, as a blend of philosophy, philology and a fascination with all things technical. ‘Philosophy’ in this case means continental philosophy.

INTRODUCTION

‘Where the Game Ends and Reality Begins’

A computer game released recently in the USA was promoted by its developers in the following way:

You only use 12% of your brain. Mind if we play with the rest? Welcome to Majestic, the suspense thriller that infiltrates your life and leaves you guessing where the game ends and reality begins. Majestic is an episodic online entertainment experience set against the backdrop of a grand and sinister conspiracy—an unfolding mystery adventure that uses the Internet

as a canvas for its story, weaving you through both real and fictional experiences in real time. Highly personalized and naturally paced, *Majestic* tailors your experience specifically to you as it dynamically changes the content of Web pages, emails, faxes, voice mails and chat conversations in order to immerse each player at the very heart of a developing story. *Majestic* players assume the leading role in their own adventure, interacting with other characters, uncovering clues, searching for answers, collecting and using digital objects and resolving challenges to progress through the experience. Unlike other forms of entertainment, *Majestic* actively pursues and interacts with you based on events developing within the fiction, creating a uniquely suspenseful entertainment experience.¹

The in-game content of *Majestic* revolves around a plot whose subject is an international conspiracy. It might, at first glance, be categorized under the ‘adventure’ genre.² What differentiates it from conventional computer games is that we are no longer dealing, in this game, with software installed locally, available for purchase in a shop, and offering an enclosed virtual space of play. Its interfaces are the real communication methods of the digital age: from chat rooms to Internet forums to communications sent by email or mobile phone. For a monthly fee, the player is given tasks and is passed the alleged clues of a conspiracy over the anonymous channels of the World Wide Web. These are spread either by real actors or by intelligent ‘bots’.³ The goal is to create an atmosphere as real and as paranoid as possible, in which the borderlines between fiction and reality are increasingly blurred. This thrill is the real content of the game.

Following the events of 11 September 2001, with the terrorist attack on the World Trade Center in New York, the Pentagon and other sites, the publisher Electronic Arts considered itself obliged to delay the release

¹Promotional text of the software developer Electronic Arts for the game *Majestic*. The link to the website this citation was taken from is no longer available.

²The content of an ‘adventure’ video game is to solve puzzles set by gaming software in order to ‘progress’ within a story. These puzzles consist of the logical combination of information and/or virtual objects, to develop solutions which then themselves lead to further branches of the plot and thus also to new puzzles.

³‘Bots’ are intelligent programs which act according to a particular principle and, for example, write entries in Internet forums, send emails with a particular content at pre-determined times, or can even communicate in real-time chats with the player. A broad presentation of these particular forms of ‘artificial intelligence’, on the basis of numerous examples, can be found in Sherry Turkle: *Leben im Netz. Identität in Zeiten des Internet*, Frankfurt/M 1999.

of the game *Majestic* indefinitely because, in the game, references to terrorist organizations operating on a global scale are the predominant theme. Because the fictitious news reports within the context of the game made use of the same communications channels as did 'real' news distributors, the perceived difference between a staged event within the framework of the game and the broadcast of a catastrophe on CNN was so blurred that Electronic Arts considered the continuation of *Majestic* unacceptable.

The causes for this ought not simply to have been the shock of 9/11 and related, understandable, reasons of respect. What was truly unsettling ought to have been the perceived reversal and shaking up of the relationship between reality and fiction, conventionally assumed to be dichotomous. While the terrorists had, during a time of technological upgrade, with nothing more than a pair of box-cutters and crumpled airplane manuals in their bags, aimed not so much at real people but at connotatively loaded *signs* (the World Trade Center and the Pentagon being the symbols of a despised Americanism), and with their destruction had so deeply shaken the West as had scarcely any other event since the 1940s, *Majestic* pushed its way into the real everyday life of its players as a fictitious scenario. And so, as reality obtained its most brutal entrance into the symbolic field of Western high capitalism, the developers of *Majestic* became aware of the dramatic scope of their seemingly harmless project by means of its exact mirror image. If fiction has come far enough to reach into the real life of the player and the real, to make itself heard, can reach its furthest magnitude only through entering into the symbolic field, the much-invoked 'agony of the real' has entered a stage that calls urgently for new reflection.

It is no accident that this example owes its clarity to the comparison with a video game. Key terms such as 'derealization', 'aestheticization', 'loss of reality' or indeed 'the agony of the real' are set to work in phenomena that conspire together in concentrated form in the medium of the video game, making it a rewarding field of analysis. Curiously enough, this medium is either largely ignored within media-theoretical discussions, or is perceived only as a peripheral phenomenon.

While the scientific confrontation with the medium of the video game is limited to a few, predominantly US, contributions, mostly as 'uses and gratifications' and 'stimulus—response' analyses, a curious silence surrounds this phenomenon within cultural—theoretical media discussions. This is surprising, considering that a concrete analysis of this medium *as a*

medium could yield information about concepts such as virtuality, derealization or perception in the age of digitalization. Such key terms are commonly used, but only in a very diffused way in the public discussion about ‘new media’, and rarely with methodical reflection. The description of a concrete phenomenon such as the video game could, as a kind of side-effect, lend this terminology greater clarity.

An investigation of the phenomenon of ‘virtual reality’, however, is in no way lacking in the growing literature on the subject of media theory over recent years.⁴ What is surprising is the fact that, in all the talk of human—machine systems, data suits, disembodiment or the plunge into virtual worlds, mainly abstract concepts of this ‘virtual reality’, as depicted in the novels of William Gibson (*Neuromancer*) or in the concepts of the US National Aeronautics and Space Administration agency (NASA), are drawn upon as standards for comparison; models which are not yet realized, are not yet available to the wider public, or which belong entirely to the world of science fiction. Yet there is no need to look so far afield, for the phenomena in question here are already reality in the medium of the video game, and they can be found as near to us as the closest Gameboy-playing child.

Aestheticization and the Dissolution of Reality

The broad disregard for the medium of the video game within cultural—academic discourse has, we may surmise, many reasons. For one, a relevant, specialized knowledge of the object is to a large extent absent. The sheer mass of electronic entertainment software, and of its genres, forms and technical developments, has become impossible to survey. There is, moreover, the extremely accelerated development of hardware, leading to the situation that contemporary video games of recent release share only basic fundamental characteristics with their predecessors, even if the latter

⁴Representative of this are the following essay collections: Florian Rötzer (ed.): *Digitaler Schein. Ästhetik der elektronischen Medien*, Frankfurt/M 1996; Sybille Krämer (ed.): *Medien—Computer—Realität*, Frankfurt/M 2000; Gianni Vattimo, Wolfgang Welsch (eds.): *Medien-Welten Wirklichkeiten*, Munich 1998, as well as Ars Electronica (ed.): *Philosophien der neuen Technologien*, Berlin 1989, and the bibliographies included within it.

might be only five years older, and that the contents and forms of presentation can change radically, when we also consider the introduction of larger and larger storage media within a short time period.

Furthermore, there is a certain resentment directed towards the field of investigation represented by electronic entertainment software, arising from the ‘predominance of the economic over aesthetics in the area of mass media’.⁵ This circumstance emerges with particular distinction, of course, in the field of video games, which are developed solely for commercial ends in the framework of an entertainment industry that has grown to be starkly differentiated. The ‘commerciality’ of the video game, however, inscribes itself into a process that is inherent to the age of the media revolution and particularly to the emergence of new multimedia systems such as sound film, television, or indeed the computer.

The field of video games fits as a clear representative into a phenomenological complex defined by Gianni Vattimo with the terms ‘dissolution of reality’ and ‘aestheticization’:

What we call ‘dissolution of reality’, and the boundaries of which we are looking to find, is that phenomenological complex we also describe as ‘aestheticization’. The general aestheticization of existence—from advertising or the value of an item understood more as status symbol than as use-object, to ‘tailor-made’ information—is only the end-point of a development which is one with modernity, and in which what has been achieved in the area of aesthetic experience has, in an emblematic way, anticipated revolutions or at least symbolized them; revolutions which later came to be true on a general, social level.⁶

First, it is important that Vattimo links the ‘dissolution of reality’, which he analyses as the result of an intellectual—historical development closely bound to the emergence of modern mass media, to ‘aestheticization’, a key term which generally has negative connotations. The consequence of this pairing is a further revaluation and a new accentuation of the concept of aestheticization, which now appears to be the consequence of a discourse to which the formerly unquestioned concepts of a self-transparent

⁵ Gianni Vattimo: *Die Grenzen der Wirklichkeitsauflösung*, in: Vattimo, Welsch (eds.): *Medien-Welten...*, p. 24.

⁶ Vattimo: *Die Grenzen...*, p. 20.

subjectivity have become questionable and the necessity of a plural interpretation of what is understood as ‘reality’ or ‘truth’ has become evident: ‘We all know more or less explicitly that the world is a “game of interpretations” and no more (we might think of Heidegger’s “mirror-play” of the world). This is what I have characterized in the title of this essay as “dissolution of reality”.’⁷ In relation to the phenomenon of aestheticization, and bound to this fundamental prerequisite, the crucial point of Vattimo’s argument consists in his hypothesis that the complaint about the increasing ‘aestheticization of existence’, which consists in the preference for artificial, virtual worlds at the cost of the apparently ‘real’, misses its point in a significant way.

The ‘aestheticization’ denoted here as a signum of modernity responds to the catastrophic ‘Shocks’ of the wars and social transformations of the end of the nineteenth century and of the twentieth century, with a revision and destruction of ‘classical’ aesthetics by means of the unrecconciled affirmation of the conflict-ridden and the dissonant, as well as of the revaluation of difference and of the singular, without hope for a synthetic ‘resolution’. This substance, which is prefigured in the art of modernity, contains ‘emblematically’ the reference to a tendency which today—in the train of the most recent media revolution, digitization—reaches its maximum spread, but which is characteristically skewed by the above-mentioned ‘predominance of the economic over aesthetics’. That is, because the ‘aestheticization of existence’ is subject to the rules and demands of the market, it lingers behind the level of reflection expressed in the art of modernity, and sacrifices its insight into the conflict-ridden nature and dissonance of existence and the perception associated with this of a regression towards a vulgarly idealistic, pseudo-classical aesthetics of reconciliation.⁸ The discomfort regarding the progressive ‘aestheticization of existence’ results, therefore, not from the ineluctable fact of this aestheticization itself, but rather from the frustration regarding an aestheticization which is *not radical enough*.

⁷ Ibid., p. 19.

⁸ The ‘Riefenstahlization’ of a certain advertisement aesthetic serves as an extreme example, which flagrantly adapts Leni Riefenstahl’s pseudoclassical monumental aesthetics of a ‘Triumph of the Will’ (Davidoff advertisement, ‘Let me see you stripped’, music video of the group Rammstein).

What we notice about the widespread aestheticization, and what calls for a ‘limit to the dissolution of reality’ is the absence of any kind of conflictuality. And this absence has an explanation, which we may summarize under the key term ‘demands of the market’.⁹

And ‘What is at stake in the “unreality” of media is not the loss of reference to reality, but rather the fact that too much reliance is given, unjustifiably, to reality.’¹⁰ This conflict between a level of reflection already attained (the aestheticization and ‘dissolution of reality’ as an effect of aesthetic modernity) and its simultaneous subversion in the mode of the most commercial gloss of contemporary mass media (predominance of the economy) contains both the justification for the above-mentioned resentment within the theoretical conception of the phenomenon of the video game and the call for a serious investigation of it. For in scarcely any other medium are both of these divergent aspects united in such an exemplary way. On the one hand, the ‘de-realizing’ models and immersive strategies of virtual reality are found nowhere in such an advanced form as they are in the medium of the video game; at the same time, however, video games are just as subject to the ‘demands of the market’ as is advertising. While advertising has been taken seriously for some years as a cultural phenomenon, a circumstance initiated not least by the semiotic analyses of Roland Barthes and Umberto Eco, and is analysed correspondingly, the field of video games remains as yet largely unobserved. While, in very recent times, we may well see a tendency within the feature sections of magazines indicating a change in the public perception of the phenomenon of the video game,¹¹ a well-founded, cultural—theoretical confrontation with this medium—one that would make a serious

⁹Vattimo: *Die Grenzen...*, p. 22.

¹⁰*Ibid.*, p. 22.

¹¹For example, Ulrich Raulff, writing in the *Sueddeutsche Zeitung*: ‘In the last four decades of its existence, the video game has found many critics, but not the criticism it is due. That must now change. In the feature section of this newspaper, video games will from now on be treated as legitimate objects of criticism, no different from books, exhibitions and CDs. A series on “new games” will be a regular criticism, in which critics of technology and aesthetics will participate, as well as anthropologists and researchers into dreams and brains. “The time has come to treat play seriously”, wrote Jacques Ehrmann in 1968. This statement is more relevant now than ever. We want to give our attention to the game’ (Accessed from <http://www.sueddeutsche.de/index.php?url=/kultur/themen/25379/index.php>, 3 January 2002).

attempt to approach its object and not immediately disqualify it as part of the marginalia of the ‘culture industry’, or satisfy itself in pointing out the influences of other media or forms of aesthetic expression—is as yet entirely missing.¹² Approaches towards a critical description which aims first to tap into this medium and to accentuate it in its singularity, will therefore be demonstrated in this work.

Asthetik Versus Aesthetics

An analysis which approaches the phenomenon of the video game in terms of traditional cultural studies will, however, encounter numerous clichés and redundant narrative and representational forms, which might make an engagement with video games seem, at first glance, to offer little reward. Indeed, the narrative elements of most video games make use of simple schemata, perpetuated repeatedly, which derive from the field of low-brow entertainment.¹³

¹²Steven Poole’s *Trigger Happy* (London, 2000) represents one of the few attempts in the direction of a cultural—theoretical survey of the video game. The author is a specialist journalist, who inclines in large part to a more popular—theoretical apology for the video game, with the result that the theoretical approaches he draws upon in his argument are frequently referred to in simplified form.

¹³A survey or at least a somewhat stable list of genres of interactive entertainment software on the basis of criteria beyond advertisement-strategic practices of characterization is missing. A step in the direction of a first survey was taken by Albert Brante in Brante: *Virtuelle Welten*, in: C. Schwender (ed.): *Kursbuch Neue Medien 2000*, Stuttgart, Munich 2000. However, the field of video games is limited to the following genres, which have been differentiated in the course of a now over-20-year-long history of the commercial video game in domestic use (for the following list I thank Kay Bennemann, MA Phil., in conversation): (1) ‘Thought and skill games’ (combination and logic games. Examples: *Tetris* and *Dr. Mario*); (2) ‘Jump and run’ (games bound by a rudimentary frame plot, in which the aim is to overcome obstacles, and in which deductive skills and dexterity are demanded of the player. Examples: *Super Mario* and *Rayman*); (3) ‘Adventure and role-playing games’ (narrative-orientated games in which pure dexterity-based game structures are forgone in favour of immersing the player in a virtual ‘world’ which is as believable as possible. Examples: *Monkey Island* and *Final Fantasy*); (4) ‘Action games’ (the content of the game is dominated by combat with virtual enemies in the frame of fight-driven, aggressive game plots. Examples: *Quake* and *Tekken*); (5) ‘Simulations’ (by far the most expansive genre. Fundamentally, these games aim at the re-creation of complex procedures which are also to be found in ‘reality’. These might be the simulation of an economic system (examples: *Sim City* or *Railroad Tycoon*); of a vehicle (examples: *Flight Simulator* and *Gran Turismo*); or of diverse types of sport (examples: *PGA Tour Golf* and the *Fifa* series). All named genres are rarely to be found in their ‘pure form’. In the main, games

This circumstance is explained by the above-mentioned ‘demands of the market’, which voice themselves, in the case of video games, in a product policy which, on superficial examination, in orientating itself towards a young target audience makes little attempt at ‘conflictuality’, but rather, at first glance, serves more regressive and escapist tendencies. And yet this is not to take the specificities of the medium into account. References to older forms of media, and comparisons between video game and film or forms of literary narration, say very little about what is specifically new in the medium being treated. After all, a medium such as film, in its early years, was little more than a fairground attraction, against which similar prejudices were shown as are brought today against the video game.

If we want to bring the medium in its singularity into view, it is necessary to find a theoretical approach which does not preoccupy the object too terminologically, and which simultaneously allows video games to be discussed as an advanced medium of ‘aestheticization’ and the ‘dissolution of reality’. Moreover, it is necessary, in turn, to take the term ‘aestheticization’ seriously and to ground it in the concept of *aisthesis*. An aesthetics defined as a ‘theory of perception’ (Walter Benjamin) invokes a pre-idealistic position opposed to a development which disqualifies the senses, the body and perception associated with the body in favour of discursive *sense*. Karlheinz Barck describes the culmination point of this development as follows:

Hegels *Ästhetik* is the summation of this development. It raises the *ideality of sense* to the absolute norm against the *materiality of the senses*. ‘The eradication of sensuous materiality’ (*Ästhetik*) becomes the ruling force in the tradition of philosophical aesthetics (fixed on truth and meaning), which still takes effect today.’ The shift of the place of art from the body to the head, that is, a bodiless head, is one of our most lethal traditions. In the place of senses and their functions arrive sense and meaning. With this, perception too is de-materialized, made blind, and discriminated against.¹⁴

If it is precisely this aesthetics, in whose vulgar form the ‘aestheticization of existence’ falls behind because of the ‘demands of the market’, then a

are a combination of many elements of different genres, such that a clear categorization is often difficult, if not impossible, to make.

¹⁴Karlheinz Barck: *Anstatt eines Nachwortes*, in: Karlheinz Barck, Peter Gente, Heidi Paris, Stefan Richter (eds.): *Aisthesis. Wahrnehmung heute oder Perspektiven einer anderen Ästhetik*, Leipzig 1998, p. 462.

theoretical approach cannot start on this level either. An *Aisthetik*, however, which shifts the focus of its consideration from the level of *sense* to that of the *senses*, and which thus engages with the survey of the organization of perception in confrontation with a medial phenomenon, may at least escape the blind spot of an ultimately limited, purely hermeneutic content analysis.

At least since Walter Benjamin, an *Aisthetik* which has the changes and organization of perception in view is closely coupled with a reflection on media. If it is true that ‘the manner in which the human sense perception is organized ... is determined not only by nature but by historical circumstances as well’,¹⁵ then media have a critical involvement in this organization of human sense perception. Not for nothing does Benjamin describe in his essay ‘The Artwork in the Age of Mechanical Reproduction’ just those historical transformations in human perception not only in the face of works of art themselves, but rather on the basis of their medial conditions in the age of photography, and particularly of film. It is not just the content transported by these media that matters here, but the methods of medially induced forms of perception which are mediated by means of montage and of technical reproducibility. A description of a medium must orientate itself towards this perspective, to avoid the risk of losing sight of its object—the medium itself.

Should the narrative and aesthetic contents of the video game, as a relatively new epiphenomenon of the media-induced aestheticization and dissolution of reality, still seem so banal, the confrontation with virtual worlds and the forms of perception related to them are not. On the contrary, it is in the form of the video game that we encounter the culmination of developments which first became virulent when a multimedia system on a digital basis was made possible via the computer. All aspects of the ‘digital revolution’ are found here in concentrated form, and it will be shown in the course of this work that it is no coincidence this happens in, of all things, the form of the game.

‘Elements of an Aisthetik of the video game’ means, then, a first approximation to the medium in the mode of a survey of forms of perception and interaction, as they are experienced through the video game—and only through the video game. For this, it is first necessary to define

¹⁵Walter Benjamin: ‘The Work of Art in the Age of Mechanical Reproduction’, in Benjamin: *Illuminations*, trans. by Harry Zohn, Schocken, New York 1968, p. 222.

more closely the medial status of the video game, because on closer consideration the video game emerges as a multimedia link within a wider multimedia system. It is worth making transparent the interdependencies between the single ‘submedia’ which are thus tied into one other in the video game, in order to be able to touch upon the ways of the specific constitution of perception. And so the last part of this chapter will dedicate itself to this purpose, by means of a description of the immersive form specific to the video game and its related ‘derealization’.

BEHIND THE LOOKING GLASS: THE MEDIUM OF THE VIDEO GAME

Searching for Traces: Reflections on the Definition of Media

An analysis of video games necessitates a definition of media. Without this definition, a description of the phenomenon cannot be achieved, because the fundamental conditions that make video games possible are ensured only through their status as media. The definition of media to be used here cannot, however, simply remain implicit but must, in view of the ‘new media’, be transparent to some extent, in order to make clear, at every point, on what level descriptions and arguments are taking place. The greatest difficulty is that a canonical definition of media does not exist. The literature on this topic—which Sybille Krämer has, not without justification, described as ‘labyrinthine’¹⁶—is decidedly diverse. The disparate approaches, which range from the mathematical model of Claude E. Shannon,¹⁷ to the anthropological media conceptions of Marshall McLuhan,¹⁸ to Niklas Luhmann’s medium/form distinction,¹⁹ show that ‘medium’ as such is difficult to grasp. We may take it as given that treating the medium by means of a simple model of it as a pure transmitter channel, in the sense of a ‘sender—channel—receiver’ model, is no longer viable or rewarding. Scholarship, which has expanded since

¹⁶Sybille Krämer: *Was haben die Medien, der Computer und die Realität miteinander zu tun?*, in: Krämer (ed.): *Medien—Computer...*, p. 9.

¹⁷Claude E. Shannon, Warren Waever: *Die Mathematischen Grundlagen der Informationstheorie*, Munich 1976.

¹⁸Marshall McLuhan: *Understanding Media: The Extensions of Man*, McGraw Hill, New York 1964.

¹⁹Niklas Luhmann: *Die Kunst der Gesellschaft*, Frankfurt/M 1995, pp. 165–215.

the early 1990s to become an unsurveyable mass, claims for the category ‘medium’ an ever more central role in human perception and recognition, up to the point at which it almost appears as though that category might have taken the place in the humanities formally occupied by the ‘Subject’, dethroned even before Foucault and Lacan.²⁰

And yet some fundamental traits of a media theory must be held in place; a media theory which aligns itself towards the ontological status of the medium and which tries to push the definition of media further and to make it productive in view of the terminological challenges presented by the ‘new media’:

1. First, the medium may be distinguished by its location. This results from the term *medium* itself (Latin: *middle*) and implies that it is a mediator. This mediator may not be understood as a self-sufficient entity, but rather must be understood relationally: ‘As “mediator”, it is a relational expression, that is, not the middle itself, not the midpoint, not the center, but rather the mediator precisely in relation to something which is not the middle, and which exists on both sides of it.’²¹ This description is precise, because it explains an important circumstance, which appears repeatedly in the analysis of media on an argumentative level, and which can also lead to problems. It is important to recall the fact that the medium as such always remains *invisible*, representing the ‘blind spot in media use.’²² Descriptions of TV programmes, single formats, film genres etc. are not descriptions of the medium ‘TV’ or ‘film’: ‘We do not hear vibrations in the air, but the sound of bells; we do not read letters, but a story; we do not converse in syllables, but in opinions and convictions, and film usually lets us forget about this projection surface.’²³ The analysis of a medium as a genuinely invisible mediator, whose location is a relational position without ‘substance’, prevents the pitfalls of hermeneutic analysis of content, which would lose sight of its own object. Of course, we can never work without concrete examples, but it is important to keep in sight the distinction between a medium and its ‘content’ or ‘message’. Media are no ‘substance’, no ‘thing’—they are a function.

²⁰ Sybille Krämer, in conversation.

²¹ Konrad Ehlich: *Medium Sprache*, in: *Forum Angewandte Linguistik*. Vol. 34, Frankfurt 1998, p. 10.

²² Sybille Krämer: *Das Medium als Spur und als Apparat*, in Krämer (ed.): *Medien—Computer...*, p. 74.

²³ *Ibid.*, p. 74.

2. Without what is said above, McLuhan's famous formula 'the medium is the message' would not be comprehensible: 'This fact, characteristic of all media, means that the "content" of a medium is always another medium.'²⁴ This sentence may only be understood on the level of the 'pure' medium; only then does it lose its seeming paradox. The sound film functions as a multimedia system of gramophone and photography; television as a system of film and radio²⁵; the video game as a system of film, writing and sound; and general storage and visual media on the basis of a further multimedia system, the computer. On this level, the medium gains a more distinct outline, because it can be described in its interdependency with other media, opening up the possibility of defining more closely the specificities of whichever medium is being treated. One medium cannot be led back to another, in order to make judgments on the basis of differences. Because there is no 'original medium' to which all others lead back, the difficulty lies in the logical problems of autopoietic systems. Not for nothing does Niklas Luhmann's definition of media, whose basis is the distinction of medium and form, represent the starting point for a classification of singular media which come into effect within the video game. There will be more to say on the relevance of the medium/form difference.

3. Points one and two now serve to take up a further important characteristic of the medium, on the basis of which an aesthetic approach is legitimized. If, on the basis of the genuine invisibility and the complex interdependencies of media, the actual 'message' in question must be abstracted, then following this, it can also be seen that the medium in its function as mediator constitutes the respective 'transported' object in specific ways. Media are not neutral mediators of their object, transferring only their own respective 'message' as such. In a large part of the scholarship, the assumption arises that media articulate or even constitute their respective 'contents' in a specific way: 'In the diversity of the research relating to media, one common denominator takes shape: the conviction that media do not only serve the transfer of messages, but must instead, further, in some way participate in the content of the message.'²⁶ This assumption is decisive for an aesthetic approach, because here it becomes a little more

²⁴ McLuhan: *Understanding Media...*

²⁵ See Friedrich Kittler: *Grammophon—Film—Typewriter*, Berlin 1986.

²⁶ Krämer: *Das Medium...*, p. 73.

transparent how we can imagine a media-historically conditioned transformation of forms of perception. If it is true that media can change or even constitute forms of perception, then the question is how this can happen without regard for their content, particularly as the medium constantly withdraws from direct view as the ‘blind spot in media use’. This constant withdrawal of the medium as such can have nothing to do with its intended ‘message’. The medium evades not only the recipient but also the producer of media contents; that is to say, the medium is just as much a participant in the ‘content of the messages’ *because* it is invisible, unintended.²⁷ Only in this way can such deeply ripening changes as are initiated through, for example, the introduction of phonetic script²⁸ or the printing press,²⁹ happen at almost a subconscious level. The moment at which the medium withdraws from observation is significant and must therefore be considered more closely.

In her essay ‘Das Medium als Spur und als Apparat’ (‘The Medium as Trace and as Apparatus’), Sybille Krämer develops, in an investigation of McLuhan’s and Luhmann’s media theories, an attempt at precision, starting from this neuralgic point. Krämer describes a definition of media which, in setting itself against the concept of signs which she also sees to be at work in Luhmann’s medium/form distinction, describes the ‘impact force’ (*Prägekraft*) of a medium as ‘trace’:

With the medial dimensions of sign processes—and there is no sign without a medium—something comes into view which does not straightforwardly fulfil this schema of agreed-upon sign-meanings: the impact force of a medium—and this is the decisive assumption here—unfolds in the dimension of a significance beyond the structures of conventionalized semantics. And it is the materiality of the medium which provides the foundation for this ‘surplus’ of sense, for this ‘added value’ in meaning, which is in no way intended by the users of signs and which is not subject to their control. By

²⁷When talking here and in what follows about ‘unintentionality’, this must be understood in the context of processes of signs that are characterized by arbitrariness, and thus with conventionality and intentionality. To speak in a Husserlian sense of ‘unintentionality’ would be meaningless, because intentionality represents here a non-investigable fundamental condition of every kind of directedness towards the world.

²⁸See Jack Goody, Ian Watt, Kathleen Gough: *Entstehung und Folgen der Schriftkultur*, Frankfurt/M 1996.

²⁹See Marshall McLuhan: *The Gutenberg Galaxy: The Making of Typographic Man*, Toronto 1962.

virtue of the strength of their medial materiality, the signs say more than their respective users mean.³⁰

This ‘dimension of a significance beyond the structures of conventionalized semantics’ is now the medium as trace, whose ‘medial materiality’ is now the significant factor. The medium as trace differentiates itself from the sign through its unintentionality, which withdraws from intended and conventionalized sign use and thus also media use:

Even traces are interpreted, but they are seen as a pre-discursive, as a pre-semantic phenomenon: traces do not tell us something, but show us something. Above all, however: that which they show must have emerged incidentally, and thus unintentionally—otherwise we would not be dealing with a trace, but rather with a sign, consciously staged as a trace.³¹

Here, the concept of the unconscious is applied to the definition of media, a perspective which only becomes problematic when the unconscious is too strongly anthropomorphized.³² Though sketched alongside the Freudian conception of the unconscious,³³ what is intended here is an analogy to the structure of the unconscious. Significant are attributes such as ‘unintended’, ‘incidental’ and ‘prediscursive’, which indicate a level of meaning that for its part largely withdraws from the grasp of discursive understanding. Should it be a question of a level of *meaning*, this ‘added value’ which is expressed in the impact force of the medium, must, however, remain discursively recoverable. And it is precisely here that the analogy to Freud’s unconscious works, which remains—though in a distorted

³⁰ Krämer: *Das Medium...*, pp. 78–79.

³¹ *Ibid.*, p. 79.

³² It is not only possible with Jacques Lacan to conceive of the unconscious as being independent of the subject. See Jacques Lacan: *Seminar on the Purloined Letter*, in Lacan: *Écrits*, trans. by Bruce Fink, in collaboration with Heloise Fink and Russel Grigg (New York, London: W. W. Norton, 2002–2006); otherwise, Gilles Deleuze, Félix Guattari: *Anti-Oedipus: Capitalism and Schizophrenia*, I, London 1977; summarizing—Henning Schmidgen: *Das Unbewußte der Maschinen. Konzeptionen des Psychischen bei Guattari, Deleuze und Lacan*, Munich 1997; and Friedrich Kittler: *The World of the Symbolic—A World of the Machine*, in: *Literature, Media, Information Systems*, ed. by John Johnston, Amsterdam 1997.

³³ Krämer: *Das Medium...*, pp. 80ff.

way—legible: ‘This aspect of the trace, to have a meaning which is interpretable, yet without having been intended by its author, played a role when Sigmund Freud discovered at the turn of the century that in speaking, more happens than is intended in any intended statement.’³⁴

The crucial point within this conception of the medium as a trace is that in the definition of the trace, the ambivalence of the medium’s simultaneous insistence and withdrawal is held steady. For one thing, the trace is in reality only interpretable when it loses its ephemeral status of the ‘prediscursive’. Were this not the case, the trace could not be interpreted, could not be read. To be interpretable, it must take on the character of a sign for the interpreter, even if only as the symptom of the absent being to have left the trace behind. At the same time, however, the insubstantial nature, the unintended moment of the medial status is held in place, as the trace as such does not *say* but rather *shows*. This ‘showing-itself’ oscillates between a withdrawal in the mode of the prediscursive, and discursive readability in the mode of interpretability, without, however, ever letting itself fully be grasped. Through its insistence, a consideration of the medium cannot, however, be subdued in the assumption of the medium’s general unrecognizability. At this point, an aesthetic method of consideration sets in, one which attempts, within a shift of stress in favour of the ‘medial materiality’ of a phenomenon, not to privilege the discursive elements of the medium at the cost of its prediscursive dimension. Of course, both levels may not, because of their tight intertwining, be considered in isolation from one another. The separation between prediscursive and discursive levels or, as in point 4 below, of apparatus and instrument, remains analytical.

The relationship of this thought figure with Heidegger’s definition of truth in ‘The Origin of the Work of Art’ can only be hinted at here, and not described closely and fully. A brief indication may, however, help to contour more distinctly the ambivalent structure of the medium as trace. Heidegger speaks in his ‘Work of Art’ essay of the essence of truth that is attained in the artwork, as a ‘concealing unconcealment’:

The essence of truth, i.e., unconcealment, is ruled throughout by a denial. This denial is, however, neither a defect nor a fault—as if truth were a pure unconcealment that has rid itself of everything concealed. If truth could accomplish this it would no longer be itself. *Denial, by way of the*

³⁴Ibid., p. 79.

twofold concealing, belongs to the essence of truth as unconcealment. Truth, in its essence, is un-truth. We put it this way emphatically to indicate, with a perhaps off-putting directness, that refusal in the mode of concealing is intrinsic to unconcealment as clearing.³⁵

At this point, only the concept of the ‘concealing unconcealment’ is important, a thought figure which describes the ambivalence and changing nature of what it brings into view, without halting the constant ‘tipping’ of one area into the other in the favour of the one area or the other, and thus robbing it of its dynamic. It is worth emphasizing, too, that both here and in the figure of the medium as trace, both sides of the predisursive and the conceptually ascertainable fundamentally belong together and, as paired phenomena, forcefully exclude intentionality. As little as truth (and with it the ‘being’ and the occurrence of truth in the artwork) can simply rid itself of concealment for Heidegger, in order to become pure *alétheia*, ‘unconcealment’ in Heidegger’s translation, just as little can the medium as trace rid itself of its unintentionality and its predisursive nature, without disappearing as such. For truth without concealment is no longer truth, and the medium as trace without unintentionality is no longer a trace, but a conventional sign.

4. What has been said up to this point must now be put into a perspective in which it is possible to differentiate media from pure instruments and tools. To describe a medium such as the telephone as a ‘method of communication’ means to understand it as a tool, as the means to an end. On this level it is difficult to see what insight can be wrought from asking to what extent the relevance of an aesthetics of the ‘new media’ can be justified, if the subject acts towards the medium as if towards a tool—particularly because, regarding the medium of the video game, this ‘tool-like’ aspect is no longer visible. How should such a tool influence forms of perception when it is only made for a particular purpose and can only be understood in the context of its functionality?

Again, Sybille Krämer helps with the differentiation of ‘instrument’ and ‘apparatus’. In contrast to the pure instrument as tool—where under ‘tool’ we understand not just technical artefacts but also symbolic

³⁵ Martin Heidegger: *The Origin of the Work of Art*, in Heidegger: *Off the Beaten Track*, Cambridge 2002, p. 31.

‘thought-things’,³⁶ as represented by calculations or formal languages—Krämer defines technical media, as are found in the case of the video game, simultaneously as ‘apparata’. What fundamentally differentiates the apparatus from the instrument is the phenomenon of immersion (*immersio*, Latin, diving in, diving under), which takes place in the medium as apparatus. The content, the ‘message’ of a medium is ‘immersed’ in this medium³⁷ and is linked inseparably with it, which at the same time means that this content can probably be translated into other media, but cannot appear entirely without a medium. Thus, if this content were not available by means of media, then it would not be available at all: ‘The productive significance of media technologies is not an increase in performance, but the creation of worlds.’³⁸

It is important that technical media are also always ‘instruments’, or at least can be—hence a medium differentiates itself from a pure instrument through the *addition* of the ‘apparatus aspect’ and vice versa. The weighting between the apparatus aspect and the instrument aspect is different in every case. There is no ontologically clean separation to be made here, only certain mixed relationships which can be useful to the profiling of a medium in each context. Thus the apparatus character of a hammer retreats noticeably behind its tool character, yet without being entirely obscured, even if a greater theoretical effort would be needed in order to determine more closely its apparatus character. The situation is reversed in the case of the medium of the video game, whose ‘world-creating’ character is programmatic, while a definition of its tool character would be somewhat more difficult.

Here it becomes clear why a media-theoretical consideration finds a fruitful field of investigation in the medium of the video game. In the video game, the tool character of its diverse submedia (storage and transmission media) retreat into the background in the mode of the game, in a way that allows the apparatus character to be an end in itself.

The elements of a media theory described imply a far-reaching definition of media. And, in fact, it appears as though an entry to reality without medial mediation would no longer be thinkable, and the argument would result in ‘media constructivism’. If not only storage and communicative

³⁶ Krämer: *Das Medium...*, p. 84.

³⁷ *Ibid.*, p. 83.

³⁸ *Ibid.*, p. 85.

media can be understood as media, but also light and sound, then a field of perception without media can no longer be imagined. The risk here is in universalizing the definition of media, making it no longer functional, because too many phenomena would be subsumed beneath it. But it is easy to avoid this misunderstanding. That there can be no access to reality without the intervention of media does not necessarily mean that there is no reality independent of media. The reality outside of medial approaches (the Lacanian ‘Real’), that reality which cannot be grasped by media, is only beyond *our* capacity for experience, being thus outside our capacity for observation:

From the internal link of mediality and reality, it does not follow that all reality is in essence a medial construction. It follows simply that something like reality is accessible to us or to anybody through medial constructions. Reality is not given *as* a medial construction, but simply by virtue of medial construction.³⁹

This crucially important differentiation leads to the concept of ‘realistic constructivism’ suggested by Martin Seel,⁴⁰ which incorporates Luhmann’s medium/form distinction, but anchors a reference point in the assumption of an ‘outside’, even one that is only intuitively plausible, and however it might be expressed, an assumption that avoids falling into a postmodern rhetoric of disappearance and de-realization⁴¹ while simultaneously saving the achievements and the level of abstraction of the constructivist fundamental assumptions of Luhmann. Luhmann’s description of media by means of the medium/form distinction has enormous heuristic advantages, because this model is abstract enough to serve as a theoretical tool for the differentiation of media and the description of their interdependencies without falling back on form/content dialectics. The medium/form distinction differentiates itself from this kind of ontological⁴² difference by displacing the standpoint of the observer and

³⁹ Martin Seel: *Medien der Realität und Realität der Medien*, in: Krämer (ed.): *Medien—Computer...*, p. 255.

⁴⁰ *Ibid.*, p. 255.

⁴¹ See, for example: Jean Baudrillard: *Videowelt und fraktales Subjekt*, in: Ars Electronica (ed.): *Philosophien...*, Berlin 1989; Baudrillard: *The Agony of Power*, 2010; Paul Virilio: *Ästhetik des Verschwindens*, Berlin 1986.

⁴² Luhmann: *Die Kunst...*, p. 166.

thus opening up a more abstract level. *Media* are understood by Luhmann as a mass of ‘loosely coupled elements’, inside which *forms* combine themselves in ‘tight pairings’.⁴³ Luhmann himself uses as an analogy ‘the metaphor of wax ... on which inscriptions are possible and which cannot be erased’,⁴⁴ which, however, distorts too greatly the important moment of unintentionality. The relationship of medium and form becomes more precisely tangible as loose and solid pairings of elements in the image of the trace:

The medium is characterized by a loose coupling between elements (which can be considered practically independent from one another) and affords no internal resistance against the implementation of forms from outside. The forms ‘thicken’ on their side the connections between elements of the medium in rigid pairings, which are perceived ... The trace of a foot in the sand implements, for example, a more rigid pairing between grains of sand, to which they offer no resistance (because they show no strong connection to one another).⁴⁵

The medium itself is ‘formless’, a circumstance that has appeared elsewhere already, in the discussion concerning the genuine invisibility of the medium (Point 1). Certainly, the elements that constitute a medium consist themselves of forms that have ‘formed’ within other media. This is the point of the statement that the content of a medium is always another medium (Point 2). Within this strict pairing of medium and form, which behave towards one another as two sides of a coin, it becomes clear what an important role the medium has as constituent for the perception of form.

While only the ‘rigid pairings’ of forms can be perceived, they are unthinkable without the elements of the medium of which they consist, and by which they are causally conditioned. These elements, however, fall out of perception and thus form the ‘blind spot in media use’ (Point 3). Significant, then, is only the standpoint of the observer and the observer’s ‘differentiation, which makes a difference’, which is to say, what is form and what is medium in a phenomenon cannot be held ontologically apart

⁴³ Ibid., pp. 167ff.

⁴⁴ Ibid., p. 166.

⁴⁵ Claudio Baraldi, Giancarlo Corsi, Elena Esposito: *GLU. Glossar zu Niklas Luhmanns Theorie sozialer Systeme*, Frankfurt/M 1998, p. 59.

from one another, like ‘form’ and ‘content’ in the classical sense, but rather is coupled to the interests of the observer and is thus relative:

There are no last elements out of which the elements of all other media and forms and their possible forms would be formed. Every difference, even every supposed ‘last’ difference, takes place in a space of differences which cannot at the same time be object of this difference. On the other hand, the reciprocal dependence of medium and form is re-instated here. Media are media for forms, forms are forms in media.⁴⁶

With this conceptual set of instruments in place, it is now possible to differentiate the medium of the video game in its medial status and to bring its apparatus character into view (Point 4). It is now much easier to hold the levels separate from one another in order to be able to observe the medium itself in passage through its forms (single games). For this, the video game must first be examined *as form*, constituted within other media (computer, digital image, game) in order for it to be examined, on the basis of these predispositions, *as a medium* itself.

*The Media of the Video Game 1: The Magic of the Symbolic. The
Computer as a Universal Discrete Machine*

Code is everything I thought poetry was, back when we were in school. Clean, expressive, urgent, all-encompassing. Fourteen lines can open up to fill the available universe.

Different kind of sonnet, though, right? Different rhyme scheme?
I don’t know. Sometimes you gotta wonder.⁴⁷

Binary Code: A New Media Standard

Alan Turing’s data processing machine on the basis of an endless paper strip and a write/read head arrived on Nietzschean ‘pigeon feet’ in the sense that, at the time of the publication of Turing’s dissertation in the

⁴⁶Seel: *Medien der Realität...*, p. 247.

⁴⁷Richard Powers: *Plowing the Dark*, 2011, p. 7.

year 1937,⁴⁸ it was scarcely conceivable what a lasting influence this discovery would have on media history. Despite the inconspicuousness of his theoretical construct, Turing's 'Universal Discrete Machine' nevertheless forms nothing less than an end-point of a media history which found its beginnings with the discovery of the first written languages and, with Turing's 'small' discovery, reached an end. This 'end' does not, of course, signify the disappearance of these media themselves, but rather their transformation into the mode of digital technology:

Digital technology functions like an alphabet but on a numerical basis. It replaces the continuous functions into which the analogue media transform input data, which are generally also continuous, with discrete scanings at points in time as equidistant as possible, in the same way that the 24 film exposures per second, or at a much higher frequency since the Nipkow screen television did before. This measurement, followed by evaluation in the binary number system, is the precondition for a general media standard.⁴⁹

What makes the computer, as the realization of the Turing machine, into an agent of a media-historical epochal threshold,⁵⁰ is this last point, the evaluation of input data in the binary numerical system. Binary code is the symbolic system which, in its simplicity of the in/out, 0 and 1, reaches the highest degree of abstraction of symbolic codification. It is therefore capable of dissolving the leading medium of the alphabetic code based on letters by redeeming something on an unexpectedly profane level; something which, in the dreams of Cabbalistic magic and language mysticism, was formally given to the alphabetically coded Symbolic: the capacity to create a world, and in a thoroughly literal way.

The achievement of binary code as a condition for the possibility of computers and software consists not only in its speed and immense storage capacity but above all in its capacity to create data, and in a way that is fundamentally different from analogue media. While data in technological conversion and storage media such as film, audiotape or television

⁴⁸ Alan M. Turing: *On Computable Numbers, with an Application to the Entscheidungsproblem*, 1936.

⁴⁹ Friedrich Kittler: *History of Communication Media*. CTheory, 30 July 1996. Online at <http://www.ctheory.net/articles.aspx?id=45>.

⁵⁰ Ibid.

always remain reliant on a process of inscription within the medium, in the form of physical traces—think of the chemical impressions of light relations in photography—in the passage of binary code, these traces are entirely eliminated. A digitized image on a computer screen has nothing in common with its predecessor on a technological level, *while at the same time, the optically perceivable differences between a photograph and its digital pendant tend towards null*. What was formally a physical or chemical impression is now, in the medium of binary code, transformed into an endless number of tiny points, which, in contrast to a traditional photograph, allow themselves to be manipulated and changed on every arbitrary micro-level. Immersed in the invisible medium of binary code, the ontological status of digitally stored data is transformed fundamentally in contrast to analogue media, and with far-reaching consequences:

The general digitization of channels and information erases the differences among individual media. Sound and image, voice and text are reduced to surface effects, known to consumers as interface. Sense and the senses turn into eyewash. Their media-produced glamor will survive for an interim as a by-product of strategic programs. Inside the computers themselves everything becomes a number: quantity without image, sound, or voice. And once optical fiber networks turn formerly distinct data flows into a standardized series of digitized numbers, any medium can be translated into any other. With numbers, anything goes. Modulation, transformation, synchronization; delay, storage, transposition; scrambling, scanning, mapping—a total media link on a digital base will erase the very concept of medium.⁵¹

In his characteristically trenchant style, Friedrich Kittler describes here a fundamental phenomenon of digitization whose importance can hardly be over-emphasized. The ‘total media link on a digital base’ does not erase the concept of medium itself, but rather transforms the media immersed within this media link in a way which is of central importance for the field of ‘virtual reality’ and thus also for the video game.

A Mechanical Unconscious

The ontological status of the submedia at work in the medium of the computer changes to that of a surface effect. Through digitization, the

⁵¹ Kittler: *Grammophone—Film...*, trans. by Dorothea von Mücke, p. 102.

last remains of physical referentiality, the final trace of the Real, is driven out of technological communication media. This digital ‘exorcism’ leads these media into the field of the Symbolic, leaving no remains. Regardless of the observational point we take, referentiality can be formulated only within a semiotic terminology in the medium of binary code. For while, for example, photography and analogue sound recordings still carry a trace of the real in the form of opto-chemical or magnetic ‘imprints’ of the recorded object, and are only semiotic phenomena on a secondary level, digital photographs or ‘sampled’ sound recordings represent purely semiotic phenomena. The ‘material’, the elements from which these are made inside the computer, belongs to the field of the Symbolic—in the form of the binary code—just as much as their ‘content’, which remains legible in a conventional, interpretable way.

Only thus is it possible for one medium ‘to pass into another’ without interruption. What is meant here is the technological foundation on the basis of which an overused term such as ‘multimedia’ can begin to make any kind of sense. Conventional media boundaries are suspended as formerly incompatible analogue media now constitute themselves as forms in the medium’s binary code, and show themselves thus to be rigid pairings within *the same* elements. Precisely this is indicated when speaking of the ‘universality’ of the medium of the computer. Significant here is that, in contrast to the analogue translation of one medium into another, *the normal perceptual integrity of the singular media remains apparently intact for the receiver*. That is to say, through the ‘universality’ of the medium of the computer on the basis of binary code, the ‘impact strength’ of any digitized media is retained. And yet it is in precisely this illusion that the specifically subtle impact of the computer comes to expression. What is ‘discrete’ in this medium consists in the imperceptible transfer from the analogue medium to its simulation, in the medium of computer.

An important point concerning the medium of the computer consists in the fact that, while the ontological status of the forms constituted in the medium of binary code has changed significantly, these changes remain entirely hidden from our perception. On the level of perception, our acoustic experience of an old gramophone recording differentiates itself in no way from a digitized ‘sampled’ recording of the same thing. A digitized film sequence simulates film without its audience being aware of the difference because, at the level of perception, no difference can be perceived—so long as, of course, the technological conditions of the hardware permit adequate playback. Only through image errors specific

to the computer, such as so-called compression artefacts, does the actual medium reveal itself in the form of an error, as it disturbs the illusion of simulation, draws attention to the digital status of the respective medium in the computer itself, and thus brings something like a leftover referentiality into view.

Closely considered, every level on which the ‘user’ interacts with the computer today consists of such ‘superficial effects’, as the level of the binary or mechanical language is itself submerged in the medium’s ‘unconscious’, and accessible only to a special caste: that of the information technician. The term ‘unconscious’ should not be understood here in its strict sense, but rather must crucially symbolize the circumstance that the program-level is separated from the diverse interfaces with which the ‘user’ interacts by a hierarchical sequence of interim bodies. The Symbolic of the pure binary code itself withdraws from any direct access. The interaction takes place over a sequence of interfaces located at different proximities to the mechanical level. From the very proximate ‘machine language’, the mastery of which is entrusted to only a very few specialists across the whole world, to the various programmer languages such as C+ or BASIC, and to the ‘tools’ of named user programs such as Photoshop, it becomes steadily less and less important for the ‘user’ even to know the actual program level at all in order to use the computer.

The introduction of graphic user interfaces through the ‘Lisa’ computer from the Apple company in the mid-1980s, and its commercially more successful successors, particularly Microsoft’s Windows interface, signifies the last step away from the actual machine level so far, thus from the direct influence on the hardware by means of binary code: ‘The higher and more effortless the programming languages, the more insurmountable the gap between those languages and a hardware that still continues to do all of the work.’⁵² In order to make use of a computer, today’s ‘user’ does not need to understand, even on a rudimentary level, what is going on in the interior of this now most discrete machine. On the one hand, this makes user-friendliness the foundation for the mass use of the computer, while, on the other, it makes a user-directed control of the computer impossible. On the level of hardware, the introduction of the ‘protected mode’ by the current leading producer of microprocessors, Intel, flanking the beginning of the 90s, signified a partitioning-off

⁵²Friedrich Kittler: *Protected Mode*, in Kittler: *Literature, Media, Information Systems*, ed. by John Johnston, Routledge 2013, p. 158.

of the machine level from the ‘user’, who is now no longer given even the possibility of direct access at the level of hardware.⁵³

Given the depth of the gap between ‘user’ and machine, it appears to be necessary for hardware manufacturers to protect the machines from their users. A machine of such high complexity that a direct interference on the part of the ‘user’ is not only no longer desired but is even seen as potentially dangerous, cannot, of course, entrust its own reproduction and further development to its ‘wetware’⁵⁴: ‘For the hardware complexity of such microprocessors simply discards manual design techniques; in order to lay out the next computer generation, the engineers, instead of filling out uncountable meters of blueprint paper, have recourse to Computer Aided Design, that is, to the geometrical or autorouting powers of the actual generation.’⁵⁵

The more the machine level is uncoupled from the ‘user’, then, the more the computer reaches the status of a mass medium, precisely *because* the ‘user’ must deal less and less with the highly complex machine level and can give him/herself over to the comfort of user-friendly interface effects, ‘in the indifference of his ignorance—hanging in dreams, as it were, upon the back of a tiger’.⁵⁶ This work deals with a form of this artificial dreaming, for all forms of computer-induced ‘virtual reality’, including video games, derive their fascination not least from the circumstances that are, in a strict sense, the ‘magical’ emanations of the ‘universal’ and discrete medium of binary code.

Cabbalistic Emanations: Digital Technology and Magical Practice

It is therefore not surprising that the topoi of a noticeably large number of video games take up a theme like ‘magic’, or even the concrete creation of artificial homunculi and golems. Since the appearance of *Mail Order Monsters* (Electronic Arts/C-64), in the mid-1980s,⁵⁷ about the

⁵³ Ibid., p. 217.

⁵⁴ ‘Wetware’ is an ironic term indicating the human user, in relation to ‘hardware’ and ‘software’.

⁵⁵ Friedrich Kittler: *There Is No Software*. CTheory. Online at <http://www.ctheory.net/articles.aspx?id=74>.

⁵⁶ Friedrich Nietzsche: *On Truth and Lies in a Non-Moral Sense*, in Nietzsche: *Philosophy and Truth: Selections from Nietzsche’s Notebooks of the Early 1870’s*, Boston 2017, p. 62.

⁵⁷ In what follows, after every title of a video game cited, the publisher of the respective game, and the platforms on which it was first published, will be named in parentheses.

creation and ‘training’ of monsters, which are ‘bred’ by many players and can be sent into battle against one another in the mode of an early form of ‘multiplayer game’, the creation and breeding of magical creatures, as well as their conjuration, has been common stock of diverse game genres. In *Alice* (Electronic Arts/PC), the female protagonist has a special weapon at her disposal, named ‘Devil Dice’, which, when used in battle, releases a virtual demon to assist the heroine, but, if no villains are available to attack, can also turn against the player-controlled character. In the *Final Fantasy* series (Square/diverse systems), which has published a million copies every year internationally, the playable characters, the ‘Summoners’, have played an increasingly important role since the third part of the series.⁵⁸ The trivial mythologies surrounding the summoning beings, with names such as ‘Shiva’, ‘Gilgamesh’ and ‘Odin’, often play a significant role on the narrative level of these video games, which belong to the genre of ‘roleplay’. In the Japanese roleplaying game *Persona* (Atlus/Playstation) and its successor *Persona 2: Eternal Punishment* (Atlus/Playstation), these virtual creatures are even described as emanations of the self, which, embodying psychic aspects of the play characters, can take richly varying forms. In *Diablo II* (Blizzard/PC), the character class of the ‘Summoner’ is even accompanied by living golems and undead beings.⁵⁹ The phenomenon of the *Pokemon* games (Nintendo/Gameboy, N64), however, is one of the most astounding mass phenomena here, for the whole game content consists of the hunting, collection and training of diverse classes of monster.⁶⁰

⁵⁸ Excerpt from the handbook of *Final Fantasy X* (Square/PS2): ‘Aeons [the name of the summoned creatures in this game, M.R.] are divine creatures that only answer the call of a true Summoner. Each Aeon protects its master with unique powers and characteristics. Aeons grow stronger as their summoners do.’

⁵⁹ Excerpt from the handbook to *Diablo II*; description of the summoning spell ‘Clay Golem’: ‘While it is fairly simple for a Necromancer to animate dead tissue, it is another matter entirely to instill the spark of life into inanimate objects. The Clay Golem is the simplest form of this complex art, creating a servant directly from the earth to serve the Necromancer. The intense drain this places on the psyche of the caster only allows him to maintain a single Golem of any type at a time. *Effect: Raises a Golem from the earth to fight for you.*’

⁶⁰ A particularly elaborate form of these virtual creatures is represented by those creatures that play a key role in *Black & White* (Electronic Arts/PC). In this game, the player may choose from a selection of creatures resembling enormous tigers, tortoises or apes, and which can be raised by the player like virtual pets. Worth mentioning here is the extremely sophisticated ‘artificial intelligence’ (AI) of these creatures, which are no longer

The vast majority of the contents of contemporary video games indeed derive from the pool of fantasy.⁶¹ Whether as ‘science-fiction’, ‘fantasy’ or classic ‘horror’; the ‘Irrational’ articulated in fantasy experiences, in the form of the virtual bestiary, experiences an unexpected renaissance in that medium which counts as the technical summit of modern rationality since Leibniz: the computer. With a good dose of cultural pessimism, we might take this as a poignant example that ‘The curse of irresistible progress is irresistible regression’.⁶² To consider it more soberly, however, what is reflected in this amassing of homunculi, monsters and golems is only the fascination with the way in which binary code is in the position to let (symbolic) worlds arise from it. Not only are analogue media seamlessly translatable into this code, but this ‘numerical alphabet’ forms originary media contents that were formerly simply not possible. Within the ‘black box’ of the computer, columns of numbers come to life, for every form of virtual reality in the medium of the computer is the emanation of the combinations and permutations of this ‘numerical alphabet’.

And yet the conception of a symbolic code with the power to create worlds from itself is nothing new. The tradition of Cabbalistic magical practice, closely related to the legend of the golem, is linked to the book *Sefer Jezira* (Book of Creation) and its concept of the magical power of the Hebrew alphabet. In this tradition, the power to breathe life into things is attributed to these letters, by means of their combination and variation according to particular rules: ‘These letters are the actual structural elements, the stones out of which the structure of creation is founded.’⁶³ And: ‘The letters of the alphabet, and moreover those of the name of God, or of the whole Tora, which was the instrument of God

directed by the player but, rather, react independently of the behaviour of the player, in accordance with complex algorithms. It is noticeable how life-like these creatures can appear. They are not simply virtual recipients of orders, but behave (seemingly) according to their own whims and can also act against the player’s attempts to train them (which is, in practice, more the rule than the exception).

⁶¹An exception here is formed only by certain areas of the simulation genre, like sports games or vehicle simulations. The subjects of the diverse forms of adventure, role play, action games or jump and runs can be relegated almost entirely to the field of fantasy, even if it is frequently in a very simplified form.

⁶²Max Horkheimer and Theodor W. Adorno: *Dialectic of Enlightenment: Philosophical Fragments*, trans. by Edmund Jephcott, Stanford 2002, p. 28.

⁶³Gershom Scholen: *The Idea of the Golem*.

during Creation, have secret, magical powers. The initiated knows how to use them.⁶⁴

Similar to the purely electric circulation in the circuits of computer hardware, the golem itself is first of all only the ‘unshaped, formless’, that is, ‘material, formless hyle’.⁶⁵ Only through a magical ritual—or the work of programmers—does this ‘formless hyle’ waken to life, as the ‘initiated’ ‘animates’ the golem by means of the correct combinations of letters, and the programmer—the ‘initiated’ of our time— ‘forms’ program routines from the ‘numeric alphabet’ of his symbolic medium, which then create virtual objects which can, in turn, act autonomously. Just as the animated golem represents a fragile shape which, when not observing the strict combination rules of the Hebrew alphabet, can escape the influence of its creator and run amok, the smallest mistake in programming the ‘villain intelligence’ in a game such as *Half-Life* (Sierra/PC, PS2) can make these virtual characters go haywire and destroy the coherence of the game.

The homunculi, consisting of polygons or two-dimensional ‘bitmaps’, and populating video games in their thousands, are just as much emanations of a Symbolic as the golem is of the Cabbalistic tradition. The question concerning whether the objects created in this manner are ‘real’ or fictitious is ignored. What is significant is the idea of a medium which possesses not just mediating characteristics, but also the characteristics of constituting, on a fundamental level.⁶⁶ What shows itself to be ‘world-creating’, in the medium of binary code as much as in the Cabbalistic conception of the Hebrew alphabet, is finally no more and no less than ‘the semiotic dream of proper names being immediately linked to their referent’⁶⁷; that is, the dream of the identity of signifier with signified. Nothing other than this is meant by ‘magic’: ‘Originally referring to the archaic field of exclusive occult practices, the term “magic” signifies the form of the realization of a power which can take unmediated effect in

⁶⁴Ibid., p. 219.

⁶⁵Scholem: *The Idea of the Golem*, p. 212.

⁶⁶An idea whose perhaps most subtle form Walter Benjamin worked out in his conception of ‘*Sprachmagie*’. See: Walter Benjamin: *On Language Itself and on the Language of Man*, in Bullock, Jennings (eds.): *Selected Writings*, Vol. 1, Cambridge, MA and London 1996; and Winfried Menninghaus: *Walter Benjamins Theorie der Sprachmagie*, Frankfurt/M 1995.

⁶⁷Umberto Eco: *Mirrors*, in: *Semiotics and the Philosophy of Language*, Indiana UP 1984, p. 212.

reality, that is, which is to be understood without the relation between ends and means of technological reason.’⁶⁸

In the Symbolic of binary code, the instrumentality of a medial relationship between ends and means in conventional language is dissolved. The columns of numbers of a program routine that is responsible, for example, for the ‘rendering’ of a polygonal 3D environment on the computer screen, do not *signify* these graphics, they *are* the graphics, in the moment of their realization on the screen. Semantics come together with the realization, because the ‘numeric alphabet’ of binary code is not a language, but a Symbolic, which derives its ‘effective power’ from the fact that it is directly *executable*:

The reason is that only .COM and .EXE files entertain a strange relation to their proper name. At the one hand, they bear grandiloquent names such as WordPerfect, on the other hand, they bear a more or less cryptic (because non-vocalized) acronym such as WP. The full name, alas, serves only the advertising strategies of software manufacturers, since DOS as a microprocessor operating system could never read file names longer than eight letters. That is why the unpronounceable acronym WP, this posthistoric revocation of a fundamental Greek innovation, is not only necessary, but amply sufficient for postmodern wordprocessing. In fact, it seems to bring back truly magical power; WP does what it says. Executable computer files encompass, by contrast not only to ‘WordPerfect’ but also to the big, empty old European words such as ‘mind’ or ‘Word’, all the old routines and data necessary to their self-constitution. Surely, tapping the letter sequence of ‘W’, ‘P’ and ‘enter’ on an AT keyboard does not make the Word perfect, but this simple writing act starts the actual execution of WordPerfect. Such are the triumphs of software.⁶⁹

⁶⁸ Mennighaus: *Walter Benjamins...*, p. 17.

⁶⁹ Kittler: *There Is No...* Independently of Kittler, Jay David Bolter arrived at the same result, this time on the example of graphic user interfaces: ‘Electronic icons realize what magic signs in the past could only suggest, for electronic icons are functioning representations in computer writing.’ In Jay David Bolter: *Writing Space. The Computer, Hypertext and the History of Writing*, Hillsdale, NJ/London 1991, p. 26.

Kittler only misses the fact that this ‘magical power’ introduced to the alphabet is not in fact as new as he claims. As shown above, the conception of a symbolic that ‘does what it says’ is present in the Cabbalistic tradition, whereby the relationship here becomes even more noticeable when we consider that the Hebrew alphabet also contains no vowels, and the influential name of God, the so-called Tetragrammaton *JHWH*—structurally at least—represents a similarly ‘magical’ acronym such as *WP*. ‘Postmodern writing’ thus becomes a premodern, magical practice. A Symbolic which is identical with itself on this described level, like binary code, thus thwarts the effect of ‘loss of reality’⁷⁰ attributed to it in the age of digitization, because it introduces, in an unpredicted way, elements of Western metaphysics believed to have been destroyed and, for example, quickly negates, for example, the thesis of the arbitrariness of the sign. The *Lieblingskind* of post-modern media reflection proves itself, then, as archaic: the dialectics of Enlightenment.

No surprise, then, that video games unleash those monsters, homunculi and golems, as hallucinated epiphenomena of a machine language sunken within a mechanical ‘unconscious’; creatures which reflect, across the tour of the fantastic, the profane—magical status of the medium for which they must thank their existence. The fascination of computer-induced ‘superficial effects’ results, then, from the circumstance that, in contrast to the confusing imponderables of real worlds, the elements of a virtual reality ‘do what they say’. Within virtual worlds, everything is symbolic, everything has ‘sense’, as chaotic and as threatening as the actual contents of a video game might be. In this way, the medium of the computer signifies, for the form of the video game constituted within it, not just the hardware prerequisite, but rather also a reservoir of certain topoi which decisively inflect video games. What this chapter should prove is that what is in question here is, above all, the reflections of the genuinely ‘magical’ status of the medium, which are repeated in the form of explicitly ‘magical’ game contents on the level of ‘surface effects’ of concrete video games.

⁷⁰See Sect. 1.2.

*The Media of the Video Game 2: Mirror Games. The Digital Image
Between the Symbolic and the Imaginary*

I am led, therefore, to regard the function of the mirror-stage as a particular case of the function of the *imago*, which is to establish a relation between the organism and its reality—or, as they say, between the *Innenwelt* and the *Umwelt*.

Jacques Lacan⁷¹

Oh, Kitty! how nice it would be if we could only get through into Looking-glass House! I'm sure it's got, oh! such beautiful things in it! Let's pretend there's a way of getting through into it somehow, Kitty. Let's pretend the glass has got all soft like gauze, so that we can get through.

Lewis Carroll⁷²

The discrete medium of the computer today allows, as we have seen, an interaction only via surface effects. The primary surface by which the user—or in this case the player of video games—comes into contact with the medium is the screen; that is, the level of the digital image. Only on this level does the interaction between human and machine occur, because despite all of our fantasies about data suits, VR glasses and cybersex, the screen remains the medium that forms the most important threshold between 'wetware' and hardware. Within the relationship of hardware and wetware, the traditional relationship between the Imaginary and the Symbolic is at first reversed, because of the specific characteristics of the medium of the computer.

When memories return in the form of pictures our task is in general easier than when they return as thoughts. Hysterical patients, who are as a rule of a 'visual' type, do not make such difficulties for the analyst as those with obsessions. Once a picture has emerged from the patient's memory, we may hear him say that it becomes fragmentary and obscure in proportion as he proceeds with his description of it. The patient is, as it were, getting rid of

⁷¹Jacques Lacan: 'The Mirror Stage as Formative of the Function of the I as Revealed in Psychoanalytic Experience', trans. by Alan Sheridan.

⁷²Lewis Carroll: *Through the Looking Glass: And What Alice Found There*.

it by turning it into words ... When this work has been accomplished, the image disappears, like a spirit being laid to rest.⁷³

While Freud's talking cure, then, discusses the Imaginary as a fulfilment of hallucination in the Symbolic, until the obviously disturbing images 'crumble away' and are 'laid to rest', what happens in the production of images in computer graphics is exactly the opposite: the images of virtual reality learn to 'run' through the underlying program routines as the digital image of a computer graphic appears in the moment of the instant realization of a program sequence, only to disappear again instantly and be replaced by the next. *In contrast to Freud's hysterics, the program code tears down the Symbolic by turning it into images.*

These images, however, are fundamentally different from all previous image media, because in the medium of the computer, and strengthened further in the video game, the virtual space of images does not exist independently of the observer. The screen is the imaginary surface through which the player steps into a virtual image space, like Alice into the looking-glass.⁷⁴ In the game, the opaque surface of the screen becomes porous, a phenomenon which represents an important, if not *the* specific characteristic of the video game, because, contrary to the purely receptive processes before former analogue image media such as photography, film or television, the digital image within the video game is *reliant* on the interference of the player. Without the player, the game cannot take place, time stands still—Game Over: Virtual realities' depend upon the technique of "immersion", through which we no longer merely look at images, but step into the room of images and can have an effect on the image surroundings without (perceptible) time delay.

Through the rapid development of computer graphics, these days complex 3D graphics based on polygons are possible in real time, and they have largely dissolved written text as the key medium for conveying game contents. This development is linked to the general visualization of the computer/user interface. If the computer was, up until the mid-1980s,

⁷³ Sigmund Freud: *Studies on Hysteria* (together with Josef Breuer), trans. by Strachey and others, 1895, p. 110.

⁷⁴ And indeed, Lewis Carroll's Alice completes the entry through the looking-glass of digital images within the game *Alice* introduced earlier. The game is an adaptation of Carroll's material, as the player accompanies Alice through a nightmare version of Wonderland.

still a medium defined as a ‘counting machine’, which could be operated only by the manual input of complex system direction instructions (and programmer languages), the appearance of the aforementioned Lisa computer from the Apple company represents an important intervention. The graphic user interface of the Lisa computer and the new hardware interface of the controlling ‘mouse’ signified together the introduction of a new opportunity for interaction in the world of ‘serious’ computer use, which had until then been the sole preserve of video games. What is significant here is that the graphic user surface creates the opportunity for a symbolic interaction no longer accessible at the program level. Within this interaction, a software interface (symbolic user surface) can be operated by means of a hardware interface beyond the keyboard (the mouse). From this point on, it is not only that words, mediated by program code, ‘Do what they say’. Since graphic user interfaces of the Windows type have become the industry standard, *images also do what they show*.

On the level of the digital image, the Symbolic and the Imaginary are limited, as writing and text begin to cross over into one another both ontogenetically and on the level of perception. Through its universality, the medium of the computer allows us to experience images in the mode of text, and text in the mode of images.

On the level of use, our dealings with text under hypertextual conditions take on characteristics and aspects that we have traditionally assigned to images. Our floating reading of letters is modified by a pictorial dramatization of the arrangements of signs, characteristic for the hypertextual World Wide Web. In this open, non-linear type of floating sign reception, forms of perception enter which we know from the reception of images. In the perception of an image, we are not led from the outset—as when reading a book—to follow a linear sequence-pattern of thought structure. The pictorial elements of which an image consists open up different patterns of non-linear reception and with them various forms of reading and the construction of an image as a meaningful unity.⁷⁵

On the other hand, digital images are constituted on their program level within the medium—as has been shown—by symbolic structures, the program code:

⁷⁵ Mike Sandbothe: *Transversale Medienwelten. Philosophische Überlegungen zum Internet*, in: Gianni Vattimo, Wolfgang Welsch (eds.): *Medien—Welten—Wirklichkeiten*, Munich 1998, p. 74.

If we consider, furthermore, the internal data structure of digital images, then it becomes clear that images made of pixels set together have the character of text from their technological structure. With the corresponding editor programs, the elements of which digital images consist can be exchanged, switched and changed, like the letters of a text. Images become scriptures, which can be flexibly edited. In the digital mode, the image loses its outstanding status as an imitation of reality.⁷⁶

This admixture of the Symbolic and the Imaginary in the mode of the digital image is no marginal note in cultural history. It underlines the status of the computer as an agent of a medial epoch threshold. The digital image represents the point of culmination of a culture which, though anchored in ‘oculocentrism’,⁷⁷ has simultaneously, as in a type of defensive movement, privileged the discursive over the imagistic. The discovery of central perspective through the Florentine architects Filippo Brunelleschi and Leon Battista Alberti at the beginning of the fifteenth century and its philosophical implementation by René Descartes’ ‘analytic geometry’ represents a crucial historical development and a turning point within European ‘oculocentrism’, even if the roots of our privileged treatment of sight are to be found in antiquity.⁷⁸

Since the days of Greek philosophy, the eye has been celebrated as the most superb part of the senses. The most noble ability of the spirit, *theoria*, is described in metaphors which are predominantly taken from the visual sphere ... Not only has the sense of sight provided analogies for the intellectual superstructure; it has also, furthermore, served as a general model of perception and has thus served as a measure for the other senses.⁷⁹

⁷⁶ Sandbothe: *Transversale...*, pp. 75–76.

⁷⁷ I borrow the term ‘oculocentrism’, which describes the supremacy of sight over all other senses within Western culture, within a Derridean jargon: Ales Erjavec: *Das fällt ins Auge...*, in: Vaittimo, Welsch (eds.): *Medien Welten...*, pp. 39–59.

⁷⁸ It is worth emphasizing here that the privilege of seeing as a fundamental metaphor of all true recognition for Plato accompanies an aggressive resistance towards all that is imagistic-sensual. Seeing is uncoupled from the seen, the image, and is thus deprived of sense. Jacques Derrida goes so far as to claim that Western philosophy has only constituted itself as such in order to resist the powers of the image and not to give in to the image’s unsettling effect. See: Jacques Derrida: *The Work of Mourning*, Chicago 2003, p. 35.

⁷⁹ Hans Jonas: *Das Prinzip Leben. Ansätze zu einer philosophischen Biologie*, Frankfurt/M. 1994, p. 235. Considered exactly, tendencies of the Platonic philosophy are

Between the valorization of sight in antiquity and the discovery of central perspective comes the religiously motivated hostility towards images in Christianity, which influences significantly our relationship with images,⁸⁰ and further intensifies the Platonic mistrust towards the simulation character of the image. This mistrust towards the image leads to its secularization, while, in theory, the image is led into discursivity. Central perspective as a ‘symbolic form’ in the sense of Ernst Cassirer is therefore—as Erwin Panofsky has shown⁸¹—anything but an adequate form of the representation of the visual. It is, rather, even a ‘symbolic form’, representing an approach to the visual that is not necessary historically conditioned. It is a highly artificial gloss of the multidimensional status of visual perception. Therefore, the implementation of central perspective in the seventeenth century, together with the technique of calculation, signifies a domestication of multidimensional seeing by means of a transformation of the Imaginary into the Symbolic:

With central perspective and with calculus, seeing is sublimated into an act of observation and reading. Descartes analytic geometry leads us to a reduction of multidimensional sight to a one-dimensional reading. Here, the visually perceptible figure is replaced by formula that may only be read. And this happens in such a way that the ability to algebraically transcribe, that is to represent the figure with discrete symbols, becomes a criterion of existence for geometric objects and a condition for the possibility of scientific description of phenomena.⁸²

What happens here is nothing less than the attempt to save visual within the traditional metaphor of occulocentrism, and yet, simultaneously, by means of the transfer of ‘multidimensional sight to a one-dimensional reading’, to rid the image of its *semblance character*, which represents the basis of the Christian—Platonic resentment towards the image. In the same way by which images are transferred into symbolic representation,

thus described. Within the pre-Socratic philosophy, the prevalence of seeing is not yet recorded. See, on this, Martin Heidegger: ‘The Age of the World Picture’, in Heidegger: *Off the Beaten Track*, Frankfurt/M. 1994, pp. 90ff.

⁸⁰ Erjavac: *Das fällt ins...*, p. 40.

⁸¹ See Erwin Panofsky, ‘*die Perspektive als “symbolische Form”*’, in Panofsky: *Aufsätze zu Grundfragen der Kunstwissenschaft*, ed by H. Oberer and E. Verheyen, Berlin 1992.

⁸² Sybille Krämer: *Zentralperspektive, Kalkül, Virtuelle Realität*, in: Vattimo, Welsch (eds.): *Medien—Welten...*, p. 31.

however, the semblance character of the image is again shadowed within the ‘world implications’ (Krämer) expressed both in calculus and in central perspective:

This rationalization of perception is completed by a fictionalization of the picture of reality. A new valuation of the relationship between the illusory and the real announces itself here. Aesthetically, we associate the illusory with hallucinations, with an error in our sensory impressions; in epistemic terms, illusion functions as a false representation which cannot be brought into alignment with reality. But central perspective uses techniques of illusion as a model for the real. And calculus—at least in Leibniz’s recognition-theoretical reflections—can no longer be related to reality, but only to the models of reality constructed by us ... We see: that which is illusory and that which is real no longer remain dichotomous labels; rather, the illusory and the fictitious become the very ingredients of the real.⁸³

The price paid here for the repression of ‘multidimensional sight’ consists in the internalization of that which should be excluded from the scientific-rationalistic discourse of Descartes and Leibniz: of the ‘semblance-character’, the illusory part of the image. The conflict between image and word, between Imaginary and Symbolic, is manifested in the formation of a theory which, while chained to the metaphor of occulocentrism since antiquity, is repressed by the Imaginary and put under the rule of the Symbolic. This hostility towards images continues into the theory formations of Structuralism and so-called Post-Structuralism.⁸⁴ Whether in Baudrillard’s criticism of a culture of simulation⁸⁵ or Lacan’s Freudian concept of a subject which first constitutes itself fully in the field of the Symbolic⁸⁶ and must cross through a ‘dangerous’ ‘misreading function’⁸⁷ on the way there, in the Imaginary of the ‘mirror stage’; within all of these

⁸³ Krämer: *Zentralperspektive...*, p. 31.

⁸⁴ See: Erjavec: *Das fällt ins...*, pp. 45ff. In his representation, Erjavec refers to Martin Jay’s observations in Martin Jay: *Downcast Eyes. The Denigration of Vision in Twentieth Century French Thought*, Berkeley 1994.

⁸⁵ Jean Baudrillard: *The Agony of Power*, 2010.

⁸⁶ Jacques Lacan: *Seminar I: Freud’s Technical Papers*, Cambridge 1988.

⁸⁷ Lacan: *The Mirror Stage*, p. 204.

approaches, in all of their other differences, a deeply inscribed hostility towards images is inherent.⁸⁸

The Imaginary withdraws, then, since Plato, from the field of Western metaphysics, confronting the Symbolic as its Other. It must ‘crumble’, as is paradigmatically pre-figured in Freud, to yield to the Symbolic. This ‘talking cure’ subjects Western metaphysics, from Descartes and Leibniz onwards, under the dictates of rationalism, to the Imaginary, because of the suspicion, existing at least since the Platonically inspired Christian iconoclasm, ‘that *images release affects and suspend reason*’.⁸⁹ Because even up to the present time, the image, despite all ‘attempts at domestication’ cannot completely collect itself and settle peacefully, it appears today, in a time of accelerated image production, strengthened further in the form of the digital image, as uncanny, foreign and unapproachable. This is not too far from a rhetoric of estrangement and derealization, as found in exemplary form in the works of Jean Baudrillard. As Baudrillard, for example, in his essay ‘The Vanishing Point of Communication’ describes the virtual ‘TV-image’ of the screen as being obscenely close to the human, he wants to prove this proximity, simultaneously, to be an illusory effect of simulacra:

Proximity of images, tactility of images, tactile pornography of images—though physically so close to us, the TV-image is paradoxically light-years away. It stays at a very special distance that can only be defined as insuperable by the body. The distance of the theatrical scene, of the mirror, is superable by the body, it can eventually surmount it, this is why this distance remains human. The distance of the screen is virtual, hyperreal, and therefore insuperable.⁹⁰

It is not only that Baudrillard fails to find an explanation for how we might imagine a corporeal superability of the distance to language or

⁸⁸At this point it can only be indicated that an aporia emerges within the cited theory formations, in that these approaches of image hostility perpetuate a concept which, as has been shown, is a constituent of Western metaphysics from Plato to Descartes, thus exactly the tradition of thought that many ‘post-structuralists’ (with the exception of Lacan) hoped to overcome in relation to Nietzsche and Heidegger.

⁸⁹Erjavec: *Das fällt ins...*, p. 44.

⁹⁰Jean Baudrillard: ‘The Vanishing Point of Communication’, in David Clarke and others (eds.): *Baudrillard: Fatal Theories*, Routledge 2008.

to the mirror; he straightforwardly transfers his description of the ‘TV-image’, which follows the model of analogue image media, into the field of the digital image.⁹¹ And precisely here lies a significant error in reasoning, which disregards the special status of the digital image between the Symbolic and the Imaginary, because the digital image—as proven also by Vilém Flusser⁹²—may no longer be categorized exclusively under the field of the Imaginary, as has traditionally been the case:

The difference between traditional and technical images, then, would be this: the first are observations of objects, the second are computations of concepts. The first arise through depiction, the second through a peculiar hallucinatory power that has lost its faith in rules.⁹³

The punch line of the digital image appears to be that the specifically new quality of this medium derives from the complex reciprocal relationship between the Symbolic and the Imaginary—whereby, within this relationship, the process of dichotomizing both levels, a process that has been installed in the course of a long tradition, begins to dissolve. Images can be experienced in the modes of textuality and vice versa; *the digital image simulates traditional images, but loses the opacity of analogue images on the basis of the possibility of interaction.* That is, on the basis of the quality of the digital image as an emanation of program code, it can be influenced in real time, unlike the images of analogue image media, which can only be received passively. The elements of a digital image can be, like ‘the letters of text’, ‘exchanged, switched, and changed’ (Sandbothe), while the Symbolic of the program code simultaneously enters the field of the Imaginary in the moment of its instant execution as a digital image. To the ‘user’ of virtual realities, the opaque surface of the screen becomes, at least on an aesthetic level, ‘soft like gauze’, forming the condition of the possibility of the experience of immersion, within which the ‘user’, via the hardware interface, can also completely physically enter the virtual space. This

⁹¹ Baudrillard: ‘The Vanishing Point...’, p. 12.

⁹² Vilém Flusser: *Into the Universe of Technical Images*, Minnesota 2011.

⁹³ *Ibid.*, p. 10. This statement, which sounds peculiar when cited in isolation, that the ‘hallucinatory power’, which has ‘technical images’ to thank for its existence, according to Flusser, and which is the result of a historical process causing a loss of ‘faith in rules’, represents the Flusserian formulation of the phenomenon of the ‘dissolution of reality’, which was mentioned earlier in this work.

reciprocal relationship culminates in the paradoxical status of the digital image,⁹⁴ which brings about far-reaching consequences for virtual worlds as they are encountered in video games. The surface of the screen to be traversed, 'soft like gauze', is best represented, in its paradoxical-seeming structure, across the inherited dichotomy of the Symbolic and the Imaginary, by the metaphor of the mirror: 'Virtual realities are a technique to enable interactive reflections of symbolic worlds. The new perspective which accompanies this type of mirror lies in the interactive, possibly also synesthetic dealings with data structures. With virtual realities, possible worlds can be sensuously explored.'⁹⁵

The metaphor of the mirror functions, in this context, as one possible representation of the paradoxical status of the digital image, because a mirror of this sort is new and would be a contradiction in itself under traditional conditions. Not for nothing is the reflection, for Lacan, situated as a residuum of the Imaginary in opposition to the Symbolic. The mirror, as a surface of the pure Imaginary, withdraws from every access to the Symbolic; for reflections, as Umberto Eco has made clear, possess no status as signs.⁹⁶ Reflections are the only forms of images that reflect to the observer whatever is in front of the mirror in absolute symmetry; images, then, which have no autonomous existence independent of their 'referents'. Because there are no reflections beyond mirrors, those reflections are dependent on the current presence of the thing being reflected; the medium of the mirror is not a storage medium.

Here is the fundamental difference from all other image forms such as photography, television images, and forms of manual pictographic representation. Reflections have no semantics, but only pragmatics⁹⁷; they exist only in the mode of our dealings with them, only within a 'catoptric interaction' (Eco), which urgently presupposes a perceiving subject. Here, the proximity to the digital image within the screen becomes clear. On the basis of the mixed relationship of the Symbolic and the Imaginary I have described, which is only possible in the medium of the computer, in the digital image we are dealing with a medium that belongs, on the

⁹⁴See also Paul Virilio's analyses of the 'paradoxical logic of the image' in the age of digitization: Paul Virilio: *The Vision Machine*, Indiana 1994, p. 156.

⁹⁵Krämer: *Zentralperspektive...*, p. 33.

⁹⁶Umberto Eco: *Mirrors*, in: *Semiotics and the Philosophy of Language*, Indiana UP 1984.

⁹⁷*Ibid.*, p. 77.

one hand, on the level of perception, to the field of the Symbolic, in the mode of 'symbolic interaction'. On the other hand, however, precisely because of this possibility of interaction, it possesses exactly the signum of that image form that is regarded traditionally as an incarnation of the pure Imaginary: that of the reflection. The entry through the mirror is thus played out in video games again and again, because a peculiar desire lies in precisely this transgression of boundaries.

Magritte's 'La reproduction interdite' can serve as an illustration to a first step of the act of perception regarding virtual realities in the video game. It is immediately apparent that the mantelpiece and the book situated in the lower right corner of the image⁹⁸ are reflected in a physically correct way by the mirror, while something in the reflection of the man is clearly not right. What is significant in Magritte's image is the millisecond-long hesitation in a first fleeting consideration of the image, which consists in our uncertainty about *what precisely* is not right in this depicted reflection. Magritte's image makes use of a phenomenon which is a general misperception in the face of a real, everyday mirror, but which comes to be reality in the mode of the digital image: the conception, that is, that 'the reflected objects might be found behind the surface of the mirror'.⁹⁹ Not for nothing is the term 'virtual' a term in optics meaning 'light-wave deceiving images',¹⁰⁰ and has thus developed along the course of the phenomenon of the mirror.¹⁰¹ No space, of course, can be found behind the surface of the mirror. In our perception, however, we 'see' this mirrored space in the mode of 'as if', because the perception does not perceive the physical process of symmetrical reflection, but semioticizes it automatically.

Magritte's image appears, then, as a consistent depiction of an entry into a virtual space. But there is something else to note. Not only does the reflection signal the supposed object of reflection in a view of his back, but a transgression of a boundary into a virtual space has taken place; the space to which the figure in the reflection is turned, is unmarked,

⁹⁸The book depicted is Edgar Allan Poe's *Arthur Gordon Pym*. Of course, the mantelpiece and the book serve to make the mirror within the image recognizable as such, and not, for example, as a window.

⁹⁹Krämer: *Zentralperspektive...*, p. 32.

¹⁰⁰Ibid., p. 32.

¹⁰¹The phenomenon of the so-called 'Fata Morgana' belongs equally to this phenomenon complex.

in an unsettling way. A diffuse, ochre-coloured surface spreads before the figure in the reflection, instead of, as would normally be the case, correctly reflecting the space before the mirror, like the book or the mantelpiece. This is explained by the paradox that arises as soon as the mirror loses its ‘capacity as mirror’, which happens when virtual space is no longer a misperception, but rather, in the process of entry into this space, becomes a *semiotic* space. Because this contradicts the status of the reflection as a genuinely non-symbolic image, the virtual space in ‘La reproduction interdite’ becomes a blind spot, a spatially unmarked, latent unsettling, an empty space of a paradox no longer able to be represented in any conventional way.

The image worlds of video games mark exactly this virtual space, by filling out the blind spot by means of software, and thus driving the situation of the perceiving subject who interacts with virtual spaces a step further. If the man standing in Magritte’s image before the mirror is comparable with the real player before the screen, then the play-figure controlled by him—for example, the protagonist of the game *Silent Hill 2*, corresponds to Magritte’s ‘mirror figure’. Within the video game, however, virtual space does not remain unmarked: the things and objects in video games—literally—look at and address me,¹⁰² being constitutively reliant on the player in order to become dynamic.

Because what is specifically new in digital images consists in the intermingling of the Imaginary and the Symbolic within them, there emerges a desire for video games that, on the basis of the status of the digital image I have outlined here, in the mode of the ‘entry through the mirror’, the boundary between ‘*interior world* and *surroundings*’ (Lacan) or, systems-theoretically formulated system and surroundings, seems to become porous. Within the mirror-world of virtual spaces, sight and objects belong to the same sphere. They are apparently no longer divided by the otherwise unsurmountable boundary of system and surroundings. In this way, sight begins to become autonomous within video games, particularly since the introduction of 3D technology based on polygons. The orientation of sight is transferred to the respective hardware interface (mouse, game-controller), with the help of which sight, otherwise bound to a subject, can exist within the virtual world of images, independent of a virtual character.

¹⁰² See Jacques Lacan: *What Is a Picture?*, in Nicholas Mirzoeff (ed.): *The Visual Culture Reader*, London 2001.

Here, three perspectives are dominant in contemporary video games, which to an increasing degree become ‘independent of their subject’. One particularly popular game perspective in current action games is the so-called ‘ego-perspective’, in which the image space is organized to create the illusion that the player is looking directly at the environment through the eyes of a virtual character.

Strictly following the rules of central-perspectival representation, the advantage of this perspective consists in the high degree of immersion offered to the game by the direct possibility of identification. The weapon in the lower left part of the picture symbolizes the ‘entry through the mirror’ in a striking way as this—as a prosthetic extension of the real body, belonging directly to the virtual body of the game figure—extends into the virtual space. Because this perspective delivers only a very vague simulation of the human field of vision and the body belonging to it in reality cannot be simulated along with it, this perspective takes some getting used to. Not for nothing do the possibilities of interaction with the game environment in video games which use an ego-perspective limit themselves mostly to the aiming at and shooting down of diverse virtual enemies. A higher degree of ‘abstraction of vision’ forms the so-called ‘third-person’ perspective, which zooms out from the virtual body of the play character to the point of view of the player, situating the player mostly somewhere over the game figure.

The view is now not bound to a particular avatar, though the point of view mainly follows the protagonist like a camera. The advantage consists in the now much widened field of vision which has less and less in common with the simulation of a real observational standpoint, bound to a body, because processes and objects can be observed that are found to take place outside the field of vision of the virtual figure, who still acts as the representative of the player. The possibilities of interaction within video games that use this kind of perspective are far more diverse. The polygonal architecture of such games is no longer merely a decoration but is itself part of a semiotic image space, as, for example, the player of *Tomb Raider* must watch out for possibilities to manoeuvre the protagonist over architectonic obstacles. The virtual landscapes are, on their side, directed towards the possibilities of movement of the digital heroine, so that the digital image here constitutes a semiotic context which certainly

is so hidden under the central-perspectival simulation that a puzzle structure emerges. This, in turn, is the content of the game *Tomb Raider*.¹⁰³

In games such as *Black & White* or the adventure *Gabriel Knight 3* (Sierra/PC), the wandering viewpoint is fully autonomous. There may still be a game character who acts within an unrolling frame narrative, but the point of view can be manoeuvred completely independently of the virtual protagonist, like an immaterial camera. Here, the simulated view is consequently ‘disembodied’, as it no longer needs a virtual representative to function as the fictional point of origin of vision.

The Media of the Video Game 3: In the Wonderland of Paradoxes. The Video Game as a Form of the Medium of the Game

So, you like *Suikoden*? Ah, you have saved often. You are a prudent person. You still don't believe me? Set your controller on the floor ... Now, I will move your controller using my mental powers....¹⁰⁴

Alice and Psycho Mantis: Ontological Uncertainty

It is well known that Alice, following her entry through the mirror, steps into a land of paradox and constant metamorphosis. What appears perfectly normal and familiar at first glance often transforms, on closer inspection, into something different, something entirely unexpected. An even somewhat complete cartography of the most important paradoxes that appear in Lewis Carroll's tale to confuse the reader as well as poor Alice is no small undertaking. It has been achieved convincingly only in the form of a comprehensive theory of the constitution of meaning by Gilles Deleuze.¹⁰⁵ One particular paradox runs through the text as a leitmotif: the equation of reality and unreality, of actual events and possible events, of (presumed) reality and the virtual. An exemplary moment is Alice's

¹⁰³The game content of *Tomb Raider* consists in the situation that the player must orientate him/herself in a complexly constructed virtual landscape and locate the respective level's exit each time. For this, mostly acrobatic climbs are necessary.

¹⁰⁴Game dialogue in the game *Metal Gear Solid* (Konami/Playstation).

¹⁰⁵See Gilles Deleuze: *The Logic of Sense*, Columbia UP 1990.

encounter with the ‘mirror-twins’,¹⁰⁶ Tweedledum and Tweedledee, who disclose to her the matter of the sleeping king, snoring to himself pleasantly under a tree:

‘He’s dreaming now,’ said Tweedledee; ‘and what do you think he’s dreaming about?’

Alice said ‘Nobody can guess that.’

‘Why, about *you!*’ Tweedledee exclaimed, clapping his hands triumphantly. ‘And if he left off dreaming about you, where do you suppose you’d be?’

‘Where I am now, of course,’ said Alice.

‘Not you!’ Tweedledee retorted contemptuously. ‘You’d be nowhere. Why, you’re only a sort of thing in his dream!’

‘If that there King was to wake,’ added Tweedledum, ‘you’d go out—bang!—just like a candle!’

‘I shouldn’t!’ Alice exclaimed indignantly. ‘Besides, if *I’m* only a sort of thing in his dream, what are *you*, I should like to know?’

‘Ditto,’ said Tweedledum.

‘Ditto, ditto,’ cried Tweedledee.

He shouted this so loud that Alice couldn’t help saying, ‘Hush! You’ll be waking him, I’m afraid, if you make so much noise.’¹⁰⁷

Alice’s uncertainty is the result of an ontological vagueness. While she refuses to recognize the possibility that her very character might in fact be the unreal figure of a dream, which, on the awakening of the dreamer—‘bang’—would go out like a candle, she also doesn’t want to run that risk, and tries to stop the king from waking up. We can never know.

In the game *Metal Gear Solid*, the plot brings us to a particular moment of encounter between the hero, Solid Snake, controlled by the player, with a virtual enemy called Psycho Mantis,¹⁰⁸ who, according to the game’s mythology, possesses telepathic capacities. This encounter

¹⁰⁶ Dietrich Schwanitz: *Systemtheorie und Literatur. Ein neues Paradigm*, Opladen 1990, p. 13.

¹⁰⁷ Carroll: *Alice...*, p. 34.

¹⁰⁸ The narrative content of the game revolves around a conspiracy the hero of the game must defeat by means of infiltrating the headquarters of a terrorist group. The actors all have code names which, with their common history as ‘top agents’ are involved with a secret government Task Force.

emerges in a fight within which Psycho Mantis demonstrates these capacities in an impressive way. If the real player happens to have another game produced by the developer Konami saved on his or her console, the program discretely reads this information. The result is a ‘proof’, at first a rather baffling one, of the telepathic capacities of the virtual character Psycho Mantis, who addresses the game habits of the player and his or her possible preferences (‘So, you like *Suikoden*? Ah, you have saved often. You are a prudent person’).¹⁰⁹ To underpin his telepathic powers, Psycho Mantis demands the real player of the game *Metal Gear Solid*—not, that is, the player’s virtual alter ego—to take the ‘controller’¹¹⁰ out of his or her hand and place it on the floor. The proof of his ‘mental powers’ now appears in the moment when the controller, lying on the floor, really does appear to move, in fact because of strong vibrations within the device. Meanwhile, on the screen, Psycho Mantis, laughing diabolically, seems to rejoice in his demonstration of his power.

The link between Alice and the user playing *Metal Gear Solid* consists in the equivalence of contradictory levels, both ontological and logical. Alice’s uncertainty concerning her own ontological status is similar to the uncertainty evoked by the staged virtual encounter with Psycho Mantis. For a brief moment, it is no longer unambiguously clear what is reality and what is dream—or what is reality and what fiction. Above all, uncertainty reigns over which level can be made to dominate over the others. For Alice, this second of uncertainty leads to her short-term, irrational worry that the king might wake up and thus extinguish her own existence. For the game player, it leads to the astonishment that a virtual character suddenly has power over a real ‘thing’, and thus appears to be in a position to be able to ‘break out’ of the tight framework of his virtual condition.

Threshold Phenomena: Game as Medium

While the staged ‘ontological uncertainty’ in playing *Metal Gear Solid* may be only momentary, what is crucial is the dynamic it thereby sets in

¹⁰⁹ *Suikoden* is the name of a role-play game by the developer Konami.

¹¹⁰ Implied here is the real hardware interface of the game console Playstation, the “Dual Shock Pad”, which by means of in-built motors can make the ‘controller’ vibrate with various degrees of intensity. This is a notable immersion technique, known among other things as ‘force feedback’, which enables a haptic connection to the action on the screen via a real hardware interface.

motion. In contrast to Alice, Psycho Mantis knows that he is part of a fictitious, virtual reality. Once again, an otherwise fixed borderline—the borderline between fiction and reality—becomes permeable and can, at least momentarily, be crossed. As Psycho Mantis steps, in an orchestrated feint, briefly out of the framework of the onscreen game, levels that are in fact logically and epistemically incompatible coexist for one another within the medium of the *game*. Precisely this, for Gregory Bateson, is the most important constituent of play.¹¹¹

The fascination aroused by the phenomenon of the game is the result not least of the momentary transgression of borders—whether in terms of logic or of psychoanalysis—inherent in the structure of the game. Bateson analyses this aspect of the game by means of the concepts of primary and secondary processes. In his analysis, the game acquires a mediating, medial function by means of its particular logical structure. If the mechanisms of the unconscious primary processes and those of the secondary processes, rooted in the field of the discursive, are normally black boxes for one another, the game, or rather its paradox-precipitating structure, is able to transcend these otherwise insurmountable borders: ‘It therefore follows that the play frame as here used as an explanatory principle implies a special combination of primary and secondary processes.’¹¹² Crucial here, though he does not examine this aspect more closely, is Bateson’s description of the game as a medium established between various logical and epistemic levels, that does not take on a synthesizing function.

The dynamic of the medium of play is constituted in a logical-epistemic grey zone, similar to that of a so-called ‘lucid’ dream, in which the dreamer suddenly becomes aware that he or she is dreaming. This particular form of dream always takes place at the threshold between sleep and the beginnings of wakefulness. As long as the dreamer participates unconsciously in the dream, its operational framework remains closed. It is not simply that the border to the operation of the secondary processes cannot be crossed, but that this border cannot even be perceived. The moment of lucid dreaming, on the other hand, is characterized by the sudden possibility of formulating metastatements, in Bateson’s sense, which for their part pose the problem of framing (‘Is this a dream?’).

¹¹¹ Gregory Bateson: *A Theory of Play and Fantasy*, in: Bateson: *Steps to an Ecology of Mind*, Chicago 1972.

¹¹² Bateson: *A Theory*, p. 185.

The dreamer still finds him/herself in a state of dreaming, but now on the threshold of waking consciousness: ‘He cannot, *unless close to waking*, dream a statement referring to (i.e., framing) his dream’.¹¹³ The structure and dynamic of the game as a threshold phenomenon of this nature can only be understood as a process in which the moment of the intermittent, the sudden,¹¹⁴ represents the mode in which the medium of the game can be recognized, momentarily, for what it is. This explains the fact that the simultaneous convergence of incompatible levels is only ever momentarily tangible. Alice’s uncertainty is just as brief and momentary as is that of the player of *Metal Gear Solid*, before the conventional epistemic borders of reality and fiction race in once more, and the escapades of Psycho Mantis are revealed to be a stage trick. So too is the occurrence of the lucid dream possible for mere seconds, and only during that threshold between sleep and wakefulness.

Bateson himself suggests the dream analogy because, in analysing the phenomenon of the game he simultaneously describes it as a threshold phenomenon, one that ‘mediates’¹¹⁵ between primary and secondary processes and unfolds its specific potential precisely in this transgression of boundaries. At this point, a relationship emerges between various categories, whereby one can never be seamlessly translated into the other: ‘The message “This is play” thus sets a frame of the sort which is likely to precipitate paradox: it is an attempt to discriminate between, or to draw a line between, categories of different logical types.’¹¹⁶

A differentiation becomes significant here, namely that between ‘play’ and ‘game’. For Bateson, the form of the ‘game’ is differentiated from that of ‘play’ by its higher degree of complexity, which results from the

¹¹³Ibid., p. 185 [my italics, M.R.].

¹¹⁴Karl Heinz Bohrer has proposed, at length, the important role played by the moment of suddenness as an expression and sign of the discontinuity and non-identity of modern aesthetics. See Bohrer: *Suddenness: On the Moment of Aesthetic Appearance*, trans. by Ruth Crowley, New York 1994. It would be interesting to correlate the ‘ludic society’, much invoked in the context of the digital age, with the context he describes of the ‘concept of suddenness’ in aesthetic modernity.

¹¹⁵‘Mediating’ is understood here, of course, not in the sense of a synthesizing process. The *medium* as ‘mediator’ describes—as mentioned earlier—is first nothing more than a place that can only be defined in relation to that of *which* it is a mediator.

¹¹⁶Bateson: *A Theory...*, p. 190.

fact that in the game, the problem of framing shows itself in strengthened form and completely reveals its paradoxical character. In an intensification of the paradoxical structure of ‘play’, which is constituted alongside the frame message ‘This is play’, the logical-epistemic vagueness is itself thematized in the form of the ‘game’ through the question ‘Is this play?’ Bateson’s game theory, as well as Niklas Luhmann’s concept of medium and form, orientates itself around the phenomenon that even ‘meaning’¹¹⁷ emerges from the processing of paradoxes. Exemplary for this is the figure of Epimenides’ paradox:

All statements within this frame are untrue
 I love you
 I hate you

This figure creates the effect of the ‘double-bind’, a logical, epistemic and psychological structure which Bateson has examined in the context of research on schizophrenia. In the game, he sees a process at work which is able not to solve the aporia of this ‘double-bind’, but rather to *overcome* it. The appeal, the effect and the function of play and game lie for Bateson primarily in this overcoming. The achievement of play has such a wide scope, for Bateson, that he sees himself impelled to describe it as an evolutionary jump in the development of communication. The processing of paradoxes is fundamental for a communication that transcends the pure recognition of signals and symptoms, and is capable of metacommunication. Play shifts between the fields of unconscious primary and discursive secondary processes; levels that would not be compatible outside of play.

Bateson illustrates what this means via the map—territory relation, which describes the capacity to differentiate between logical levels. Since a differentiation between levels is not possible in the framework of the primary process, it proves itself to be a function of the secondary process. The problem of the paradox arises now from the confrontation of

¹¹⁷ ‘Sense’ should be understood here in Luhmann’s terms, where, ‘sense’ is itself a medium whose characteristic it is to enable self-referentiality and complexity along the differentiation of real/possible or current/potential social and psychological systems. ‘Sense’ is a base fundamental prerequisite for complex systems. See Claudio Baraldi, Giancarlo Corsi, Elena Esposito (eds.): *GLU. Glossar zu Niklas Luhmanns Theorie sozialer Systeme*, Frankfurt/M 1998, pp. 170ff.

the secondary and primary process, whereby it is assumed ‘that the primary process is continually operating, and that the psychological validity of the paradoxical play frame depends upon this part of the mind’.¹¹⁸ The game, in the form of the question ‘Is this play/a game?’, now exceeds this frame: ‘In primary process, map and territory are equated; in secondary process, they can be discriminated. In play, they are both equated and discriminated.’¹¹⁹ The structure of the momentary—punctual appearance of an ontological—epistemic vagueness, as described above, consists in this equation of ‘either/or’. Within the game, various levels are not merely mediated with one other. The game is momentarily in the position, in the mode of temporal succession, even if it is a fluctuating one, to produce a connection which allows it to process this equation.¹²⁰ The medium of the game is now this fluctuating form because temporal succession is never linear but rather recursive. The operations tip over, again and again, into a different area each time, such that a stable point of the ‘before’ or ‘after’ cannot be determined: the paradox is left standing and yet is processed; a synthesis, however, never comes to being. The game as a medium remains discrete, but at the same time constitutes ‘meaning’, which results from the constantly moving processuality of the shifting of both levels. Pathological forms, like that of schizophrenia, arise, then, precisely when a psychic system is no longer in the position to carry out this balancing act, when it can no longer process paradoxes in the described way.

Proximity and Distance. Self-Referentiality in Video Games

This is a well. You may think that there is something to it, but it is in fact just an ordinary well.¹²¹

¹¹⁸ Bateson: *A Theory...*, pp. 184–185.

¹¹⁹ *Ibid.*, p. 185.

¹²⁰ This type of procession of paradoxes is in Luhmann’s theory formation further carried out and more closely described with the help of George Spence-Brown’s thought figure of ‘re-entry’. Even for Luhmann, the paradox is not a form to be avoided if possible, but rather represents, in contrast, an integral constituent of psychic and social systems. ‘Re-entry’ designates that entry through which a system can reintegrate into itself the basal differentiation on which it is itself based in the train of self-observation. In the medium of the game, which is based on the differentiation between the real and the dictional (“Is this play?”), precisely this difference is thematised and in recourse to time.

¹²¹ Game dialogue after ‘clicking’ on a virtual well in *Final Fantasy I* (Square/SNES).

Prior to any categorization of video games into various genres such as ‘action’ or ‘adventure’, the constitutive foundation of the video game consists in a staging of self-referentiality which takes place in the medium of the game and is urgently thematized in every video game, though it is seldom as clear as it is in the example *Metal Gear Solid*. The particular function of the video game as a form of the medium of play results from constant confrontations between techniques of immersion which, by means of sometimes considerable efforts, aim to create the illusion of a ‘realistic’ game world and of the unavoidable recursion of the medium to its own status as unreality, as a virtual space (of play). This confrontation of contesting aspects creates the video game’s field of tension. On the one hand, the effort to create more and more realistic game environments and possibilities for interaction continues uninterrupted as the driving force of technical development in this segment of the market. On the other hand, a video game must not be *too* realistic and will on this level always continue to betray its own status as a ‘game’. There emerges an equation of proximity and distance, as a video game can only begin to function through the distance of the playing user, while at the same time a high degree of immersion must be reached to achieve the necessary credibility of the game environment:

Counter-intuitively, it seems for the moment that the perfect videogame ‘feel’ requires the ever-increasing imaginative and physical involvement of the player to stop somewhere short of full bodily immersion. After all, a sense of pleasurable control implies some modicum of *separation*: you are apart from what you are controlling.¹²²

It is important to bear in mind that it is in this equation of the external viewpoint and the intrinsic participant perspective that the specific quality of the video game can take effect; a quality which is lost from view as soon as one level is privileged at the cost of another. For this reason, Sybille Krämer—dissociating herself from theories which see the classical concepts of reality and epistemology disappear in the space of the virtual—emphasizes precisely this equation of levels of perception as an originary form of perception that can be experienced only through the possibility of virtual realities.

¹²²Steven Poole: *Trigger Happy. The Inner Life of Videogames*, London 2000, p. 77.

In the face of this domination of one absolute perspective, remember that the technique of simulation of virtual realities requires the divergence of the de facto place of the body and the virtual place of interaction. ‘Cyberspace’ requires, then, the differentiation of virtual reality and the bodily-situated external world.¹²³

Consequently, video games emphasize precisely this differentiation, because the game as a medium installs the dynamics of this differentiation in the form of the video game directly into the relationship between the playing user and the machine. Contemporary video games, for this reason, in no way lack examples of the self-referentiality inherent to the game.

Scarcely a video game, for example, comes without a ‘save’ function, which allows the player to interrupt the action of the game in order to continue from that point at a later time in the game. This save function is necessary because the player, of course, cannot be expected to busy him/herself with a game continually for over 80 hours. Often, this save function is not triggered by a discrete keyboard input, but is represented as an object in the virtual space itself. The form of these save points varies considerably. Often, game developers attempt to build them more-or-less adroitly into the logic of the game, to avoid the break in coherence that is the inevitable consequence of stepping out of the virtual environment. These save points, which come in the form of abstract moving objects (*Final Fantasy VII*, Square/Playstation, PC) or books (*Dragon Warrior 7*, Enix/Playstation), stand out from the game as foreign objects and refer to the artificiality of the virtual environment into which they, as strange foreign bodies, ‘do not fit’.

Another kind of play with self-referentiality can be observed in the form of the ‘red herring’, a virtual object that exists only to produce a gap within the symbolic universe of the game, in which everything is significant and effectively refers to something else. In the Japanese role play game *Final Fantasy 7* (Square/Playstation, PC), the player can find objects which, on closer observation, reveal themselves to be miniaturized toy simulations of virtual characters the player encounters in the course of the game. These characters are virtual objects without any ‘meaning’, because the player cannot do anything with them, in contrast to all the other objects within the world of the game. They are, within the context

¹²³Krämer: *Zentralperspective...*, p. 36.

of the game, ‘meaningless’; they are not there to help solve a riddle, or to be used for another purpose. They are pure signs which refer beyond themselves to the outside of the game, because the player can only recognize these objects as ‘meaningless’, or run for ever behind the presumed function, the referent of this sign, in a parody of the Derridean ‘never-ending chain of signification’.

In *Anachronox* (Eidos/PC), in a dilapidated futuristic town, the player’s alter ego encounters a man whose sole function is to stand in a corner and, in the style of a mad dystopian visionary, accuse the ‘NPCs’¹²⁴ of their own artificiality (‘You are all not real! We’re in a game! Just look: ...’ etc.). In *Metal Gear Solid* and its successor *Metal Gear Solid 2: Sons of Liberty* (Konami/PS2) as well as, above all, in *Deus Ex* (Eidos/PC, PS2) this ontological—epistemic vagueness itself finally becomes the theme of the game’s plot.

It should be remembered that play as a medium, in its mode of enabling an equation of levels which otherwise cancel each other out, provides a dynamic that climaxes in the video game through its various medial prerequisites (computer, digital image, game). The video game as a form of the medium of play, however, transforms this dynamic into the form of a simultaneous coexistence of proximity and distance of the intrinsic actor and the external observer. The tension resulting from this is then the medium, within which single concrete games constitute themselves as forms. In these forms of the medium of the video game, the paradoxical status of the medium appears by means of continual new stagings of self-referentiality. The paradoxical status of the medium, however, reflects only human perception in toto, which, always at the same time external observer and ‘embedded’ participant, is simultaneously subject and object of observation. This conflict can be experienced in dealings with virtual realities and precisely in the form of the video game:

Here, however, what can be experienced in a model is what Kant formulated as a conceptual insight: the fragmentation of our reference to the

¹²⁴NPC = non-player character. Characters which populate the streets of cyber cities as virtual extras and simulate ‘life’ by means of generally very limited, automatically running animation loops.

world, as far as we are—irreducibly—external observers and intrinsic participants. But whilst Kant deprives the participating perspective of ‘knowledge’, virtual realities could become emblematic for how genuine recognitions can be gained, not only in the perspectives of the observer, but also in those of participants: in any case, this new form of synaesthetic treatment is inherent to models which are opened up through virtual reality.¹²⁵

Video games as the most widespread ‘models of virtual reality’ enable, as *interactive* media, precisely this integration of the participant perspective with the observer perspective and in this way enable an ‘either/or’ of the interacting subject, who is now no longer only a non-participating observer, but simultaneously a suffering participant. This ‘suffering’ is aesthetically sublimated in the mode of the ‘as if’ character of the game, because a danger, of no matter what kind, held by a participant perspective, is framed within the game and as a game and thus weakened and domesticated.

A Distance, as Near as It Might Be: Immersion in Video Games

He spent his teens alone, sealed in his bedroom, voyaging. All the while, he held on to that first hint, hoping to locate the fecundity that he’d wrongly thought already inhabited that first adventure. Each new release, each innovation in design, produced in him the sliver of recovery. But Closer only stoked the fire of Not Quite.¹²⁶

In a study of the media which make up the video game, we are impelled to scrutinize more closely terms such as ‘immersion’ and ‘virtual reality’ once the medium of video games comes into question. While video games have much in common with various forms of ‘virtual reality’ (which I call ‘VR’ in the following), like artificial realities which can be explored by means of data gloves or similar interfaces, the singularity of this medium is first glimpsed when the original quality of the medium can be worked out in contrast to other forms.

To this end, we must describe the kind of VR with which we are dealing in video games. In his work *CyberSociety. Mythos und Realität der*

¹²⁵ Krämer: *Zentralperspektive...*, p. 36.

¹²⁶ Powers: *Plowing the Dark*, p. 110.

Informationsgesellschaft (CyberSociety. Myth and Reality of the Information Society), the sociologist Achim Bühl has summarized what we understand by the term VR, identifying nine characteristics that cumulatively represent the ideal model of a virtual reality—which, as Bühl shows, does not exist in this pure form. By means of the characteristic of immersion, we may observe in detail the form of virtual reality mediated through the medium of the video game. By contrasting it with other forms, we can elucidate specifics of the video game experience.

Virtual Reality and Immersion

Tightly bound up with concepts of virtual reality and the term ‘cyberspace’, the phenomenon of immersion represents the technique which enables the user’s perceptual apparatus to enter the spaces of virtual imagery: ‘The user is immersed in a computer-generated development environment, he or she enters into a “space behind the screen”.’¹²⁷ Here, the effect of immersion results not from monocausal events; that is, from a particular item of hardware or software acting alone. Like virtual realities themselves, their agent, the effect of immersion, is ‘a type of convergence-technology which supports itself on the basis of available basic technologies like data helmets, software developments, artificial intelligence, parallel calculator architecture and networks’.¹²⁸

Bühl assumes here that the main aim of every technique of immersion consists in letting the user feel the difference between reality and VR as little as possible. Thus the more complete the immersion, the less likely the user is able to differentiate between VR and reality.

At its technological center, virtual reality aims for the deception of human senses. The observer entering a virtual computer-generated world should have the impression of a subjectively experienced reality. The sensory impressions created by the computer should deceive human senses perfectly. After the sense of hearing, the sense of vision is the easiest to simulate in humans. It seems to be only a matter of time before the resolution quality of displays and the processing power of modern computers will be

¹²⁷ Achim Bühl: *CyberSociety. Mythos und Realität der Informationsgesellschaft*, Cologne 1996, p. 54.

¹²⁸ *Ibid.*, p. 62.

in the position to create virtual sensory impressions which are absolutely realistic.¹²⁹

The models for this idea of a total immersion are—as Bühl shows—concepts which appear predominantly in science fiction and are linked with names such as William Gibson and Stanislaw Lem. Lem’s concept of ‘phantomatic’ forms the kernel of the idea of total immersion. For Lem, phantomatic realities are those ‘realities that are absolutely indistinguishable from the standard reality but that are subject to different laws’.¹³⁰ A perfect illusory technique of this kind—one that can no longer be differentiated from reality—should, however, start on a neuronal level. Thus neuronal interfaces between human and computer are the consequence of this claim for total immersion, but they still belong to the realm of science fiction, on the basis of technical difficulties that appear close to insurmountable. In relation to forms of VR that exist today, however, of interest are not so much the imaginative extrapolations of science fiction, but rather those techniques that aim towards the (apparent) ideal of total immersion.

It remains to be said that we can only even begin to talk about VR when the intention for immersion is available; when the ‘entry’ into a computer-generated artificial world is the aim of those convergence technologies whose effect is the experience of immersion: ‘In the following, we understand by Virtual Reality those techniques which allow a person to integrate immediately into computer-generated development environments, in distinction to, e.g., pure computer simulations, in which an immersion does not take place.’¹³¹

Ever since the beginnings of computer technology, the integration of the human into a virtual environment—as near to complete an integration as possible—is the long-term goal of diverse equipment aiming to close off the human perceptual apparatus from ‘normal’ reality. From Morton Heilig’s Sensorama, which even adds an olfactory component by means of scent jets,¹³² but which is not interactive, to Ivan Sutherland’s *Sword*

¹²⁹ Ibid., p. 70.

¹³⁰ Stanislaw Lem: *Summa technologiae*, p. 191 [<https://issuu.com/cristinobogado/docs/lem-stanislaw-summa-technologiae>].

¹³¹ Bühl: *CyberSociety...*, p. 53.

¹³² Ibid., p. 58.

of *Damocles*,¹³³ and finally to Jaron Lanier's 'data glove',¹³⁴ there has been no lack of elaborate technological attempts to clear an entry for the human body into virtual spaces.

It is noticeable how little these technologies have impacted the field of the video game, though there has been no lack of new attempts to make interfaces such as data gloves or even 'shutter glasses' attractive to gamers. We might argue that the costs of a technologically satisfactory VR interface currently lie beyond what is affordable for consumers, and that the meagre success of such interfaces is thus (still) due to technology being insufficiently developed. In contrast to this is the assumption, leading from the medial status of the video game as it has been presented above, that there is no such total immersion in the medium of the video game, and that this would even contradict the specific character of the video game. To formulate this as a thesis: the fact that nowadays video games do not aim for total immersion, and that the emerging interfaces maintain a distance between user and screen, does not speak of a deficit of the VR mediated through video games, but rather represents its conditions of possibility. Because within a total immersion the aesthetic balance of external observer perspective and intrinsic participant perspective is tilted as far as possible in favour of the participant perspective. The medium of the video game would thus lose much of its status as a threshold phenomenon. And the character of the threshold phenomenon is—precisely because of the medium of play—the foundation of all video games.¹³⁵

Moving through the most important media which have been described as elements of the form of the video game (computer or binary code, digital image, play), we have seen that on precisely those levels on which the medium of the video game is still not constituted as a form, an equation of levels which seem otherwise to be incompatible has proved itself to be structurally dominant. Regardless of whether it is a question of the 'magical practice' of program code, which in the mode of instantaneous realization of a Symbolic blurs the boundary between the current and the potential, switches the digital image between the Symbolic and the Imaginary; or whether the medium of the game fundamentally represents a medium of the non-synthetic mediation of incompatible logical

¹³³ Ibid., p. 58.

¹³⁴ Ibid., p. 61.

¹³⁵ Cf. Sect. 1.4 in this work.

and epistemic levels: the video game as ‘convergence medium’ thematizes this ‘threshold character’ and has this as its content, for example, in the form of self-referentiality, staging it in a new way time and again. A total immersion can, therefore, never be fully achieved in video games and it is also not their intention—as we saw earlier. This structure, inherent to the video game as a threshold phenomenon, is expressed in the particular experience of immersion which can be achieved through this medium. How, though, might we conceive of an experience of immersion which is broken, again and again, by the fluctuation between the external observer perspective and intrinsic participant perspective, and which nevertheless draws its not inconsiderable attraction from immersion?

High-Speed Meditation: Picnoleptic Immersion

Crucial for an immersive experience within a virtual reality is the possibility of some form of interaction. Virtual realities are defined not only by a particular form of perception, but also by the possibility of interacting with objects in the virtual environment, in real time. In contrast to the VR systems described by Bühl,¹³⁶ the impact from the side of the user does not typically work via HMDs¹³⁷ or data gloves, but rather via a two-level interface system which consists on the first level, in terms of hardware, of a ‘controller’; and second, in the form of a software interface, part of the program itself, situated in the virtual world. Up to this point, the forms of interaction in video games are in no way different from conventional interactions with a PC. The combination of both of these control elements varies according to the game. The most significant thing is that the game control, resulting from the combination of a hard- and software interface, allows as intuitive as possible a navigation within the game environment.

To keep the control of a video game as simple as possible, developers today fall back mainly on so-called ‘joypads’—apart from the PC, where the mouse/keyboard combination is the dominant hardware interface. The design of these control devices is no simple undertaking, as they aim to combine as great a navigational freedom as possible with ergonomic comfort and intuitive usability. The single key-commands of a controller

¹³⁶Bühl: *CyberSociety...*, pp. 57–61.

¹³⁷HMD = head mounted display.

are arranged differently according to the game and must enable the control of, for example, a simulated vehicle or the direction of a whole virtual football team. Immersion in video games occurs at the moment when the control of a video game is taken up by the user in ‘flesh and blood’ to such an extent that the singular actions needed to play—the conscious observation of motor actions as well as the information of the software interface—are *forgotten* and the player can thus interact intuitively with the virtual environment.

In this moment, we think as little about the control and navigation of virtual objects as the human body must ‘reflect’ on its everyday motion sequences. As the game navigation is registered in our motor memory, the controller and the software interface become prosthesis-like extensions of the body into the virtual environment and are no longer perceived as external, artificial pieces of apparatus. This moment describes our entry into the virtual environment: the experience of immersion which differentiates the video game from the normal use of a PC. While the user of a PC treats the medium as a tool, as an instrument, in the sense of a means-to-an-end relationship, this aspect sinks to the background in the mode of the video game, in order to foreground the ‘world-creating’ apparatus character of the underlying media. The user now enters this ‘world’.

There must be a reason why so many of the people I know who enjoy videogames describe racing a good lap in Colin McRae Rally or clearing waves of defenders as a ‘Zen’ experience. This is understood to be a shorthand for a kind of high-speed meditation, an intense absorption in which the dynamic form of successful play becomes beautiful and satisfying.¹³⁸

Steven Poole, following the work of the psychologist Mihaly Csikszentmihaly, describes this condition of ‘high-speed meditation’—the moment of blending out the real environment and the simultaneous immersion in the virtual environment—as ‘flow’.

Csikszentmihaly was interested in the fact that musicians, rock climbers, chess players and other people engaged in very complex tasks reported an experience of ecstasy or bliss, losing track of time and losing the sense of self. He decided that, although on the face of it each activity was markedly different, all his subjects must be having the same sort of experience, which

¹³⁸ Poole: *Trigger Happy...*, pp. 179–180.

he termed ‘flow’. In this state, ‘action flows upon action according to an internal logic that seems to need no conscious intervention by the “actor”’. And ‘there is little distinction between self and environment, between stimulus and response, or between past, present and future’.¹³⁹

Several important characteristics of the experience of immersion in video games are named here. For one, the cessation of *conscious* interventions into the virtual environment on the side of the player is important. A sign of flow is that the actions accomplished by the user no longer require conscious direction, but rather proceed ‘as if from themselves’. Of course, I do not refer here to any somnambulant capacity induced by video games. Rather, an entry into a virtual space of images in the mode of this particular experience of immersion is characterized by the fact that actions and reactions within the virtual game world seem to step into relationship with each other according to an ‘internal logic’, without the conscious participation of secondary processes. This phenomenon has a similarity with what Poole names ‘muscle memory’, referring to the methods of musicians:

When a pianist attempts a new piece, most of her attention is focused consciously on playing the right notes according to what is printed on the manuscript page, and working out precise fingerings for particularly difficult passages. But there is a point at which these visual instructions are no longer needed, when the player has so thoroughly learned the music that she does not consciously think about where to put her hands next. People also call this ‘getting the music under your fingers’. It is only now, when the mechanics of playing have been assimilated, that the player can concentrate on performing the music.¹⁴⁰

What is significant here is the emphasis on the specific performance character inherent in the video game, which is typically neglected in views of video games. The player is not just the ‘subserving’ subject, helplessly exposed to multiple stimuli. On the contrary, the attractiveness of the video game consists in precisely those moments in which the ‘muscle memory’ of the player gains the upper hand against cognitive observation, and a feeling of control arises.

¹³⁹ Ibid., p. 180.

¹⁴⁰ Ibid., pp. 181–182.

In contrast, however, to the comparative examples mentioned by Poole, such as the playing of an instrument or climbing a mountain, flow is never constant within a video game. It is always only ever fleeting, momentary. While for a musician the learning of a score—and for a mountain-climber, physical training—is only a preliminary step to be overcome, and only a means to an end, flow in the act of playing video games remains at the stage of ‘muscle memory’ and becomes an end in itself, since no ‘afterwards’ exists. In the case of the musician, the actual action, the autonomous acquisition and the individual interpretation of the piece of music, takes place on the basis of the previously practised ‘muscle memory’. Only *after* the physical—technical difficulties of a musical piece are mastered does the actual execution begin. The flow of a musician in the act of playing a piece of music must be constant. If uncertainty were to set in, for example, over the requisite finger positioning, even for just a moment, then a performance, as a personal, creative treatment of a piece, would be interrupted and made unviable. For a mountain climber, this kind of uncertainty concerning the motor processes of the body, no matter how short, could even be life-threatening.

The situation is quite different in the case of playing a video game. Here, flow may well be identified in that moment when ‘muscle memory’ no longer demands a conscious intervention, but at the same time this specific state of consciousness meanders again and again into emptiness, being constantly interrupted by the demands of the game itself. This constant interruption of the flow is the result of the specific, dynamic structure of the video game, whose immersion-effect of flow depends on a fragile equilibrium between the individual motor and cognitive capacities of the player and the demands of the respective game situation.

Flow only occurs in the moment when the capacities of the player—for example, to keep a virtual racing car on the track, aiming to reach the highest possible speed and simultaneously to dodge competing vehicles—are not overloaded by the requirements of the game. At the same time, however, a game must not make it too easy for the player and risk boredom. An immersion experience of flow is achieved at the point ‘when there is a perceived match between the demands of the activity and the subject’s skills’.¹⁴¹ The maintenance of this equilibrium succeeds, however, inconstantly. The capacities and momentary predispositions of each

¹⁴¹ Ibid., p. 180.

player are always too varied, meaning that the experience of this ‘perceived match’ can be achieved only momentarily. With some practice, these moments can be intensified, extended and attached to one another like a chain, but a constant immersion experience of flow is not structurally possible over a longer time period, as with, for example, the playing of a piece of music.

The consequence is a constant tipping back and forth between the external observer and intrinsic participant perspectives: a permanent, reciprocal movement between jubilatory feelings of happiness in the mode of the immersion experience (‘experience of ecstasy or bliss’, ‘successful play becomes beautiful and satisfying’) and frustration during the unavoidable interruption of that bliss. This situation holds the potential for addiction unleashed by video games. Much less effort must be expended to achieve the immersion experience of flow than is necessary for the learning of a score, for example. Simultaneously, for this simplification of the fundamental techniques, the player must pay the price of constant frustration and permanent deferral of the sought-after flow experience, which is ultimately never reached. A compounding factor is that, in the mode of the video game, the relationship of the player and the game is precisely the reverse to that, for example, in the practice of music. It is not the player who dispenses with the game, but exactly the reverse: the game uses the predispositions of the player to unfold the medium. This asymmetrical relationship is a new quality that first takes effect in our encounter with digital media and which is very clearly formulated in the medium of the video game.

At this point, the limits of Poole’s analogies come to light. We should agree with Poole when he states that ‘aspects of play and performance’¹⁴² coexist in the video game. However, this coexistence must not simply be equated with the processes observed in the playing of a piece of music. The greatest proximity to predecessors of the type described can be recognized at the earliest in that kind of musical practice which, not relying on the exact memorization of a score, comes to fruition in the act of *improvisation*. One might think that improvisation corresponds exactly to this structure of the ‘perceived match between the demands of the activity and the subject’s skills’, as the capacities of the musician, in the form of his or her command of the instrument and satisfactory knowledge of harmony

¹⁴²Ibid., p. 183.

in some way ‘fit together’, in the ideal case, with the demands of the situation (for example, a correctly played chord sequence in a jazz piece), such that an auditory wholeness arises. The improvising musician would be in the condition of flow in that moment if his or her motor capacities as well as his knowledge of harmony and of the respective piece of music were so well developed that he or she would no longer consciously have to reflect on the structure of the chord sequences or on the required finger positions in each case, and could busy him/herself creatively, simply and alone with the musical material.

Flow in the mode of the video game would be comparable with the attempts at improvisation by an amateur musician whose capacities have not yet reached the necessary measure of prowess and who, on the basis of this, experiences his or her flow to be interrupted again and again, because uncertainties, for example, concerning the demanded finger position or the corresponding harmony successions, force him or her to consciously intervene and, if necessary, to correct him/herself. Comparable to this situation is the immersion experience in video games, but with the significant difference that the user of a video game can never attain a form of prowess similar to that of a professional musician. On the level of ‘muscle memory’, persistent practice of the play mechanic of a single game can be internalized in such a way that the required ‘finger positions’ on the ‘instrument’ of the joystick can be achieved as if on their own. These capacities, for whose attainment participants in *E-Sport* take great effort, as professionalized players of a particular game, such as *Quake* or *Starcraft*, have scarcely any use in the context of other games. In each case, gameplay must be learned from scratch. As soon as prowess in playing a particular video game is attained, then the game quickly loses its appeal. The motivation of professional video game players consists, in this case, in the competition with others—a level of play which no longer belongs to the game itself, but rather uses the game as a vehicle. The video game as such needs the fragile balance between the ‘skills’ of the user and the ‘demands of the activity’ in order to function.

If the structure of the immersion experience in video games, then, corresponds only contingently to that of flow, then it remains to be seen how we might describe an immersion experience which shares many aspects with the phenomenon of flow, but which ultimately is not rooted in the ‘ecstatic’ aspects of flow, but rather seems to privilege only the aesthetic modi of this condition. Along with the fact that the immersion experience

takes place on the level of unconscious primary processes, Csikszentmihaly's indication, cited by Poole, is important: that the boundary between system and environment is blurred as much as for the immersed subject as is temporal succession ('there is little distinction between self and environment, between stimulus and response, or between past, present and future').

This specific 'implosion' of space and time is the theme, in various ways, of postmodern medial reflection and is theoretically examined above all in the work of Paul Virilio, alongside the works of Baudrillard, which devote themselves to the apparent process of dissolution of referential sign systems. Virilio starts from his theory of speed, which he named 'dromology' (from the Greek *dromos*: run, step), and from which it follows that history finds itself in a constantly growing 'ecstasy of speed', leading ultimately, in the mode of real time in the digital age, to the implosion of space and time. New media technologies allow for the instant simultaneity and 'synchronized spatiality' of enormous distances and time zones, while in parallel to this, the physical human becomes ever more immobile and the body, which can no longer keep up with enormous accelerations, being no more than the 'host' of instant communicative practices, finally becomes ballast—which, in the final consequence of a subject surfing in the data world, must only be stripped away.

Whether or not we follow Virilio's apocalyptic extrapolations, it is certain that we can take a great deal from his analyses of the various physical conditions of speed, which link urban studies, aesthetics, strategies of war, and media history. In this connection, Virilio finds in his 'aesthetics of disappearance', in the phenomenon of picnolepsy, an analogy to the condition of aesthetic experience, as it is induced by the high acceleration of today's media technologies.

The lapse occurs frequently at breakfast and the cup dropped and overturned on the table is its well-known consequence. The absence lasts a few seconds; its beginning and its end are sudden. The senses function, but are nevertheless closed to external impressions. The return being just as sudden as the departure, the arrest word and action are picked up again where they have been interrupted. Conscious time comes together again automatically, forming a continuous time without apparent breaks. For these absences, which can be quite numerous—hundreds every day most often pass completely unnoticed by others around—we'll be using the word 'picnolepsy' (from the Greek, *picnos*: frequent). However, for the picnoleptic,

nothing really has happened, the missing time never existed. At each crisis, without realizing it, a little of his or her life simply escaped.¹⁴³

The heuristic advantage of describing the immersion experience specific to video games as a *picnoleptic* experience consists in differentiating it from Poole's analogies to the creative practice of music or even to Zen experiences, while retaining the aesthetic components of these experiences. As such, we avoid describing the immersion experience in video games as a meditative experience, thus elevating it beyond its status. Just like the picnoleptic, in the mode of immersion the user of a video game experiences an absence which lifts him from out of his real physical situation and blurs the boundaries between system and surroundings on an aesthetic level. Because the immersion experience takes place on the level of the primary processes, it obeys another logic, temporally and spatially, which momentarily suspends the dichotomies we conventionally draw between, for example, the Symbolic and the Imaginary, or the real and the fictitious. Virilio describes the dream-like suspension of our conventional sense of time by means of the picnoleptic's loss of duration. Here, 'duration' refers to the Bergsonian *durée*, which, in brief summary, signifies an 'inner time' in contrast to linear, 'objective' time. The player immersed in the picnoleptic immersion of a video game forgets all too quickly the linear time of clocks, only to notice, after a subjectively experienced short time of playing, that several hours of 'objective' time might easily have passed.

As with Virilio's picnoleptic child, those time periods in which we step out of conventional reality into a world of shifting boundaries and porous mirrors are momentary and sudden. In contrast to a total immersion, picnoleptic immersion is characterized by a coming and going of levels, a movement that characterizes the specific dynamic of the video game. Not for nothing are, for Virilio, many games also pure scenarios of this dynamic; a situation which completes the argumentative circle here, because: 'The basis of the game is the separation of the two extreme poles of the *seen* and the *unseen*, which is why its construction, the unanimity that pushes children to spontaneous acceptance of its rules, brings us back to the picnoleptic experience.'¹⁴⁴

¹⁴³Virilio: *Aesthetics*, p. 9 [<https://drive.google.com/file/d/0B7LGkCFPsv6SYTk4ZmIyYmQtN2RkZS00OWI15LWI1NWUtY2QwMDMwMTNkNmE4/view>].

¹⁴⁴Virilio: *Aesthetics*..., p. 14.

CONCLUSION

The status of the video game, and of the media on which it is based, culminates in the picnoleptic immersion specific to video games, and can be experienced sensually in the performative act of playing. Yet the question remains: how might we bring the relationship between the user and the medium into the perspective whose characteristics were the focus of the single chapters of this work?

A first clue is given by the ‘potential for addiction’ specific to video games, which, as we saw, results from the double structure of picnoleptic immersion. It is worth noting that, when describing the video game experience in the context of the phenomenon of flow, critics often fall back on an affectively and emotionally overloaded terminology. Hence Poole’s description of a good gaming experience with words like ‘bliss’ or ‘ecstasy’, or as being ‘beautiful and satisfying’. The immersion experience is represented as a kind of intoxication, within which the boundaries of time and space, of subject and object, of internal and external worlds, blur—and which unfolds its potential for desire in the mode of an almost Dionysian ‘ego dissociation’. It would be all too easy to connote this ‘intoxication’ negatively and to describe it in the context of drug abuse, where the lexical proximity of the computer user and the drug addict, both being ‘users’ of a sort, is no coincidence. Here, we all too often overlook the fact that—soberly considered—the video game is not simply a product of a ‘crazy’ digital culture industry designed to influence the ‘masses’, but rather is a medium which, being part of a far-reaching medial transformation, belongs to this transformation and should, as such, be judged as neutrally as possible.

While it is scarcely surprising from a cultural—critical perspective that such an aesthetic ‘ego dissolution’ in the spaces of virtual realities is negatively connoted by Baudrillard or Virilio, and is described by means of a rhetoric of decline, this judgement is not necessarily compelling. Such an argument draws its justification primarily from unspoken basic assumptions that allow writers to establish an opposition between reality and virtuality, or between reality and fiction; this contrast is then staged as a conflict between actuality and ‘un-actuality’. And thus with every complaint about the ‘agony of the Real’, we lose sight of the fact that the very conception of reality at its foundation is itself historically conditioned and must in no way be misunderstood to be an objective criterion. To be

more precise, we are not complaining, here, about an agony of the ‘Real’, for this would be unthinkable. It would be more exact to speak of an ‘agony of reality’, where ‘reality’ is defined as a historically contingent and changeable construction of the world around us.

The Western rationalistic concept of reality itself emerged alongside a long tradition of taking into account its own ‘techniques of illusion’. This is also the case for the presumed contrast of ‘real reality’ and fiction. Elena Esposito suggests, for example, referring to Michel Foucault, that the dichotomous differentiation between a sphere of the fictional and an ‘objective’ reality independent of it is an invention of modernity. Historically, there have been many periods in which a differentiation between reality and fiction was not only non-existent, but would have been epistemological nonsense.¹⁴⁵ The question ‘Do we still need fiction, in a reality like our own?’¹⁴⁶ is thus not only an effective provocation, but rather implies the observation that the boundaries between these oppositions, organized dichotomously in our everyday understanding, have long lost their fixity. Hence, the question about reality and virtuality must be considered to be just as dependent on the observer as that of reality and fiction, representing, strictly speaking, not an ‘objective’ but rather a normative criterion.

In the context of the ‘dissolution of reality’ and ‘aestheticization’ in the age of digitization, we are not concerned with leading terminological trench warfare, but with describing the status quo of the situation as it is, and from this foundation, glimpsing the aesthetic quality experienced through new media like the video game. The emphatic way in which the experience of immersion is connoted positively on the one hand and negatively on the other, in the mode either of a rhetoric of disappearance or of judging video games by their pathological aspects (addiction), shows us at least one thing: in these playful virtual worlds, made to be explored, we are clearly dealing with a phenomenon about which it is curiously hard to speak neutrally. Both the drug analogy and the description of the immersion experience in the mode of flow reveal a potential of this specific perceptual experience which withdraws from conventional rationality and can be strictly categorized under the irrational, by virtue of

¹⁴⁵ See Elena Esposito: *Fiktion und Realität*, in: Krämer (ed.): *Medien—Computer...*, pp. 269–297.

¹⁴⁶ Derrick de Kerckhove: *Brauchen wir, in einer Realität wie der unseren, noch Fiktionen?*, in: Vattimo, Welsch (eds.): *Medien—Welten...*, pp. 187–201.

its dream-like, intoxicating status. It is, however, necessary to disentangle something of the concept of the irrational from the semantic context of its use in the work of Georg Lukács,¹⁴⁷ in order to clear the term of bias and thus render it functional again. Umberto Eco offers an approach:

One of the antonyms of ‘unreasonableness’ (according to *Roget’s Thesaurus*) is ‘moderateness’. Being moderate means being within the *modus*—that is, within limits and within measure. The word reminds us of two rules we have inherited from the ancient Greek and Latin civilizations: the logical principle of *modus ponens* and the ethical principle formulated by Horace: *est modus in rebus, sunt certi denique fines quos ultra citraque nequit consistere rectum*.

At this point I understand that the Latin notion of *modus* was rather important, if not for determining the difference between rationalism and irrationalism, at least for isolating two basic interpretative attitudes, that is, two ways of deciphering either a text as a world or the world as a text ... Latin rationalism adopts the principles of Greek rationalism but transforms and enriches them in a legal and contractual sense. The legal standard is *modus*, but the *modus* is also the limit, the boundaries.¹⁴⁸

¹⁴⁷ See Georg Lukács: *The Destruction of Reason*, Vols. I to III, trans. by Peter R. Palmer, 1980. Lukács uses the concept of the irrational within a strictly Marxist perspective to describe intellectual tendencies which, according to his argument, can be made responsible, in a direct causal relationship, for the crimes of Fascism and National Socialism. The result is, despite many important insights into the historical relations, an ultimately hugely oversimplified depiction which does not shy away from indiscriminately excommunicating the most disparate approaches, from Romanticism to Nietzsche, Dilthey and Bergson, to NS apologists such as Baeumler or Rosenberg, to irrationalism—which he compares to the ultima ratio of historical materialism. This attempt at a philosophical—historical ‘tabula rasa’ has encountered firm resistance in Adorno, as is well known (see Theodor W. Adorno: *Erpreßte Versöhnung*, in Adorno: *Noten zur Literatur*, Frankfurt/M 1998), and today, within scholarship on Fascism, it has become obsolete, at least in this apodictic variant. What remains, however, is the use of the adjective ‘irrational’ as a pejorative word which is used by all ideological camps in the same diffuse manner and always with the intention of defamation.

¹⁴⁸ Umberto Eco: *Interpretation and History*, in: *Interpretation and Overinterpretation*, pp. 26–27 [https://books.google.de/books?id=wbhROmD3guQC&pg=PA26&lpg=PA26&dq=umberto+eco+unreasonableness+moderateness&source=bl&ots=LQQXWjFEP5&sig=FdDt-0e5YatPT_iwDa9lgYgrO-0&hl=en&sa=X&ved=0ahUKEwjz9tHC2q7VAhVHBB0KHdBrA6sQ6AEIKDAA#v=onepage&q=umberto%20eco%20unreasonableness%20moderateness&f=false].

Structurally, then, the constitutive characteristic of the 'irrational' consists first in a transgression of boundaries, in a deviation from the boundaries of the 'modus'. When a phenomenon is categorized under the field of the irrational, this categorization signifies nothing other than an act or dynamic of transgression. This transgression of boundaries then describes a process which transgresses the 'modus' from within, and on both sides. Here we are seeking justification for why the field of the irrational is constantly accompanied by paradoxical phenomena, for what is logically excluded from a 'modus' is precisely the condition of the possibility of transgression, and so can no longer be seen without contradictions within the rules of the transgressed 'modus'. The fact that this transgression of boundaries is often not judged neutrally and is, for example, with Lukács, connoted in a decisively negative manner, results from the circumstance that the transgression seems to negate the respective transgressed 'modus' each time, while actually only making its system boundaries visible as such. If both sides of the boundary are considered according to an opposition such as true/false or ethical/unethical, the 'scandal' is perfect and the 'guilty' party quickly found.

A description of the picnoleptic immersion experience of video games as belonging to the field of the irrational is not intended to be a judgement, but rather only a description, revealing a certain figure of thought to be a 'criminal offence'. The irrational element as a transgression of boundaries in the sense sketched above helps to keep in view the boundary-transcending nature of this perceptual condition as a 'threshold phenomenon', without having to judge this process in one or another direction.

Throughout the course of this work, the concept of the threshold phenomenon has shown itself to be the common denominator of the most important media participating in the medium of the video game. The medium of the computer, or the media standard fundamental to it, can be described as a medium which is in the position to transcend, in some way, that boundary which is marked on the one hand by signs, and on the other by the referent; that is, in the medium of binary code, the sign no longer stands in a relationship of reference with the signified, but rather literally in a causal constitutive relationship with it. The program code does not *mean*: it *is*, in the act of realization—it 'does what it says'. This profane—magical practice of the program code is the form of the threshold phenomenon specific to this medium.

The digital image, in turn, reveals itself on the basis of the medium of the computer as a further threshold phenomenon, switching between the Imaginary and the Symbolic, and, precisely through this transgression of boundaries, laying the foundation of virtual realities: the possibility of interaction with virtual spaces. Play is finally the medium which, in the form of the drawing-together of incompatible logical levels, itself supplies the condition of possibility for the form of the video game. The video game refers to the paradoxical structure of the named boundary transgression in the mode of its self-referentiality, staged anew, again and again.

Finally, in the perceptual mode of picnoleptic immersion, these boundary transgressions are reflected in our interaction with the medium of the video game itself and allow this structure of dynamic fluctuation to be experienced. Here we can see that the specific vagueness that is the sign of the paradoxical process of transgression is not ‘pacified’, in order to finally ‘peacefully enter’ one or another field. The dynamic of the constant change between euphoria and frustration which arises from the incessant ‘tipping’ between external observer and internal participant perspectives in the picnoleptic immersion experience can be summarized in the formulation that the relationship of user and medium is characterized by a permanent ‘distance, as near as it may seem’, to quote Walter Benjamin.

This dynamic, as irrational as it is in the sense sketched above, has far fewer pathological traits than it does have ‘erotic’ ones. Of course, such a relationship, like every ‘irrational’ relationship, can develop the character of dependency, but this aspect describes only a pathological portion of the phenomenon. With just as much justification, we might speak less of addiction than of *seduction*.

The computer’s holding power is a phenomenon frequently referred to in terms associated with drug addiction. It is striking that the word ‘user’ is associated mainly with computers and drugs. The trouble with that analogy, however, is that it puts the focus on what is external (the drug). I prefer the metaphor of seduction because it emphasizes the relationship between person and machine.¹⁴⁹

This structure of seduction latent in the person—computer relationship openly appears in the medium based on it, the video game, in the mode

¹⁴⁹Sherry Turkle, *Life on the Screen*, 2011, p. 30.

of the picnoleptic immersion experience. The intrusive way in which sexualized metaphors abound in the field of the video game—one need only think of the not coincidental double meaning of the term ‘joystick’—is only the superficial effect of a much more subtle strategy of seduction put into play by the medium. Only thus can we understand how a virtual figure like Lara Croft, modelled together rather badly from polygons, can radiate an ‘erotic’ aura encouraging international publications from *Der Spiegel* to *Newsweek* to deem it appropriate to let the scantily clad protagonist of the game *Tomb Raider* pose on their covers. What Lara Croft turns into the icon of a new relationship with media is not so much her polygonal primary characteristics, but rather her role as a *metaphor* for the relationship of seduction that is characteristic of the confrontation between human and machine in the video game.

What makes Lara Croft so attractive is not the woman herself as a ‘pin-up’ of the digital age. The erotics of geometric graphic data alone are rather limited. Rather the virtual ‘media star’ Lara Croft is the translation of the much less obvious structure of seduction in the picnoleptic immersion experience into the culturally more comprehensive form of the ‘conventional’ sultry eroticism of the ‘pin-up girl’. This model again sets up the familiar form of the desiring subject in opposition to the desired object in a relationship that does not work here, because the specific ‘erotics’ of the video game is not an interpersonal one, but rather a narcissistic one.

Musicians often hear the music in their minds before they play it, experiencing the music from within before they experience it from without. The computer can be similarly experienced as an object on the border between self and not-self. Or, in a new variant on the story of Narcissus, people are able to fall in love with the artificial worlds that they have created or that have been built for them by others. People are able to see themselves in the computer. The machine can seem a second self...¹⁵⁰

It is to the merit of Marshall McLuhan that he points out that the common translation of ‘Narcissism’ as ‘self-love’, inherited from Freud, betrays the real meaning of the myth. The key point of the Narcissus myth lies in the fact that Narcissus precisely *does not* recognize the reflection in the water as his own, and thus falls in love with an image of himself, but rather with a face whose origins he misunderstands. He does not

¹⁵⁰Turkle, *Life on the Screen...*, p. 30.

even understand this image as an image but takes it for another person, standing in front of him and yet unreachable.

The Greek myth of Narcissus is directly concerned with a fact of human experience, as the word Narcissus indicates. It is from the Greek word *narcosis*, or numbness. The youth Narcissus mistook his own reflection in the water for another person. This extension of himself by mirror numbed his perceptions until he became the servomechanism of his own extended or repeated image.¹⁵¹

The form of the experience as it is undergone in video games is a precise copy of this narcissistic structure, whose ‘servomechanism’ is the picnoleptic experience of immersion. For one, the structure of ‘distance, as near as it may seem’ is shown to be the erotic form to which Narcissus fell victim. Just as the reflection of Narcissus—medially conditioned—can never be reached, so too is the user trapped in the mode of a fluctuation between perspectives of external observer and intrinsic participant, specific to the video game, without ever being able to reach the ‘satisfaction’ of the continuous ‘flow’ of the total immersion experience. On the other hand, however, the moment of immersion, within which the picnoleptic condition of forgetting time and space—the moment of the prosthetic immersion in the virtual space—is accompanied by numbness to the extent that, in these moments, the body and the environment can be ‘left behind’ on an aesthetic level and the user can become insensitive to stimuli beyond the virtual space because, within this state, external and inner time, for example, are unhinged from one another.

We see, finally, that video games may very well have a ‘numbing’ or narcotic effect on their users, but this is a numbness that should not be misunderstood as an escapism willed by the user. On the contrary, it is a medial effect that is ineluctable but can be consciously explored through the possibilities offered by new media. The intermingling of sign and referent, of Symbolic and Imaginary, of primary and secondary processes, and the structure of the picnoleptic immersion experience which is made possible through them, may well be irrational—but this irrationalism is the form taken by the medial reality specific to the video game in an age of the dissolution of reality.

¹⁵¹ McLuhan, *Understanding Media...*, p. 51 [http://robynbacken.com/text/nw_research.pdf].



Noise, Disturbance, Perturbation: The Interplay Between Transparency and Opacity as a Gameplay Device in *Silent Hill 2*

James Sunderland—the main character and the player’s avatar in *Silent Hill 2*—is in an unpleasant situation. Not only is he compelled to pursue the spirit of his presumably dead wife into a ghost town shrouded in mist, on the basis of an impossible letter sent to him from the beyond, but there is also no way back. Orpheus has crossed the threshold of Hades and the player quickly surmises that James will not save his Eurydice, but lose himself with her in this foggy underworld. From the very first takes of the opening video sequence, it is clear where James—and with him the player—has ended up: in a twilight zone, on the border between the Imaginary and the Real.¹

At the beginning of the game, James finds himself at the border of the town Silent Hill, that ‘special place’ at the heart of the ghostly letter from his dead wife. This ominous dispatch from the kingdom of the dead that lures James to Silent Hill reads: ‘In my restless dreams, I see that town, Silent Hill. You promised you’d take me there again someday. But you never did. Well, I’m all alone there now ... in our ‘special place’ ... waiting for you...’ This ‘special place’, which is only ever spoken of vaguely and in intimations during the course of the game, and the precise nature of

¹My attempt here, however, is not to replicate the Lacanian model of the mirror stage across the avatar—player relationship again, though the temptation to do so, particularly in the case of *Silent Hill 2*, is not insignificant. On the theme of ‘the mirror stage and video games’, see Rehak (2003), as well as Rautzenberg (2002, pp. 37 ff.).

which is never made clear (does she refer to the Lakeview Hotel? The bar? Silent Hill itself?), is clearly identifiable as a variant of the Lacanian *objet petit*. Slavoj Žižek neatly formulates this as an ‘empty space on which the subject projects the fantasies that support his desire, a surplus of the real that propels us to narrate again and again our first traumatic encounters with *jouissance*’ (Žižek 1991, p. 133).

As the player finds out at the end of the game, at the centre of this secret *jouissance* is Sunderland’s murder of his wife, who is said to have died of cancer. Silent Hill is thus filled with fantasies from James’s own private hell. The ‘surplus of the real’ breaks fresh ground. It is no wonder that only he can see the amorphous creatures and shapes which seem to emerge both from the omnipresent mist and from the static noise of his defunct radio. Because while some NPCs (non-player characters) James meets over the course of the game also seem to see *something*, they never see the thing that presents itself to the view of James (and of the player). Laura seems not to see anything threatening at all, and Maria—well, Maria herself is probably one of James’s fantasies.

ECSTASY OF ABSENCE

As if to set the mood, the first thing that James, and with him the player, see of this ‘special place’ is a dirty privy filled with the ‘abject’—that is, those disgust- and fear-provoking parts of the Real that oscillate ontologically between object and subject²—and, in this space, James’s reflection, which allows the player to see him/herself seeing. This first scene—in which James watches himself in the mirror while the player watches him from the third-person perspective, a bodiless, ‘absolute’ view—encompasses the entire poetics of *Silent Hill 2*. The medial surface that is otherwise invisible becomes tangible. At this point, *Silent Hill 2* steps beyond a representation of the Real in the disfigured mode of the Imaginary (cancer, the fleshy amorphous creatures, ‘abject’ things like the smeared toilets).³

² On the term ‘abject’, see Kristeva (1982).

³ On the Real as a fleshy, amorphous dream image: ‘There’s a horrendous discovery here [in Freud’s dream of ‘Irma’s Injection’], that of the flesh one never sees, the foundation of things, the other side of the head, of the face, the secretory glands *par excellence*, the flesh from which everything exudes, at the very heart of the mystery, the flesh in as much as it is suffering, is formless in as much as its form in itself is something which provokes

The various mirror encounters, which often occur on the occasion of central knot points of the plot,⁴ stage absence in relation to the viewer.

The instances where the Protagonist encounters mirrors show the absence of the viewer whose very *point of view*, to follow optical logic, should be visible in the reflection. That this is not the case is a triviality of virtual spaces known to every player of video games, but in *Silent Hill 2*, this absence constantly evokes the uncanny as an *ecstasy* of absence. Ecstasy should be understood here in the sense of Gernot Böhme's 'that through which things make themselves noticeably present' (Böhme 2001, p. 131): 'it concerns the way in which a thing steps outside of the space of its presence, of its *sphaera activitatis*, and thus becomes tangibly present there' (ibid.). What is interesting in Böhme's conception of the *sphaera activitatis* here is that he names the spatially tangible ecstasy, that is, the 'stepping outside of itself' of a presence into the surrounding space, which no longer describes the presence itself, but rather the atmospheric 'tainting' of space that it causes. For example, the formal characteristics of a statue, a house or a colour are not in question so much as the way in which these 'extend' or 'radiate' into the surrounding space, and take effect there, in correspondence with all other factors in this space.

A contradiction seems to consist in the fact that ecstasies in Böhme's sense always postulate something present, for reason of which the talk of an ecstasy of absence seems to be counter-intuitive. However, here precisely lies the point: because the Real in Lacan's sense⁵ slips from the levels of the Imaginary and Symbolic, and thus from every representation, a

anxiety' (Lacan 1988, p. 154). It would be difficult to formulate a better description of the design of creatures and textures in *Silent Hill 2*. Lacan continues: 'there's an anxiety-provoking apparition of an image which summarises what we can call *the revelation of that which is least penetrable in the real*, of the real lacking any possible mediation, of the ultimate real, *of the essential object which isn't an object any longer, but this something faced with which all words cease and all categories fail, the object of anxiety par excellence*' (ibid., p. 164, [itals M.R.]).

⁴In the opening shot, for example, or during an encounter with the suicidal Angela.

⁵There will be more to say on the dark category of the Real in Lacan, that well-known 'darkness' of which is owed to its metaphoricity. Lacan himself delivers very few explicit explanations for this category, in contrast to those of the Imaginary and the Symbolic. See, above all, the chapter '*Tyche and automaton*' in Lacan 1988. In heuristic terms, it is crucial to maintain a stark division between the Real and the Symbolic and Imaginary. The Imaginary, according to Lacan, not only constitutes the corporeal image of the subject in the mirror stage, but, as the original function of recognition, spans everything that is 'image', including the way in which our perception constitutes 'reality'. The Symbolic

staging of the Real can only succeed not when the unrepresentable itself is represented (for how would that work?) but rather when its *sphaera activitatis* becomes tangible as such. This is exactly what we mean when we speak of an ecstasy of absence. The uncanny consists in the tangible, but not nameable, insistence of an unrepresentable thing, which reveals itself only indirectly: here, in a staging of the ecstatic presence of something absent (that is, the bodiless viewpoint).⁶

The crux of the matter is that, in *Silent Hill 2*, the uncanny is evoked not only in parasitical reliance on the all-too-well-known topoi of (trivial) literary and film history,⁷ but rather, above all, through its inclusion and thematization of the unsettling quality of its medial conditions of possibility. These have become an agent of the uncanny, and precisely this is the neuralgic point around which everything in *Silent Hill 2* revolves.

Games such as *Project Zero* and *Eternal Darkness* continue this approach, with varying degrees of success. While in *Project Zero* media technology (photography) takes a central place in the plot structure, *Eternal Darkness* plays with the recipient's perceptual conventions: visual disturbances are staged in parallel with the mental condition of the virtual protagonist, disturbances that are engineered in such a way as not to be immediately recognizable as *staged events*. This goes as far as the apparent non-compliance of media technologies: if the panic meter—which symbolizes the mental state of the main character, who has all kinds of

spans the level of the 'order of the Other'; that is, everything that 'pervades' the subject, but always precedes it. This means, first and foremost, language as a structure. The Real, on the other hand, escapes comprehension by means of these categories and encounters the sheer 'that' as a pure resistance. In other words, the perception of a table is optically and spatially above the Imaginary and 'as table'—that is, in its everyday meaning and as the signifier 'table'—is determined above the Symbolic. This is the level of 'reality'. The pure fact that I can stumble across this table is a quality of the Real. The Real is, according to Malcolm Bowie, 'a tile falling onto the head of a passer-by, a person from Porlock bringing a creative trance prematurely to its end, or, to take one of Lacan's own examples, a knock on the door that interrupts a dream. The network of signifiers in which we have our being is not all that there is, and the rest of what is may chance to break in upon us at any moment' (Bowie 1993, p. 103).

⁶The theme of an ecstasy of absence cannot be pursued sufficiently here. I would simply like to point to the long history of such phenomena, which includes Jan van Eyck's *Arnolfini* wedding (1434) as well as Michel Foucault's famous analysis of the Las Meninas in 'The Order of Things', or the reflection of Neo in Morpheus's glasses in *The Matrix* (Andy Wachowski/Larry Wachowski, USA, 1999).

⁷See, for example, Capcom's *Resident Evil* series.

uncanny things to contend with—reaches its furthest position, the TV can suddenly ‘switch off’. The image goes dark and the unprepared player ‘momentarily falls out of the game’.⁸ At other times, the volume changes suddenly ‘of its own accord’, with a visual feedback symbolized by a volume bar moving up and down: a recognizable part of the visual interfaces of most TV devices. This enhanced form of self-reflexivity is relatively new in the field of computer and video games, and implements a break in the relationship between representation and medium in the dramatic composition of the game. Thus *Silent Hill 2* is part of the tradition of more recent Japanese horror films, whose specific quality consists in the representation of apparently opaque medial surfaces as the residuum of pure horror. Films such as *Ringu* (*Ring—The Original*, Hideo Nakata, Japan, 1998) or even *Kairo* (Kiyoshi Kurosawa, Japan, 2001) stage ghosts, both on the level of plot and of image, in the age of their technological reproducibility.

In *Ringu*, a curse is transferred simply through the copying of a video tape on which some surreal sequences are recorded. According to legend, anyone who watches this video recording will die shortly afterwards. The climax of the film is the entry of the Imaginary into the Real: in a kind of birth scene, the ghost claws itself out of the television screen, to stand physically before the unbelieving and fear-stricken—or narcotized, as McLuhan would say—protagonist. The curse cannot be undone, but only transferred to somebody else through a copy of the tape. The circulation of the signifier thus protects us from the invasion of the Real. In Kurosawa’s *Kairo*, a slightly altered version of the same story is given, this time through the example of an internet page.⁹

⁸To avoid arousing frustration in the player, the interaction sequence is paused in such cases. After the ‘malfunction’ has ended, gameplay can be resumed from the point at which things seemed to have stopped. At this point, at the latest, it is clear that what has happened is not a real malfunction, but a staged trick.

⁹There are numerous other examples, and not just from Japanese cinema. The references, however, are not always as clear as here, or in *Phone* (Byeong-Ki Ahn, Korea, 2002) and *Existenz* (David Cronenberg, USA, 1999). Other films certainly belong to this thematic complex of the ‘Uncanny of the Medial’, on varying levels: including *Vanilla Sky* (Cameron Crowe, USA, 2001), the *Matrix* trilogy (Andy Wachowki/Larry Wachowski, USA, 1999/2003/3003), *The Blair Witch Project* or even *Into the Mirror* (Seong-ho-Kim, Korea, 2003), as well as *The Eye* (Oxide Pang/Danny Pang, Hong Kong, 2002). Samuel Weber held a seminar, together with Bernd Scheffer, on the theme of ‘The Uncanniness of Media’ in the winter semester 2003/2004 at the Ludwig-Maximilians-Universität in Munich, in which, according to the course description, they discussed the

What is most interesting in these films is the representation of the border between the Real and Imaginary, embodied here in both cases by technical media (the TV screen, the monitor). The transferral or transgression from one level to another is always revealed via a disturbance of vision, a kind of ‘noise’ that allows the medium to be recognized as such. As iconographic predecessors in the field of cinema, we can cite Tope Hooper’s *Poltergeist* (USA, 1982) and, above all, David Cronenberg’s *Videodrome* (USA, 1983), which play repeatedly through this reciprocal interpenetration of the Imaginary and the Real.¹⁰

Here too, the medial surface is established as a membrane between the Imaginary and the Real, whereby the traumatic entrance of the Real always happens in transit through noise (here in form of the ‘noise’ of the TV). The signal-to-noise ratio is thus not just a problem of physics and telecommunications, but a problem of the emergence of the ‘supernatural’, the uncanny, from the realm of pure contingency, of ‘white noise’—which is itself no more and no less than the ecstasy of the Real.

THE UNCANNY, NOISE, THE REAL

It is a constitutive characteristic of all media that they are invisible as such, forming the ‘blind spot in media use’ (Krämer 1998, p. 74):

We do not hear airwaves, but the peal of bells; we do not read letters, but a story; in conversation we do not exchange sounds, but opinions and convictions, and the film we watch in a cinema usually allows us to forget the projection screen. (ibid.)

Media themselves are first perceptible in the course of *malfunction*, whether in the form of static noise, of the distortion of images, or of so-called compression artefacts:

uncanny between the theories of Heidegger, Benjamin, Freud and Derrida. For reasons of space, and in the lack of a corresponding publication, I can unfortunately not touch upon this wide-ranging discussion. The theses presented by me in this chapter have been developed independently of this seminar, in which I did not take part. As far as can be gleaned from the course description, however in Munich one aspect of this thematic complex was focused on (repetition) which here—as will be seen—is omitted.

¹⁰An important predecessor of this topos in the field of film is, of course, Michelangelo Antonioni’s *Blow-Up* (England, 1966).

They (media) usually take effect beneath the threshold of our perception; in being used, media ‘retreat’ through a kind of ‘aesthetic neutrality’: only in the noise of malfunctioning do media come to recognition, arriving at the centre of our perception. Media are encountered by a figure of reflection, which is ‘mediation’, and which unfolds such that the impression of ‘immediacy’ occurs. (Krämer 2003, p. 81)

Noise, however, is not simply an accident or ‘exception’ to this immediacy. On the contrary, it is most likely the case that the ‘accident’, the ‘noise’, is actually the rule and condition of possibility of media, and thus cannot simply be brushed to the margins of media history.¹¹ Peter Geimer shows how the genesis of photography is precisely indebted to those various accidents and coincidences related to photochemical processes in the development of negatives. After having analysed a particularly ‘neat’ exemplar of one such photochemical accident,¹² he resumes:

This last example clarifies what happens when the materiality of photography haunts the representation of the world. The image is divided into two parts—on the right side, Bernini’s colonnades of St Peter in Rome; on the left side, the meaningless work of photochemistry. In the heat of the dry press, the referent melts. Looking at photographs like these, photographers would experience what Martin Heidegger calls ‘the modes of conspicuousness, obtrusiveness, and obstinacy’. These modes appear when a thing loses its readiness-to-hand, when it is missing, becomes inoperable, or disrupts the smooth flow of our actions. When we discover its unusability, the tool becomes conspicuous.

Not by accident does Geimer choose a formulation like the ‘haunting’ of representation by the materiality of the medium. On the border of chaos, malfunction and accident, the materiality of the medium reveals itself as something that deeply unsettles the sphere of representation. Heidegger’s

¹¹This thesis draws considerable support from the works of Jacques Derrida, who in ‘Signature Event Context’ (Derrida 1988), through a deconstructive reading of Austin, brings the *failure* of speech acts from the periphery to the centre: ‘Or, on the contrary, is this risk rather its internal and positive condition of possibility? Is that outside its inside, the very force and law of its emergence?’ (Derrida 1988, p. 17).

¹²See Geimer (2002, p. 324). It concerns a ‘failed’ photograph (taken from a ‘Handbook of Photography’ from 1930), the left-hand part of which, through the melting of the emulsion, caused by the great heat from drying the negatives, exhibits streaky traces which seem to threaten to invade the still recognizably intact right-hand part of the image.

dictum that the ‘tool’ first shows itself as such in the mode of ‘obtrusiveness’ and ‘obstinacy’ describes precisely this resistance of the medial against meaning, and against that representation which first enables it. The violence of this process resonates clearly in Heidegger’s writing; the ‘melting away of the referent’ is the trauma of meaning, that is to say of the whole semiotic—hermeneutic realm. However, ‘The obtrusiveness of malfunction is thus nothing negative, no deficit, no exception to the rule of photography, but rather, one of its possible manifestations’ (ibid., p. 326). Geimer goes on to describe how the sciences around the start of the twentieth century put this resistance of the medium of photography to use for the purpose of recording the invisible. X-rays, radioactivity, electricity, infra-red radiation and heat leave traces on the photographic plate and thus enter the field of human perception. This insight, however, comes at the price of the undecidability between chaos and reference: ‘it is not always obvious whether the effects of an experimental order are a discovery or background noise; material for a Nobel Prize or cause for complaint’ (ibid., p. 332). Because of this undecidability, the photographic plate can also become a medium in the occult and spiritual sense. Around 1900, the ‘photography of the invisible’, that is, the attempt to copy and thus to chronicle physical phenomena such as X-rays or the infra-red, stands upon the same shaking ground as the popular contemporary phenomenon of ‘ghost photography’ (ibid., pp. 329 ff.). The ‘haunting’ of representation by the materiality of the medium means, then, a ‘malfunction’ of the Symbolic as well as of the Imaginary. It is also a transgression, a border-crossing. The medium of photography, apparently so reliable, so *homely/canny* because it is boldly mimetic and indexical, becomes *uncanny* once contingency haunts mimesis and the signal is finally revealed to be a state of exception within chaotic noise, and not the reverse. In his text *The Uncanny*, Sigmund Freud, following a lengthy etymological recapitulation, defines the tendency of this term to tip over into its opposite—the ambivalence of *heimlich*, *canny*—as the residuum of the *Unheimlich* itself: ‘Thus *heimlich* is a word the meaning of which develops towards an ambivalence, until it finally coincides with its opposite, *unheimlich*. *Unheimlich* is in some way or other a subspecies of *heimlich*’ (Freud 1917–1919, p. 225). In this context, Freud finds great importance in a citation of Schelling, which he takes from Daniel Sander’s dictionary of 1860: “‘Unheimlich’ is the name for everything that ought to have remained... secret and hidden but has come to light’ (ibid., p. 223). This latter is, as we have seen in the above, precisely

the moment of transgression, the diffuse borderline between chaos and representation. Everything that ought to have remained hidden in the ‘canniness’ of photographic mimesis is its birth from pure contingency, and precisely this emerges in the mode of the photochemical ‘accident’, the Heideggerian ‘obstinacy’ of the tool. We are dealing here with an ambivalence in the Freudian sense of the uncanny, which—to formulate it in Lacanian terms—rips a hole in the Symbolic, out of which the Real spills forth.

This Real is the place, that is the un-place, the *dystopia* of noise, the ‘object of anxiety par excellence’ (Lacan 1988, p. 164). At this point, however, it is crucial not to ontologise Lacan’s category of the Real, if talk of the Real is to be more than academic jargon. The diverse and ever newly undertaken descriptions of this category in Lacan’s works aim not to conceptualize the Real as such, and yet to make it tangible. Only thus can its determining difference from *reality* be maintained, which is a function of the Imaginary and the Symbolic, and which must not be interchanged with the sphere of the Real¹³:

For the real does not wait, especially not for the subject, since it expects nothing from speech. But it is there, identical to his existence, *a noise in which one can hear anything and everything*, ready to submerge with its roar what the ‘reality principle’ constructs there that goes by the name of the ‘outside world’. (Lacan 2006, p. 324)

Here, at least two points are central, which have already been noted many times: the connection of the Real with coincidence, with chaos, with pure contingency, as well as the moment of violence instigated by the intervention of the Real: the Heideggerian ‘obstinacy’ of the ‘tool’ in the ‘obtrusiveness of malfunction’. If there is consistency in Lacan’s writings on the Real, it lies in the accident, the *tyché* in an inverted Aristotelian sense. This chaos of radical contingency is certainly not something insubstantial, which would be easy to ignore. On the contrary¹⁴: the chaos persists in a way of pushing through the thin membranes of the Symbolic and the

¹³Only when this differentiation is strictly upheld can the problem of virtual reality be profitably posed again, beyond a postmodern reformulation of Plato’s allegory of the cave.

¹⁴‘The meaning which man has always given to the real is the following — it is something one always finds in the same place, whether or not one has been there’ (Lacan 1988, p. 297).

Imaginary, collapsing their orders and revealing them as ephemeral. The ‘melting of the referent’ cited in the case of photochemical accidents is an example of precisely this. Because what is this ‘noise, in which one can hear everything’ other than chaos, the undecidability between noise and signal—noise itself?

In physics, ‘noise’ is defined as a broadband signal with an *accidental* amplitude curve. The problem of the signal-to-noise ratio lies in filtering out, or camouflaging, an information-carrying signal from this meaningless coincidence. The main attribute of ‘white noise’ derives from its condition of being a form of noise that has the same amplitude in every frequency and can thus be described as an analogue to the colour white, which, in displaying an equally high intensity of all colour spectra, allows no differentiation of colour to the eye. What remains is an aesthetically empty space which, seen in physical terms, is exactly the opposite: an over-filled space of iridescent intensity, which overstrains the human perception apparatus. The same goes for the so-called Johnson—Nyquist noise, the white noise we generally define as ‘background noise’—thermal noise that arises from the movement of molecules. Here, we might, at least theoretically, hear ‘the noise of the material, and presumably nothing else’¹⁵ (Kittler 1993, p. 170).

The Real is, of course, not identical with noise, with chaos, or with pure contingency. Noise *is* not the Real so much as a form of the Real’s insistence. The mode of this insistence is that ecstasy of absence, mentioned above, which may explain why noise is the place of the uncanny; why the Real is described as the ‘object of anxiety par excellence’. Noise is, as we have seen, the inescapable emptiness of sense and yet it is not nothing. As with white noise, which is only empty on an aesthetic level because, like the colour white, it exceeds the capacity of the perceptive apparatus on the basis of a pressing *fullness*, the Real reveals itself as an unrepresentable blind spot which makes its presence tangible at the borders of representation. The ecstasy of absence is the mode in which the

¹⁵And because thermal noise, which all materials radiate at working temperatures, even resistors or transistors, according to Boltzmann’s formula, is also such a kind of white noise, information without material and material without information are coupled like two readings of a picture puzzle’ (Kittler 1993, p. 165). It is not difficult to see how greatly this essay is indebted to the works of Friedrich Kittler, whose application of Lacan’s Symbolic-Imaginary-Real triad is not, however, strictly pursued here. For Kittler, only the medium of the gramophone stands in close connection with the Real (see Kittler 1986, pp. 35 ff.), whilst for me this is true for media in general.

Real can be detected in its *sphaera activitatis* at the border of what is representable. The shocking thing, the ‘object of anxiety par excellence’ is the disturbing notion that everything ‘which constructs the “reality principle” under the name of the exterior world’ (reality, symbolic order, the coherency of representation) stands on very unsteady legs and runs the risk of disappearing into the air with a ‘bang’ under the pressure of the Real at any moment. Scarcely anybody has given this notion such obsessive and exhaustive expression as has the narrator of the ‘unnameable’, Howard Phillips Lovecraft, whose influence within the *Silent Hill* series is ubiquitous. In the ‘Rue d’Auseil’, the narrator of *The Music of Erich Zann* makes a typically Lovecraftian discovery, corresponding to the name of the street:

It was very dark, but the city’s lights always burned, and I expected to see them there amidst the rain and wind. Yet when I looked from that highest of all gable windows, looked while the candles sputtered and the insane viol howled with the night-wind, I saw no city spread below, and no friendly lights gleaming from remembered streets, but only the blackness of space illimitable; unimagined space alive with motion and music, and having no semblance to anything on earth. And as I stood there looking in terror, the wind blew out both the candles in that ancient peaked garret, leaving me in savage and impenetrable darkness with chaos and pandemonium before me, and the daemon madness of that night-baying viol behind me. (Lovecraft 2014)

MIST

The ‘noise of the Real’ is an integral part of both the aesthetics and the game mechanics of the *Silent Hill* series. The sheer number of ‘states of disorientation’ implemented within the game exhausts all possibilities. The ever-present mist haunting the streets of Silent Hill boasts a sophisticated and complicated design.¹⁶ This mist—an iconographic prop, an heirloom from the tradition of *gothic horror*—works to disorient the player and alert him or her to the presence of those demonic fantasies that populate the streets of Silent Hill. The mist is in perpetual movement and

¹⁶In contrast to *Silent Hill*, the mist in *Silent Hill 2* must no longer hide the shortcomings of the console. The schematic movements of the streaks of mist show clearly that the mist, just as much as the darkness, has a central compositional role to play.

seems to lead a life of its own. Again and again, shadows appear to emerge from it, only to disappear once more.

One of the most instructive examples for the intrusion of the Real is taken by Slavoj Žižek (1989) from a novel by Robert Heinlein, *The Unpleasant Profession of Jonathan Hoag*. In this text, the world is an artwork created by otherworldly beings, and, like many other planets, it is visited now and then by extra-terrestrial ‘art critics’. The eponymous Jonathan Hoag is one of these critics and he has discovered some small flaws in what is called, on Earth, reality, which he intends to quickly iron out. This work, he says, is hardly worth mentioning, and the protagonists of the novel (Randall and Cynthia) ‘will notice nothing; but on the drive home to New York, they must under no circumstances open the window of their car’ (Žižek 1989, p. 12).

Of course, it turns out to be difficult to heed this advice, and on the event of a car accident on the way home, as we might expect, they disobey the Old Testament prohibition on images:

Randall asks his wife to lower her window a little [here Žižek cites from the story]: ‘She complied, then gave a sharp intake of breath and swallowed a scream. He did not scream, but he wanted to. Outside the open windows was no sunlight, no cops, no kids—nothing. Nothing but a grey and formless mist, pulsing slowly as if with inchoate life. They could see nothing of the city through it, not because it was too dense but because it was—empty. No sound came out of it; no movement showed in it. It merged with the frame of the window and began to drift inside’. (ibid., p. 12)

After the window has been frantically cranked back up, and the world outside seems normal, Randall wants to convince himself once more of this Lovecraftian collapse of reality:

‘Wait a minute,’ he said tensely, and turned to the window beside him. Very cautiously he rolled it down—just a crack, less than an inch. It was enough. The formless grey flux was out there, too; through the glass city traffic and sunny street were plain, through the opening—nothing. (ibid., p. 12)

Žižek then resumes: ‘What is this ‘grey and formless mist’ if not the Lacanian Real—the pulsing of the pre-symbolic substance in all its abhorrent vitality?’ (ibid., p. 12). The point here is, of course, that the intrusion

of this ‘pre-symbolic substance’ happens precisely at the border between the Imaginary and Real (‘It merged with the frame of the window and began to drift inside’), and that this border takes the form of the flat window pane as a *screen*. James Sunderland, too, would certainly have something to say of the ‘abhorrent vitality’ which does not only hide shrouded within mist, but which *is* the mist. That Sunderland is not surprised at any moment about the constant oscillation between mist and darkness seems only because he has, from the very beginning, given himself over to the wayward dream logic of this ghostly place.

On the level of the user, this tendency of the mist to devour reality (the reality principle) undergoes a doubling, because the graphic engine of *Silent Hill 2* equates the *draw distance*—that is, the border of visibility of the polygon objects—with the border of the mist, obviously for the purpose of economizing game memory. In the predecessor developed for Sony’s Playstation, and as a result of the technical limitations of that earlier console, it is easy to see what hides behind the mist. The graphic errors known as *pop-ups* show the polygon streets and buildings which seem stable in the foreground in a state of constant dissolution. The illusion that reality finds its continuation behind, or rather inside, the mist is thus done away with. Such graphic errors do not appear in *Silent Hill 2* in such clarity, but some few polygonal *fade-ins* are reminiscent of the most fearful characteristic of the ‘horrible vitality’ of the mist: the destruction of reality.

RADIO

The sound design of the *Silent Hill* series is a chapter in itself and cannot be done justice in the framework of this essay. One element, certainly, earns a mention here, being not just aesthetically relevant but also relevant for gameplay. Early in the course of the game, James finds an obviously defunct portable transistor radio, which is in no condition to pick up radio signals, but which indicates the nearing presence of enemy creatures through an increasing static noise. The aesthetic orientation of the player in *Silent Hill 2* is thus directed by the correlation of two sources of noise: mist and static noise. The dramaturgical trick in this is that the impression of threat and danger arises thanks to the subtle addition of various ecstasies of absence: without suddenly being able to perceive *what* is approaching, the convergence of these two sources of noise allows only the pure certainty that *something* is there. By contrast to a film, however, in which the production and staging of ‘states of disorientation’ demand

a sophisticated orchestration in order to have a significant impact on the viewer,¹⁷ in the case of *Silent Hill 2* the medium of the video game allows for an immersion in a diegetic world of ‘empty signs’ which operate, so to speak, purely connotatively. It appears, namely, as though signs have lost their denotations. The convergence of the radio noise and the mist allows for no more than an impression of something. The uncanny emerges precisely from the condition that the radio noise does not connote a particular referent, just as little as the diffuse shadows within the mist. None the less, the urgent presence of *something* is constantly tangible. This is no mean feat when we consider that video games are usually tightly-bound worlds of signs, in which everything must make ‘sense’ for the game to be coherent.

Because the emissions of static noise cannot be ignored, unlike visual data, the radio is an important strategic method of building tension within the dynamics of the game. Together with the sophisticated sound design, an auditory level is implemented which cannot be escaped. The crescendo and diminution of the noise emitted by the *defunct* radio implements the uncanny of the medial into the world of the game itself, in the form of a *gadget* relevant to the gameplay. The ‘obstinacy’ (*Aufsässigkeit*) of the medium thus, on more than one occasion, saves James’s life.

NOISE EFFECT

Alongside the mist and the radio, there is a third ‘source of noise’ which is not recognizable at first glance, but which precisely for this reason generates what is probably the most effective ‘state of disorientation’ in *Silent Hill 2*. I refer here to the *noise effect*, which can be turned on and off via the option menu: a graphic effect which, once active, overlays a scarcely perceptible, colourless noise filter across the whole game graphic. The reception history of this effect is interesting because, in the first version of *Silent Hill 2*, which appeared first only on Sony’s PS2, this effect could not be controlled by the user. Subsequent adaptations for Microsoft’s Xbox and the PC, however, now allow for the effect to be turned off by means of a more-or-less hidden sub-menu.

¹⁷A master in the orchestration of these audiovisual strategies is, of course, David Lynch, in whose films *Real* and *Imaginary* are placed again and again in relationship to one another through various ‘states of disorientation’ (see, above all, *Lost Highway*, USA, 1997).

The background to this could be that the image—latently disquieting and softly grainy—was criticized by its intended audience, used to the sterile hyperrealism of contemporary polygon graphics. Their irritation is a reaction to this inverted ‘look’ of *Silent Hill 2*, which runs contrary to the otherwise conventionally very clean optics of commercial video games. Certainly, diverse graphic filters, like those used in *Viewtiful Joe*, for one, have been standard for a long time now, but these filters fulfil quite another semiotic task. One such filter in *Viewtiful Joe*, which is used in many ‘shots’, simulates dirt on the film and the ‘jumping picture’ of analogue image media. It is thus clearly identifiable as a signifier, denoting the signified ‘film’ as intermedial allusion.

Not so in *Silent Hill 2*. Here the *fillrate*-intensive effect apparently serves only to worsen the quality of the image: a risky decision and one that is uneconomical, though aesthetically more stimulating. Meanwhile, this example has set a precedent and is put to use in increasing numbers of software games marketed to adults, such as *Manhunt*. It should by now be transparent that this noise-effect is rather more than a process of adding a bit more ‘dirt’ to a sterile texture.

THE AESTHETICS OF *SILENT HILL 2* AND ITS SEQUELS

The ‘birth of the uncanny from the spirit of the medium’ in *Silent Hill 2* means, first, an increase in the aesthetic quality of contemporary video games. Through the self-referentiality of representation in *Silent Hill 2*, the aesthetics of video games seems finally to respond to the level of reflection of classical modernity. If the graphic representation of video games was, in its historical beginning, still forced to fall back on abstractions through its own technical limitations, this tendency has, since the early 2000s, developed in the direction of ever more ‘realistic’ representations of virtual spaces (see Wolf 2003). Not least through games such as *Silent Hill 2* does it become ever more evident that this mimetic trend within video game aesthetics lingers behind the true possibilities of the medium. At this point, the aesthetic categories of interactive media art enter slowly into the commercial field of interactive entertainment software. In the implementation of malfunction and ‘states of disorientation’, however, no video game—with the exception perhaps of *Eternal Darkness*—has gone as far as *Silent Hill 2*. Until the present day, the use of such graphic filters is limited primarily to intermedial references to analogue media. The

people because of very different reasons but not once is there an explanation, let alone a definition of what is actually meant, when someone, for example, says, that something is ‘evocative of something else’. On close inspection, the word is a strange beast: on the one hand, everybody seems to be perfectly aware of what it means to ‘evoke’ something, but if one were to be asked to give even a broad description of what activity is thereby being referred to, one would be hard pressed to produce a decisive answer. And for good reason, because evocation is at its root a word stemming from occult practices, a ‘conjuring’ of sorts. But what is conjured in our everyday use of the word? Images, thoughts, atmospheres, scents, memories. In a separate research project I have tried to come to terms with the concept, and while my book on ‘evocation as non-visual iconicity’ is not yet finished, there are a few pointers that may be helpful for further investigation and serve as a preliminary backdrop for what follows in this chapter.⁶

In *de anima*, Aristotle renews the prevalent notions of vision of his time by establishing the term ‘in-between’ (Greek: *tó metaxy*), a medium (as later translations would have it) that is invisible in itself but is able to bring about visibility. Since Aristotle, the question of the terms and conditions of visibility has been closely tied to the notion of invisibility as a specific source of the ‘power of images’. It is therefore not surprising that contemporary ‘picture theory’ is also very interested in those aspects of vision and iconicity that are not exclusively rooted in optics. Terms such as ‘*Bildakt* [picture act] (Bredenkamp),⁷ ‘volume’ (Didi-Huberman),⁸ ‘iconic energy’ (Boehm),⁹ or notions of pictures having

⁶For more information and an extended bibliography, please refer to my articles (in German): ‘Evokation. Zur non-visuellen Macht der Bilder—Eine Forschungsskizze’, in: Julian Hanich, Hans Jürgen Wulff (eds.): *Anlassen, Andeuten, Auffüllen. Der Film und die Imagination des Zuschauers*, Munich 2012; ‘Transformatio Energetica’, in: Fabian Goppehröder, Martin Beck (eds.): *Sichtbarkeiten 2: Präsentifizieren: Zeigen zwischen Körper, Bild und Sprache*, Berlin, Zürich 2014.

⁷Horst Bredenkamp: *Theorie des Bildakts. Frankfurter Adorno-Vorlesungen 2007*, Berlin 2010.

⁸Georges Didi-Huberman: ‘Was wir sehen blickt uns an. Zur Metapsychologie des Bildes’, Munich 1999, trans., *Vor einem Bild*, Munich 2000.

⁹Gottfried Boehm (ed.): *Was ist ein Bild?*, Munich 1994.

some kind of ‘intrinsic vitality’ (Mitchell¹⁰) point towards a need for theoretical approaches that are able to describe and analyse those elements of iconicity (*Bildlichkeit*) that may be invisible to the eye but are vital to the affective and aesthetic qualities of iconicity. At stake here are questions about the ‘power of images’, how the specific qualities of iconicity can be tackled while not relying on ‘pure visibility’ or classical hermeneutics, semiotics, iconology or iconography alone. The research project aims to look at these questions by focusing on non-visual aspects and modes of iconicity that are ‘in-between’, neither ‘inside’ nor outside, image nor picture, mental image nor physical artefact. The term ‘evocation’ (from the Latin *evocare*, calling forth) can shed new light on how those non-visual aspects of iconicity are historically conceived and constructed, because even in today’s metaphorical usage, ‘evocation’ always refers to practices of ‘producing’ iconic presence while at the same time being specifically ‘non-visual’ (in an optical sense) in nature.

However, non-visual aspects of iconicity are not a discovery of today’s picture theory. On the contrary: the term and phenomenon of evocation is an essential, albeit sparsely documented, element of a ‘cryptic history of vision’ (Boehm) that is just beginning to come into view. Of the rich history and vast amount of material relevant to this research project, three fields appear to be essential: (1) Techniques of evocation: The roots of the concept of evocation can be found in rituals and theurgic practices. The oracle at Delphi, magical rituals as well as rhetoric practices of producing images in the minds of the audience (*Ars memorativa*) have all to be accounted for as means of producing a specific kind of ‘vision’; (2) Poetics of evocation: *Visio corporalis* and *visio spiritualis* are two distinct but intertwined modes of vision that were viewed as ‘two sides of the same coin’ until the nineteenth century. This was to end with Helmholtz’s *Optics*. From then on, ‘vision’ became governed by science and optics, and the notion of ‘inner vision’ or *visio spiritualis* was transformed into a mode of aesthetic experience that culminated in Stephane Mallarmé’s poetics of evocation; (3) Picture theory: The twentieth century described the act of seeing as being dependent on invisibility. In particular, the phenomenological tradition from Husserl to Sartre and Merleau-Ponty continues to this day to insist on the notion that seeing is more than mere optics.

¹⁰W. J. T. Mitchell: *Picture Theory: Essays on Verbal and Visual Representation*, Chicago 1994.

BEING IN THE PICTURE: ENVIRONMENTAL STORYTELLING

To make all of this applicable to computer games, I will concentrate on one aspect that is crucial to *Portal* and *Portal II*, and of utmost importance for computer games today: environmental storytelling as meta-narrative agency in *Portal II*. *Half Life* and *Portal* are the two game series that established the renown of Valve as a game developer since the mid-2000s. It is commonly acknowledged that there is a certain level of elegance and subtlety at work in these games that appears to be hard for other developers to match. There are, of course, many technological and aesthetic reasons for this, but one element that is cited time and time again in conjunction with the specific quality of Valve's games is the complexity of environmental storytelling that can be experienced here. This notion, while not exactly well defined, is at least clear: what is usually meant here is the capacity of the designers to tell a story through atmosphere, allusions and connotations, whose signifiers are placed within the game world more or less as backdrops and scenery. In his article 'Game Design as Narrative Architecture', Henry Jenkins borrows the term 'environmental storytelling' from Don Carson, a designer with years of experience in designing theme parks for the Walt Disney company, who incorporated his specific expertise into game design theory. In his article 'Environmental Storytelling: Creating Immersive 3D-Worlds Using Lessons Learned from the Theme Park Industry', he states:

One of the trade secrets behind the design of entertaining themed environments is that the story element is infused into the physical space a guest walks or rides through. In many respects, it is the physical space that does much of the work of conveying the story the designers are trying to tell. Color, lighting and even the texture of a place can fill an audience with excitement or dread.¹¹

This description is as important as it is concise: environmental storytelling means *infusing* physical space with narrative elements. This means that the story is unhinged from linear narration and is instead transformed into a mode, that designs work *as an* image. In this, narration is closely intertwined with spatiality and it is with this concept that Jenkins (with the

¹¹ Henry Jenkins: 'Game Design as Narrative Architecture', in: Noah Wardrip-Fruin/Pat Harrigan (eds.): *First Person: New Media as Story, Performance, and Game*, Cambridge MA 2004, pp. 118–129, here p. 121.

help of Michel de Certeau) is developing his notion of a 'spatial story'. For Jenkins, game designers are architects of storytelling spaces in the sense of the 'infused physical space' in Carson's article. Interestingly Jennings mentions the term 'evocation' here, unfortunately (and symptomatically) without explaining it any further but instead using it as a reformulation of Carson's arguments. According to this, 'evocative spaces' are spaces that are able *to conjure up* associations to certain texts, narratives and images stemming from a collective cultural unconsciousness. Evocative spaces in this regard are parasitic with regard to the pretexts they depend on. Theoretically, this is, of course, not enough but it preserves the somewhat haunting quality of evocation, its undeniable insistence, while at the same time being undetermined, vague and uncertain. What is most compelling about *Portal* is a kind of subtlety in its narrative means that are, contrary to most computer games, not borrowed from film or literature but instead are specific to the medium: explorative iconicity of the virtual image space is the mode at play here; the fact that exploration through the player is the most basic and constitutive element of computer games. Environmental storytelling itself is, of course, not specific to computer games. Aspects of environmental storytelling can be identified as those that work in iconic modes and therefore do not operate in the medium of language, but like symptoms and traces, semiotically speaking, as an *index*. It is about details that evoke the impression of a world that is much bigger and richer than what is actually shown. When in a dystopic futuristic version of Los Angeles in Ridley Scott's *Blade Runner*, the language 'city speak' is a mixture of Chinese, German and English, and the rainy streets are furnished with Shinto shrines, these details evoke a fictitious world that is at the same time related and unrelated to reality, or, to be precise, it is related by potentiality, by a sense of what could be. Another example is the *red herring*, a plot device made famous by Alfred Hitchcock, which can appear as a person, a fact or a thing that leads the reader/spectator astray by evoking a world of possibilities that are kept virtually present throughout the narrative without ever reaching a conclusive payoff. The task of red herrings is to distract, thereby keeping the imagination busy to allow the important elements of the story to remain secret for a time. In the films of Abbas Kiarostami (*Taste of Cherry*, Iran/France 1997) sounds and dialogues happening outside the frame are of greater importance than what is actually shown in the frame, while the famous shots of empty rooms in the films of Yasujiro Ozu (*Tōkyō Monogatari*, Japan 1953) where the camera lingers just long enough to

make the presence or the absence of people perceptible are used to the same effect: Pronouncing the latent presence of an absent world. There are many examples like this in the arts and use of any media.

In *Portal* and *Portal II* the story is told almost exclusively by its environment. Its spaces are filled with traces of a world that seems to have been annihilated by some kind of apocalypse, but the ‘how’ and ‘why’ of the end of the world remain vague. While in both games the player is accompanied by sidekicks—two AI-driven robots in the shape of mechanical eyes (Wheatley and GLaDOS) who seem never to be quiet—they each have an agenda of their own and are unreliable narrators. Their stories of what is really going on are sparse and players have to read between the lines. In a sequence towards the middle/end of *Portal II*, the player discovers old bureaux and laboratories deep beneath the labs where the player enters the game that seem to once belong to the Aperture Science company, that seems to be responsible not only for the experiments to which the player is constantly subjected, but also for the *Portal* technology itself. Within these abandoned and derelict spaces a grand story is told of the rise and fall of an industrial empire that seems to have started by producing shower curtains and ultimately became the industry leader of applied quantum physics, a field of research that seems to be in some way connected to the apocalypse of which the player only sees the ancient remains, deeply buried underground.¹² But this story is not told through cut scenes. It is told by audio logs that tell of the trials and tribulations within the company during its apparently long history, but most importantly through the environment: the portraits of the inventor and CEO of Aperture Science decorating the walls of the vertical level structure, the enigmatic and charismatic Cave Johnson, who seems to have grown more and more troubled during the company’s history; and the furniture and the vertical topography of the spaces that decorate the rooms and laboratories of the company like fossils sedimented in the earth, layer by layer representing different parts of history.

The game gently leads the player through the game architecture in a way that lets him/her unfold the lore and narrative without artificially imposing filmic cut scenes or text blocks to make its point. The way that this gradual revealing of the game narrative is achieved is typical of environmental storytelling: the dynamism here is one of free (speleological)

¹²[http://half-life.wikia.com/wiki/Aperture_Science]; last verification 11.06.2014.

exploration, or at least the impression of it. The narrative itself remains vague and uncertain, consisting of allusions, connotations, possibilities, atmospheres. The iconic medium or the imaginary machine here is not so much the virtual image space of the game itself but rather the imagination of the player. To illustrate what kind of image is at stake here, one could hardly find a better example than the following from the unfinished novel *The Last Tycoon* by F. Scott Fitzgerald, in which the charismatic movie producer Monroe Stahr explains the art of scriptwriting to the author Boxley, who does not seem to grasp the difference between writing dialogue for theatre and writing for the movies:

‘Suppose you’re in your office. You’ve been fighting duels or writing all day and you’re too tired to fight or write any more. You’re sitting there staring—dull, like we all get sometimes. A pretty stenographer that you’ve seen before comes into the room and you watch her—idly. She doesn’t see you, though you’re very close to her. She takes off her gloves, opens her purse and dumps it out on a table’—Stahr stood up, tossing his key-ring on his desk.

‘She has two dimes and a nickel—and a cardboard matchbox. She leaves the nickel on the desk, puts the two dimes back into her purse and takes her black gloves to the stove, opens it and puts them inside. There is one match in the matchbox and she starts to light it kneeling by the stove. You notice that there’s a stiff wind blowing in the window—but just then your telephone rings. The girl picks it up, says hello—listens—and says deliberately into the phone “I’ve never owned a pair of black gloves in my life.” She hangs up, kneels by the stove again, and just as she lights the match you glance around very suddenly and see that there’s another man in the office, watching every move the girl makes—’

Stahr paused. He picked up his keys and put them in his pocket.

‘Go on,’ said Boxley smiling. ‘What happens?’

‘I don’t know,’ said Stahr. ‘I was just making pictures.’¹³

The English differentiation between image and picture comes in handy here. Most of the time, *image* means, more or less, an immaterial mode of iconicity, while *picture* mainly denotes pictorial artefacts: *pictures* are physically present. In this short excerpt, Fitzgerald plays with the ambiguity of the term ‘pictures’ in the context of his novel that plays out in the studio system of classic Hollywood. Here, ‘pictures’ can always be used as

¹³F. Scott Fitzgerald: *The Last Tycoon*, London: Penguin Classics 2001, p. 38.

a synonym for 'movies'. At the same time, he turns the ontological definition of the 'pictures' evoked by Monroe Stahr (what a name!) against the usual use of the notion, which would suggest the use of the term 'image' here instead, because what the inventive film producer 'produces' here are not physical artefacts but conjured images in the minds of his listeners (and readers). By that, Monroe Stahr thinks of his 'pictures' as belonging to an ontological twilight: not quite a picture and no longer entirely an image. This kind of vague and uncertain iconicity 'in the head' of the spectator/reader/player is what evocation is all about. Therefore techniques of environmental storytelling can be called evocative in so far as the images are conjured by a narration whose signifiers are atmospheres and 'after-images', traces of something present-through-absence that is conjured in the imagination of the spectator/reader/player but is always vague and indeterminate. This may be what all those erased doors stand for as a metaphor in *Portal II*. Every now and then the player stumbles on varnished doors that still show traces of the wall bricks beneath the paint, visually reminding of faded or bleached out characters in a book.

The specific iconic vacuum created by evocation is not just pure absence but, as with the varnished doors in *Portal II*, still traces of *something*. What really happened in this world is unclear but it is evident that *something* happened and this 'something' is the *modus operandi* of evocation. The player become a diagnostic of a symptomatology of the iconic space inside the game, he/she has to 'get a picture' of it by him/herself. Those images are then of the same kind that Monroe Stahr addresses as 'pictures' in the context of Fitzgerald's novel or that show in the varnished doors in *Portal II* that perhaps not by coincidence remind us of the canvasses that films are projected on to, or painters use for their work.

The subject matter of *Portal II* is fortunately chosen for the topic of evocative iconicity because the same element is of utmost importance both to the latter and for experimental research (which is parodied here in a very precise way): uncertainty. What is at stake here for theory is not a notion of 'blank space' or absence within a given structure, made fashionable by postmodernism and poststructuralism, but on the contrary an overabundance of something that has to be latent and virtual precisely because of its abundance. This kind of uncertainty that seems to be about to burst with potentiality is very closely related to what Edmund Husserl calls appresentation (German, *Appräsentation*). In phenomenology, this term denotes the co-presence of those aspects of a perceptual

object that are not accessible in a given perception, the adumbrated (German, *Abschattung*) sides of things. Appresentation is in itself a necessarily invisible constitutive of visibility in that it is not only framing the visible—and by that setting it apart from the chaos of raw sensual data (Greek, *hyle*)—but because it lets the adumbrated aspects of perception be co-present in a way that is important for perception as a whole. This is why Jean-Paul Sartre in this context speaks of the ‘intrinsic poverty of imagination’,¹⁴ because actual perception can only ever show a very small part of what is actually present. This poverty is in contrast to the overabundance of what is not actually present but that is always at hand through appresentation, even if it is puzzling as to how exactly this can be the case. When Husserl, in an important passage of his *Logical Investigations*, speaks of the appresented as to be ‘pictured at the core of perception’ (*‘im Kerngehalt der Wahrnehmung verbildlicht’*¹⁵) the question arises as to what notion of ‘picture’ is being used here, because at this point the comfortable distinction between image and picture no longer applies here. Eugen Fink,¹⁶ a student of Husserl, has successfully shown that appresentation does not mean that something is ‘just’ virtual and therefore ‘in-actual’ but is co-present, it appears together (German, *Miterscheinien*) with what is truly present in an actual perception. We do not need to measure or photograph an object from all sides to be sure that there *are* other sides, other aspects to everything, otherwise we could not navigate the world, let alone understand it at all. When I look out of the window all I see might be the roof of the house next door, but I know that this roof belongs to a house with different rooms, that this house is in a street, that it is part of a city or village and so on ad infinitum. Nothing but the roof is really concrete in the actual perception but the world surrounding it does not stop being present because of it. But it is a different kind of presence, one that is more vague and uncertain than the roof, but none the less inevitably there. Gottfried Boehm emphasizes the importance of this for a *Bildtheorie* when he states that ‘in the case of the visual display the indetermined, that Husserl identifies in the adumbration of the

¹⁴Jean-Paul Sartre: *Das Imaginäre. Phänomenologische Psychologie der Einbildungskraft*, Reinbek bei Hamburg 1971, p. 51. My translation.

¹⁵Hua XIX/2, 589. My translation.

¹⁶Eugen Fink: ‘Vergegenwärtigung und Bild. Beiträge zu einer Phänomenologie der Unwirklichkeit’, in: *Studien zur Phänomenologie (1930–1939)* (Phaenomenologica 21), Den Haag 1966, pp. 1–78.

object, moves from the back of the image into its *back-ground*, its foundation (Grund).¹⁷ Therefore the appresented is always somehow present at the core of perception, namely in the mode of being ‘pictured’. But this ‘being pictured’ is always fleeting, blurred, co-present on the horizon of perception, invisible in an optical sense but of a specific insistence that makes it impossible to speak of it as a mere absence.

What is normally called environmental storytelling is much more than just a narrative technique. It is more like an aesthetically implemented reflex of the specific uncertainty that in *Portal* is represented through the subject of experimental ensembles, where the player becomes the ‘epistemic thing’ of its evocative surroundings in game. Uncertainty is the essence of play and game, and a core ingredient of experimental research, and this cannot be without consequences for the notion of image/picture that is at play here. In the interplay between a multimedia system called ‘computer game’ as the technological condition and the imagination of the player as the ‘evocative/epistemic thing’, *explorative iconicity* emerges as a mode of evocation specific to computer games in the sense of environmental storytelling.

PHANTASMAL MEDIA

In his book *Phantasmal Media: An Approach to Imagination, Computation and Expression*, the American computer scientist, cognition researcher, artist and game designer Douglas Fox Harrell tries ambitiously to conceptualize this vague and uncertain kind of evoked image with the notion of *phantasm*, trying to find ways to produce them in digital media. In this context, ‘phantasm’ is defined with regard to the theoretical provenance of the term in cognitive science, which thereby describes a certain kind of mental image. Understood like that, phantasms are first and foremost ‘the result of human imaginative cognition’ and ‘a combination of imagery (mental or sensory) and ideas’.¹⁸ Harrell uses much of his book to classify the kinds of ideas and images that are of importance to his subject matter, because one thing is immediately obvious: the difficulties and

¹⁷ Gottfried Boehm: ‘Unbestimmtheit. Zur Logik des Bildes’, in: *Wie Bilder Sinn erzeugen. Die Macht des Zeigens*, Berlin 2007, pp. 199–212, here p. 210. My translation.

¹⁸ Douglas Fox Harrell: *Phantasmal Media. An Approach to Imagination, Computation and Expression*, Cambridge MA 2013, pp. 3–4.

obstacles the book has to tackle and the reason for its considerable theoretical depth and width are not only because Harrell commendably tries to combine humanities, computer sciences and cognitive science, but also because of the precarious ontological status of the phenomena he aims to understand. It is important to not take the easy road here because the phantasms Harrell is analysing are—as it is shown during the course of his book—neither sensory nor mental. According to Harrell, phantasms are iconic hybrids¹⁹ made up of personal experiences, real pictures, the ‘imaginary’ in the psychoanalytical sense, discourse formations built from education, cultural background, gender, ethnicity, world views, preconceptions of every kind, aesthetic education, conditioning through media, and a plethora of other factors. It is Harrell’s belief that these phantasms are powerful images that cannot only be analysed and theorized about, but also be intentionally produced, especially through computer software that is programmed accordingly. The goal here is twofold: ‘understanding how computer systems prompt phantasms and developing computing systems that can both reveal insidiously oppressive phantasms and prompt positively empowering phantasms alike’.²⁰ Therefore the horizon of Harrell’s questions is both political and emancipatory; from this perspective, phantasms are guidable iconic hybrids that can be intentionally produced and made visible by digital art, computer games and interface design.

Phantasmal Media could turn out to be a milestone not exclusively but especially for the study of computer games, because with this analytical framework theory could catch up with the state of aesthetic strategies games such as *Portal* are already applying. The author always manages to keep his analyses applicable to actual game design while at the same time combining mathematics, art history, cognitive science philosophical and political theory for a unique view on the subject matter that does not flinch in the face of difficult questions and notions. That means that the research field Harrell is covering is so vast that it becomes evident that this breadth of theories and approaches is necessary to tackle the complex

¹⁹ Harrell does not use the term ‘hybrid’, presumably so as not to burden his theoretical framework any further by bringing in the discourse of post-colonial theory. This is rather unfortunate, because the difficult notion of hybridity is, of course, the most complex, and applying that to the notion of phantasms as hybrid images could be fruitful. See for further reading on theories of hybridity: R. J. C. Young: *Colonial Desire. Hybridity in Theory, Culture and Race*, London/New York 2002.

²⁰ Harrell, *Phantasmal Media*, p. 28.

subject, which none the less is part of every mediated reality. It is no coincidence that he started as a game designer and media artist—fields of work that at their very core are concerned with the emergence of form and expression. In view of the many merits of Harrell’s phantasm theory, it would be nitpicking to criticize the whole project over details, because an undertaking of this magnitude has to reduce the complexity of certain aspects in order to keep the whole in check.²¹ Because Harrell’s idea of phantasm only begins with cognitive science it would be helpful to add earlier notions of the term to get a view on phantasmal media outside of their technical implementation.

THEATRICALITY AND MONSTRANCE OF THE PHANTASM

Notions of theatricality have broadened quite a bit since the 1990s, and one of the discoveries that has been made is that the iconic element, or more precisely, the ‘being-on-display’ or visibility of theatrical scenarios is an important component of this concept. It is, of course, trivial to argue that stagings and performances are dependent on perceptibility, but for theatricality the combination of being-on-display and bodily involvement has been of special importance since the beginnings of performance theory. As early as 1908, Nikolaj N. Evreinov defined theatricality as an ‘aesthetic monstrance of an openly tendentious character, that, even outside of the theatre, can easily and joyfully unshackle us from reality by creating whole stages and sceneries through a single enchanting gesture, a single beautifully uttered word’.²² Without stretching the analogy too far, it is

²¹ Harrell’s fixation on the generation of meaning, for example, would be questioned by today’s humanities as well as the strictly cybernetic semiotics he applies in his chapters on computer science. There is doubt that algebraic semiotics can fruitfully be applied to phenomena of evocative imagery, because the differences between specific media tend to become levelled out in this approach for argument’s sake. The result is that the argumentation loses sight of iconicity as a specific media phenomenon during the course of the book. This is especially unfortunate with regard to the notion of *phantasma*, because it is a platonic notion whose difficult oscillation between *aisthesis* and *semiosis* is already a much discussed topic in the humanities.

²² ‘eine ästhetische Monstranz von offen tendenziösem Charakter, die selbst weit von einem Theatergebäude entfernt durch eine einzige bezaubernde Geste, durch ein einziges schön ausgesprochenes Wort Bühnenbretter und Dekorationen erzeugt und uns leicht, freudig und unabänderlich von den Fesseln der Wirklichkeit befreit’. Nikolaj N. Evreinov, ‘Apologija teatral’nosti’ [Apology for Theatricality], in: *Utro*, 8 September 1908, zitiert

obvious that the term ‘monstrance’ plays a significant role here. Anticipating Ervin Goffman’s frame analysis as well as important notions of theories of game and play that came after, the notion of framing as containment of powerful, somehow energetically charged entities comes into view. A monstrance is a richly ornamented and precious vessel containing the holy altar bread in order to show it to the congregation during liturgical ceremonies. Ostensories are similar in that they are meant to show something, this time a relic. The iconic logic of these vessels consists of them pointing towards their interior (i.e. the body of Christ or a relic) whose power is thought to be so immense that, despite their understated appearances, transcend and transform the framing (the vessel) itself. The rich ornaments on the vessel are signifiers of its inner abundance. The outer form of this framing, adorned with gold and jewels, is staged as a symptom of the sacred core residing within. Therefore the framing (the vessel) can be read as a direct result of the enclosed space, containing sacred energy, it is an *expression* of it, while at the same time the framing intensifies the impact of what is on display, by giving it an aura of preciousness. This framing dynamism is, in the metaphors of Evreinov, what the actor is capable of without a theatre in the sense of a house or physical stage. It is his ‘enchanting’ gesture that conjures worlds without the need for stage props of costumes.

One does not have to give into the ecstatic sound of Evreinov to speak of the abundance of meaning that lies at the core of theatricality and that seems always to attract metaphors from the realm of imagery. Even the cool and sober sound of structuralistic analysis tells of these aspects of theatricality. In her *Semiotics of Theatre*, Erika Fischer-Lichte drafts a specific concept of the theatrical sign that is defined by the thesis, that those signs are always ‘signs about signs’. But because this definition is true for any aesthetic use of signs, she sees the specific character of theatrical signs in their materiality:

While, for example, poetic and musical signs can only refer to other signs *as* linguistic and musical signs—differentiating themselves from all non-linguistic and non-musical signs necessarily through their specific materiality—theatrical signs are capable of being of the same material as those

nach Harald Xander, ‘Theatralität im vorrevolutionären russischen Theater. Evreinovs Entgrenzung des Theaterbegriffs’, in: Erika Fischer-Lichte et al. (eds.): *Arbeitsfelder der Theaterwissenschaft*, Tübingen 1994, pp. 111–124, p. 113. My translation.

signs that they are referring to ... Every arbitrary object that can work as a sign in a given culture can work as a theatrical sign for the same object without any change in its materiality.²³

There is a rupture within the framing of theatricality running through every object and person, separating them from their own materiality and at the same time duplicating them *as signs*. A chair, for example, loses its everyday ‘ready-to-handness’, its inconspicuous servitude, as soon as it is framed by theatricality, its ‘monstrance’. Again, we encounter an ‘enchanting gesture’: the frame, as ephemeral and immaterial as it might be, creates a second reality that literally *grafts* a ‘second chair’ on to the first.²⁴ This ‘sign-chair’ is characterized through ‘high semiotic mobility’ as well as ‘polyfunctionality’²⁵ without ever ceasing to be just an ordinary chair in its concrete materiality. It can be addressed as a person, ‘climbed’ as a mountain, ‘driven’ like a car—within the theatrical framing the chair can transform into many different entities without ever changing its materiality. Like the altar bread in its unremarkable materiality on the inside of the monstrance, objects and persons on stage transform their framings and vice versa. This is true for everything that finds itself within the theatrical frame. From the perspective of an image/picture theory, the theatrical situation seems to be a framing that paradoxically lets what is inside the frame transcend its boundaries *through* containment. The

²³ ‘Denn während beispielsweise die poetischen oder musikalischen Zeichen nur in ihrer Qualität als linguistische oder musikalische auf andere Zeichen zu verweisen vermögen—sich also von allen nicht-linguistischen bzw. nicht-musikalischen Zeichen, die sie bedeuten sollen, mit Notwendigkeit in ihrer Materialität unterscheiden müssen—vermögen die theatralischen Zeichen grundsätzlich in materieller Hinsicht dieselben Zeichen zu sein wie diejenigen, die sie bedeuten sollen ... Jedes beliebige in einer Kultur als Zeichen fungierende Objekt vermag ohne jegliche materielle Veränderung als theatralisches Zeichen für dasjenige Zeichen, das es selbst darstellt, zu fungieren.’ Erika Fischer-Lichte: *Semiotik des Theaters, Band 1: Das System des theatralischen Zeichens*, Tübingen 1998, p. 181. My translation.

²⁴ For the notion of grafting, see Jacques Derrida: ‘The Double Session’, in: Jacques Derrida: *Dissemination*, Chicago 1981, pp. 173–289. The botanical term ‘grafting’ originally referred to an artificial refinement of a plant through the implementation of foreign matter. This term has proved to be especially useful in the humanities because it seems to allow for a consistent notion of hybridity at the fringes between nature and culture. And it is the same here: The materiality of the chair is indistinguishable from its ‘sign being’; the theatrical sign according to Fischer-Lichte is a polysemic configuration of signs that is inseparable from material foundations but not identical to them.

²⁵ Fischer-Lichte, *Semiotik...*, pp. 182–183.

evocative intensification of what is expressed on or within the framing itself is based on the abundance of polysemic potential that in turn is provided by the framing itself. This abundance of potential meaning that can never be represented at the same time can be felt within the framing as a push outwards from within, so to speak, always on the verge of bursting out of the frame, and this is the reason why those liturgical vessels are so richly decorated: their excessive ornament is not ‘ornamental’ in the sense that they are just non-essential accessory parts, but are expressions of an ‘internal pressure’ that is always on the verge of breaking out.

This inner pressure charges the images/pictures with potentiality. In linguistics, this kind of ‘charging’ is called connotation; in images/pictures one could talk about evocation instead, which is capable of generating phantasms. Both notions (connotation and evocation) can, of course, not be completely separated because both depend on appresentation. Connotation and evocation are two modes, two ways of how something can be ‘pictured at the core of perception’ but it is doubtful that something like this can be controlled or intentionally guided.

APERTURE SCIENCE

All this may give the impression that the theoretical diversions above have led us pretty far away from the laboratories of *Portal* and *Portal II*. Phantasms and theatricality as ingredients of notions of non-visual iconicity are not just aimed against a picture/image-theory that tries to expel theatricality from the realm of images/pictures²⁶. Perhaps they could even give hints as to why the powerful company that pulls the strings in *Portal* and

²⁶This remark of course goes against Michael Fried’s influential distinction between “Absorption and Theatricality” (Michael Fried, Chicago/London 1980) that the art historian in the meantime has applied to contemporary art as well. According to Fried there is a paradigm-shift in eighteenth century art (with Diderot as its seismograph) that, apparently, is still of importance today: “Briefly, starting in the mid 1750s in France a new conception of painting came to the fore that required that the personages depicted in a canvas appear genuinely absorbed in whatever they were doing, thinking and feeling, which also meant that they had to appear wholly unaware of everything other than the object of their absorption, including—that was the crucial point—the beholder standing before the painting. Any failure of absorption—any suggestion that a painted personage was acting for an audience—was considered theatrical in the pejorative sense of the term and was regarded as an egregious fault.” (Ibid., p. 26) I would like to argue that such a narrow notion of theatricality is not going to be sufficient to expel theatricality from the realm of visual arts as I have tried to show. This is especially true for digital media.

Portal II is called ‘Aperture Science’. The history of this illustrious and shady company is filled with curious inventions and risky endeavours, and so their product-line consisted of shower curtains as well as ‘Portal-Guns’, a device that, through the ingenious use of quantum mechanics, can shoot holes into the space—time continuum. But what is the connection of all this, why is the company called ‘Aperture Science’?

Aperture is, of course, the opening of the iris, which mimics the mechanical function of the human eye and the term is used mostly in optical instruments such as cameras. The iris is emblematic here not only because the company sign of ‘Aperture Science’ is just that, a stylized iris, but because it is emblematic for the game itself. At the beginning of this chapter it was mentioned that *Portal* and *Portal II* are lucky subjects for theory because they are self-referential metagames that bring their own theory. Now we can take a closer look at what self-referentiality really means here: *Portal* and its sequel are about the genesis of evocative imagery out of the interplay between player/observer and the virtual image space of the game. From the eye-like forms of GLaDOS and Wheatley to the permanent surveillance that is constantly referred to by the audio logs and the ever-present cameras point towards iconicity as a main topic of the game. First and foremost, it is the portal-gun that is an amalgamation, a hybrid between camera and gun, or, to be more precise, in *Portal* the weapon of the first person shooter becomes again what it always was: a portable camera. Because the barrel down there at the bottom right corner of the screen always was more like a distraction from what it really is happening in three-dimensional game worlds. In fact, the player does not steer or play a virtual representation of the body but rather a camera, a disembodied eye that makes its way through digital landscapes. The Portal Gun takes back the martial weapon metaphor of the third-person shooter and converts it back into something it has been since the days of *DOOM*: an image-machine, a camera. Therefore, what those Portal Guns produce or ‘shoot’ are not bullets or laser beams but portals or doors: framed thresholds or, to be even more precise, *pictures*.

There would be much to say about the door as a symbol of iconicity (*Bildlichkeit*) and even the attempt at a summary at this point would be futile. But it should at least be noted that the door as well as windows and cave exits could be conceived as an important archetype of iconicity itself. While thinking about windows immediately reminds us of a long historical line from Lean Battista Alberti up to Microsoft’s ‘Windows’,

and the notion of the cave entrance with an even older philosophical lineage from Plato to Susan Sontag and Hans Blumenberg, the door as a model and metaphor is of great importance for an epistemology of the image/picture:

The motive of the door is of course ancient: traditional, archaic, religious. Completely ambivalent (as a passage, as a place one can pass through) and in that sense used in all mythological constructions. Dante places a door at the entrance to the inferno—‘I am the entrance into the city of pain ... Abandon all hope, ye who enter here’—but also at the entrance to purgatory; this a ‘fissure, agape in the wall’, where a silent guardian keeps watch; his rapier, an image for the dividing threshold blinds the gaze and the awestruck Dante will halt before the door, incapable to go through unless Virgil helps him.²⁷

The door as threshold inevitably leads to a paradoxical situation of a locked-in lock-out; it is not a tool that is ready-to-hand but a metaphor for iconicity (German, *Bildlichkeit*) per se: ‘And in front of a picture—if we define a picture as the object of the gaze—all stand as if we were *in front* of an open door, but we can never *enter* its frame.’²⁸ The *Portal* games aim at exactly the same paradoxical structure of digital media that are also shaped by the principle of the door.²⁹

Finally, the optical aperture itself has to be taken seriously as an epistemic model. The principle of aperture in camera technique has been, along with shutter speed and light sensitivity of the film/sensor, one of the three main factors in producing a photographic exposure since

²⁷ Georges Didi-Huberman: *Was wir sehen blickt uns an. Zur Metapsychologie des Bildes*, Munich 1999, p. 226. My translation.

²⁸ *Ibid.*, p. 234.

²⁹ In his article, ‘Psychoanalysis and Cybernetics or on the Nature of Language’ (Jacques Lacan: ‘Psychoanalyse und Kybernetik oder von der Natur der Sprache’, in: Jacques Lacan: *Das Ich in der Theorie Freuds und in der Technik der Psychoanalyse*, Olten 1980, pp. 373–391), that has been of special importance for German media theory since Friedrich Kittler, the French psychoanalyst, argued that the door as a principle is not only a link between the ‘real’ and the ‘imaginary’, but a critical metaphor of the binary ‘on/off’ of digital media. Lacan’s famous figure of thought too is about describing the paradoxical nature of the door applied to the intrinsic logic of digital circuits. When the door (i.e. the electric circuit) is open, the circuit is closed (= condition 0), when the door (the circuit) is closed, the circuit is open (= condition 1): ‘As soon as the door opens, it closes. When it closes, it opens’ (*Ibid.*, p. 383. My translation).

Daguerre, Talbot and Niepces invented the medium. The aperture is not only responsible for the amount of light reaching the photosensitive material, but especially for what and how much is in focus, which is one of the primary creative means in photography. The bigger the aperture, the shallower the depth of field, meaning that more areas in the foreground and/or background of the photograph are out of focus. From a narrative point of view, *Portal* works with such an ‘open aperture’, this is the poetology of these games. As the narrative is concentrating only on the most important pieces of information, always just keeping little snippets of the story ‘in focus’, everything else is blurred out in a haze of uncertainty and vagueness. As in photography, however, this ‘blurring’ is not just hidden or absent but is even more present precisely because of its vagueness. There is a reason why in particular the most expensive camera lenses in photography are judged by the way they render the out-of-focus areas. The aesthetically extremely high qualities of the game world can be understood as a kind of monstrosity for the story, and because of this are allowed to be ‘out of focus’ as much as they are. The wealth of inner diegetic commentaries—verbally through audio logs or the constant banter of GLaDOS and Wheatley or through the in-game architecture of the laboratories, where even the wall textures seem to bear witness to the history of the world they reside in—all of these generate an abundance of potential meaning, that is an expression of meticulously framed uncertainty: the actual story of the world, that never gets told. Instead, the story is infused and embedded in the game world as iconicity (*Bildlichkeit*) that oozes out of every rendered frame and it is this evocative poetology that is so fascinating about games such as *Portal* and *Portal II*.

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