When Mad Science Found its Way in Digital Games[1]

On the Ludification of a Cultural Myth

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Abstract

As part of popular culture, digital games are always a media of collective identity construction. Thus, politically, socially and culturally relevant issues are also communicated, constructed and discussed here. This also includes the question of the freedoms and limits of science. A historical analysis of the figure of the Mad Scientist in digital games thus allows us insight into its changing history of ideas, specifically the history of discourse on science.

INTRODUCTION

We are socialized in digital games to the same extent as we are in other media, with the important difference that values and boundaries of our culture and society are communicated here through play. This means that games also construct, communicate, and perpetuate collective identities. These are established by focusing

1 This is my expanded and revised translation of my original German article: Pfister, Eugen: "'Doctor nod mad. Doctor insane.' Eine kurze Kulturgeschichte der Figur des mad scientist im digitalin Spiel," in: *Paidia-Zeitschrift.de*, March 1, 2018, https://www.paidia.de/doctor-nod-mad-doctor-insane-eine-kurze-kulturgeschichte-der-figur-des-mad-scientist-im-digitalen-spiel/

on the boundaries to the "other," to the foreign, often with startling clarity.[2] Digital games are therefore also an expression of contemporary fears and desires and thus communicate—regardless of their intentions—political statements.

For this reason, the recurring tropes of mad scientists and inhumane medical experiments in digital games are always more than just a convenient means to quickly unfold a story. They function because they continue to address and communicate our collective fears and taboos. If you scratch on the surface of seemingly interchangeable game characters like Dr. Suchong in BIOSHOCK, Dr. Stanislaus Braun in FALLOUT 3 or Dr. Fred Edison IN THE DAY OF THE TENTACLE[3], you will easily recognize their models in our everyday world. But more still the figure of the mad scientist can be traced far back into our cultural history, to the stories of Dr. Jekyll, Dr. Frankenstein or Dr. Faustus. The question at the heart of all these stories is a deeply political one, namely: Where should the limits be on scientific research in our society*?*

Seasoned players know what to expect when they enter the grim corridors of an abandoned hospital or the eerily deserted labs of a secret research institute in a digital game. Flickering neon lights, broken instruments, fragmentary records, and bizarrely deformed skeletons tell a gruesome story of unethical experiments and their terrible consequences. It would appear that man has—again, alas—played God in these places and now must pay the price for his arrogance. Whether it is a foolhardy attempt to open the portal to another dimension, as in BEYOND TWO SOULS [4]and HALF-LIFE, or the genetic manipulation of the human genome, as in BIOSHOCK and the RESIDENT EVIL, the result is the same: a world on the brink of destruction with a single figure at the origin of the chaos, the archetypal mad scientist, most often a white middle-aged male.

Apart from his doctor title, his lab coat, and his notoriously manic laugh, what defines the mad scientist is his disregard for any ethical or moral principles in the pursuit of his research—although the reasons for embarking upon it appear initially to be rationally motivated. He shows no understanding of legal prohibitions or constraints, as he is convinced that his research and its outcome will justify any such transgression. He even accepts collateral damage to human life either in the short or even long-term once he has set his mind on his goal. In this way, he

2 Pfister, Eugen/Görgen, Arno, "Politische Transferprozesse in digitalen Spielen. Eine Begriffsgeschichte," in: Arno Görgen/Stefan Simond (eds.), *Krankheit in Digitalen Spielen*, Bielefeld: transcript 2020.

3 DAY OF THE TENTACLE (US 1993, O: Tim Schafer, Dave Grossman, and Ron Gilbert—LucasArts).

4 BEYOND TWO SOULS (FR 2013, O: Quantic Dream).

willingly violates countless norms and taboos, until finally and irrevocably transgressing the set of values, that make up our society. His motives vary: some acts are motivated by an attempt to save a loved one, others by a thirst for power or by hurt pride. Still others are driven by a pathological love of science. The results, however, are the same: morally dubious experiments that inevitably lead to an unfortunate series of horrific events.

The mad scientist as the extreme example of social deviance, that represents an unfettered science that no longer has to adhere to moral and ethical boundaries; he stands for the ambivalence between the belief in technological progress and the fear of technological uncontrollability.[5] His portrayal insinuates, pars pro toto, that there is a secret longing for liberation from the corset of petty morality among scientists.[6] It is significant that almost only men are believed by game developers to possess such a cold unethical but supposedly scientific rationale. [7]

The question is where the limits of scientific freedom should be set. This sociopolitical question is not something that has just cropped up in recent years or decades. This has been a concern for a long time and the mad scientist can look back on a long historical tradition. Today it is stem cell research and genetic engineering that are at the center of the debate, in the 1950s it was nuclear research, before that it was electricity and still earlier medicine in general. These examples already show that it is not fundamentally about restricting science. Rather, it is about anticipating possible dangers and, above all, about averting harm. This is particularly evident in the fiction that works through worst case scenarios. The digital mad scientist draws more or less directly on his analogue predecessors Dr. Moreau, Dr. Jekyll, Dr. Frankenstein, and Dr. Faustus.[8] The question that arises, however, is

5 Flicker, Eva: "Wissenschaftlerinnen im Spiefilm. Zur Marginalisierung und Sexualisierung wissenschaftlicher Kompetenz," in: Junge, Torsten/Ohlhoff, Dörthe (eds.), *Wahnsinnig genial. Der Mad Scientist Reader,* Aschaffenburg: Alibri Verlag 2004, pp. 63-76, here p. 64.

6 Görgen, Arno/Kirschel, Matthis: "Dystopien von Medizin und Wissenschaft: Retro-Science-Fiction und die Kritik an der Technikgläubigkeit der Moderne im Computerspiel BioShock," in: Frauenholz, Uwe/Woschech, Anke (eds.), *Technology Fiction. Technische Visionen und Utopien in der Moderne*, Bielefeld: transcript 2012, pp. 271-288.

7 Weingart, Peter/ Muhl. Claudia/Pansegrau, Petra: "Of Power Maniacs and Unethical Geniuses: Science and Scientists in Fiction Film," in: *Public Understanding of Science* 12/3 (2003), pp. 279–287.

8 Wells, H.G.: *The Island of Dr. Moreau*, London: William Heinemann 1896; Stevenson, Robert Louis: *Strange Case of Dr Jekyll and Mr Hyde*, London: Longmans,

whether the figure of the mad scientist we find in digital games is just another translation of an otherwise unchanging (perpetual) myth into a new medium, its essence adapted to current research questions, or whether the medium of the game has changed the message itself.

A BRIEF CULTURAL HISTORY OF MAD SCIENTISTS

The figure of the mad scientist has been recounted so often in literature, film and games that it has become a stereotype, a cliché, a myth. Precisely because we have already encountered him so many times, we immediately understand these narratives. We know at once what to expect and can identify 'evil' at first glance. At the same time, however, we have forgotten to consciously perceive the myth as a political message. Normally, we do not question it. We are not surprised when educated researchers suddenly throw all moral considerations overboard. The figure has already become too much a 'natural' component of horror and science fiction, and we no longer look for motivation or justification for the figure's behavior.

In a study of the mad scientist in literature, the cultural scientist Eva Horn noted that this figure is much more than just a cautionary tale, warning us about the dangers of human hubris and the unknown consequences of technology. She argues that more generally the mad scientist helps to communicate and process an increasingly complex scientific world and functions as a visualization of the utterly incomprehensible.[9] Horn here refers to an essay by the historian Philipp Sarasin, who explains that in the figure of the mad scientist, the role of scientists in society in general is negotiated.[10] The mad scientist is thus not just a fictional motif with the intention to entertain, but an attempt to understand an increasingly over-

Green & Co. 1886; Shelley, Mary: *Frankenstein, or, The Modern Prometheus*, London: Lackington, Hughes, Harding, Mavor, & Jones 1818; Marlowe, Christopher: *Doctor Faustus*, London: Printed by I.R. for Thomas Bushell 1588.

9 Horn, Eva: "Abwege der Forschung. Zur literarischen Archäologie der wissenschaftlichen Neugierde (Frankenstein, Faust, Moreau)," in: Horn, Eva/ Menke, Bettine/Menke, Christoph (eds.), *Literatur als Philosophie—Philosophie als Literatur,* München: Fink 2006, pp. 153-172, here p. 157.

10 Sarasin, Philipp: "Das obszöne Genießen der Wissenschaft. Über Populärwissenschaft und mad scientists," in: Sarasin, Philipp, *Geschichtswissenschaft und Diskursanalyse*, Frankfurt: Suhrkamp 2003, p. 248.

complex scientific discourse in a public political sphere from a decidedly non-scientific perspective.

In 1989, the American literary scholar Faye Ringel showed the various possible transfer processes between fiction and politics in a short history of the mad scientist in (Western) literature and film. Ringel refers, for example, to an "[anti-]genetic engineering" campaign initiated by the American sociologist and political activist Jeremy Rifkin in 1984[11], in which Rifkin regularly invoked the archetype of the mad scientist.[12] The Japanologist Sari Kawana went one step further in his analysis. He considered the figure of the mad scientist in Japanese crime novels of the interwar period as a reaction to the Japanese Empire's aggressive and increasingly eugenic-driven scientific policies with parallels to the NS regime.[13] This demonstrates that the figure of the mad scientist is not just a stereotype, but has become a language itself. Depending on the semantic environment, it can be used to communicate different statements.

In his research on the mad scientist in feature films, the British film scholar Andrew Tudor claimed to have observed a remarkable qualitative transformation of the mad scientist towards the end of the 20th century.[14] While the figure in the films of the 1930s still stood for "knowledge and its dangers," in the 1980s, according to Tudor, he increasingly became a marginal figure devoid of content: "just one repressive tool among many."[15] In 2005, the British historian Christopher Frayling in his monograph *Mad, Bad and Dangerous? The Scientist and the Cinema* meticulously traced the depiction of the scientist over nearly a century of film history. For Frayling, the fictional figure was no longer merely a symptom of a contemporary skepticism about science, but also a contributing cause of this growing skepticism. The American cultural anthropologist Christopher Toumey sees the reason for the increasingly negative portrayal of the scientist in a

11 Boffey, Philip: *Working Profile: Jeremy Rifkin; an activist takes on genetic engineering*, http://www.nytimes.com/1984/04/11/us/working-profile-jeremy-rifkin-an-activist-takes-on-genetic-engineering.html

12 Ringel, Faye J.: "Genetic Experiments: Mad Scientists and The Beast," in: *Journal of the Fantastic in the Arts* 1/5 (1989), pp. 64-75.

13 Kawana, Sari: "Mad Scientists and Their Prey: Bioethics, Murder, and Fiction in Interwar Japan," in: *The Journal of Japanese Studies* 31/1 (2005), pp. 89-120.

14 Tudor, Andrew: Monsters and Mad Scientists: Cultural History of the Horror Movie. Hoboken, Jon Wiley & Sons 1989.

15 Tudor, Andrew: "Seeing the worst side of Science," in: *Nature* 340 (1989), pp. 589-592, here p. 592.

persisting tradition of anti-rationalism.[16] He also blames the translation of the character from novel to film for an increased amorality of the characters portrayed.[17] The German cultural critic Georg Seeßlen also claims to have noticed a qualitative change here from an "Epoche der Wissenschaft" (epoch of science) to an "Epoche der Mystik" (epoch of mysticism).[18]

Apart from a monograph by Rudolf Inderst on the representation of science in digital games[19] and recently an anthology edited by Arno Görgen and Rudolf Inderst [20] on the same topic there is an essay by Arno Görgen and Matthis Krischel on dystopias of medicine and science using the concrete example of the first-person shooter BIOSHOCK.[21] In their essay, the two historians point out that games, like all other popular cultural media, often develop the potential for social critique and can thus, for example, alert us to present-day currents critical of progress and technology.[22] Furthermore, an essay by Lucy Atkinson, Vincent Cichirillo, Anthony Dudo and Samantha Marx should be mentioned, which, based on an online survey, examined the representation of scientists in games with a so-called technoscience setting.[23] Like the above-mentioned studies in literature and film studies, Görgen and Krischel also assume a—still undefined—potential interaction

16 Toumey, Christopher: "The Moral Character of Mad Scientists: A Cultural Critique of Science," in: *Science, Technology, & Human Values* 17/4 (1992), pp. 411-437.

17 Ibid, p. 419.

18 Seeßlen, Georg: "Mad Scientist. Repräsentation des Wissenschaftlers im Film," in: *Gegenworte* 3/1999, pp. 44-45, here p. 44f.

19 Inderst, Rudolf: *Die Darstellung von Wissenschaft im digitalen Spiel*, Glückstadt:Verlag Werner Hülsbusch 2018.

20 Görgen, Arno/Inderst, Rudolf (eds.): *Wissenschaft und Technologie in digitalen Spielen*, Marburg: Büchner Verlag 2020.

21 BIOSHOCK (US 2007, O: 2K Boston); A. Görgen/M. Kirschel: "Dystopien von Medizin und Wissenschaft: Retro-Science-Fiction und die Kritik an der Technikgläubigkeit der Moderne im Computerspiel BioShock," pp. 271-288.

22 Görgen, Arno/Kirschel, Matthis: "Dystopien von Medizin und Wissenschaft. Retro-Science-Fiction und die Kritik an der Technickgläubigkeit der Moderne im Computerspiel Bioshock," in: Frauenholz, Uwe/Woschech, Anke (eds.), *Technology Fiction. Technische Visionen und Utopien in der Moderne*, Bielefeld: transcript 2012, pp. 271-288.

23 Dudo, Athony/Cicchirillo, Vincent/Atkinson, Lucy/ Marx, Samantha: "Portrayals of Technoscience in Video Games: A Potential Avenue for Informal Science Learning," in: Science Communication 36/2 (2004), pp. 219–247.

between popular cultural discourse and a political public sphere, i.e. that attitudes towards science can be adopted here, for example.

It is not my intention to investigate how authentic popular cultural depictions of scientists are. Comparing Dr. Robotnik (aka Dr. Eggman) from the SONIC game series[24] with the robotics specialists from Boston Dynamics is rather pointless. Fictional mad scientists are inauthentic in that they do not mirror an extra-medial reality, but instead construct an intra-medial reality. According to Aleida Assmann:

"Media [...] are far more than the basis for worldwide human communication. They also mediate between man and the world and between man and the mind, or imagination. Because of their constructive character, they are productive instruments of world-making and world-shaping."[25]

The aim of a cultural-historical investigation must therefore be to deconstruct these ideas present in mass media and popular culture and to uncover the underlying debates on values and norms.

THE MYTH OF THE MAD SCIENTIST

In digital games, and in popular culture in general, political statements are often 'hidden' in plain sight. They appear stereotypical and are therefore not questioned by either the developers or the players. In this way, they congeal into a myth in the reading of Roland Barthes. Between 1954 and 1956, Barthes analyzed so-called 'Mythologies' in 53 texts, a collection of eclectic cultural semiotic reflections on detergents, Charlie Chaplin, the world of catching, and so on. In each text, Barthes revealed ideological 'myths' hidden in supposedly apolitical artefacts and narratives, ideological messages that are not immediately recognizable as such.

24 The mainline SONIC series presently encompasses 13 titles, from: SONIC THE HEDGEHOG (JP 1991, O: Sega—Sonic Team), to: SONIC FORTRESS (JP 2017, O: Sega—Sonic Team). See: "Gameography" for a full list.

25 Originally: "Medien sind weit mehr als die Grundlage für weltweite menschliche Kommunikation. Sie vermitteln auch zwischen Mensch und Welt sowie zwischen Mensch und Geist, bzw. Imagination. Aufgrund ihres konstruktiven Charakters sind sie produktive Instrumente der Welthervorbringung und -gestaltung." Assmann, Aleida: *Einführung in die Kulturwissenschaft*, Berlin: Erich Schmid Verlag 2008, p. 89, my translation.

Naturally, Barthes had not yet thought of digital games. However, from the very beginning, the concept of myth was not bound to any particular medium, but was designed to be so open that it could potentially be found in any communication process.

In this sense the political myth in the digital game refers to a political or ideological statement (with implicit instructions for action) that has taken on the appearance of naturalness and is therefore (often) not understood as such by either game developers or players. Accordingly, the myth is reproduced unconsciously and can also change its quality—just as unnoticed—in the process of medial change.

The political myth is characterized by the following four features. 1. the political myth is never a single sign (a clichéd figure, a motif, a symbol, etc.), but a political statement composed of a system of mutually reinforcing signs. 2.The political myth is a seemingly immediately obvious political statement. That is why it is often repeated in several places, i.e., in several games or media forms. Through its repetition, the myth reinforces the appearance of so-called naturalness and is thus henceforth unconsciously reproduced. 3. A Political myth disguises history in its argumentation. It quotes well-known aesthetic models and transfers them to current phenomena without becoming historically specific. This means that it references not so much "real" historical phenomena themselves, but above all their (no less real) aesthetic shell. It gains its persuasiveness from this reference to its supposed predecessors, which in turn reinforces an appearance of naturalness. 4. Despite its superficially historical argumentation, every political myth is clearly locatable in its topicality and can only be understood in a concrete contemporary historical context.[26]

In this logic the myth of the mad scientist does not consist of the game character alone, but is composed of the narrative of destruction and hubris, a specific language and aesthetics in interaction with—most often—conflict-based game mechanics. The message conveyed through the myth is, according to Barthes, not hidden per se, on the contrary it appears in the open: in our case the dangers of uncontrolled scientific research. This message however is usually not questioned since it immediately enters the collective subconscious, it appears to be "natural".[27]

26 Pfister, Eugen: "Der Politische Mythos als diskursive Aussage im digitalen Spiel. Ein Beitrag aus der Perspektive der Politikgeschichte," in: Junge, Thorsten/Schumacher, Claudia (eds.), *Digitale Spiele im Diskurs*, Hagen, 2018, http://www.medien-im-diskurs.de

27 Cf. Ibid.

The question remains whether the myth of the mad scientist in digital games is merely a reinterpretation of a cultural motif that is otherwise unchanged (i.e., in terms of content and function). If so, an analysis of its role in digital games would be nothing more than an interesting addition to a field that has already been well researched. However, as a result of its translation into a new medium, we must assume that the myth of the mad scientist has also fundamentally changed in quality, that the medium of the game has in a certain sense become part of the message—to use Marshall McLuhan's term loosely. In the following, I would therefore like to explore the question of whether the image of the mad scientist in digital games does not, in fact, satisfy both assumptions. On the one hand, the myth is self-referential and suggests an apparent historical continuity through repeated references to previous literary and cinematic examples, but at the same time it has undergone a significant qualitative change due to the requirements of the medium, especially in terms of game mechanics and rules.

"WHY WOULDN'T I END UP IN THE CREEPIEST PLACE ON PLANET EARTH?"[28]—A TOPOLOGY OF THE MAD SCIENTIST

Before we focus on the figure of the mad scientist in digital games, it is worth taking a closer look at his environment. It is no coincidence that the setting of the game's action is often an architectural ruin. First of all, these signs of destruction and abandonment are indications of what has happened. We see direct references to the havoc caused by unbridled research: abandoned sanatoriums in UNTIL DAWN and OUTLAST, destroyed laboratories in HALF-LIFE AND BEYOND: TWO SOULS, or entire cities laid waste in the RESIDENT EVIL series, IN THE EVIL WITHIN or F.E.A.R. 2: PROJECT ORIGIN.[29] At the same time, the image of the ruin is more than just evidence of destruction: In 1907, George Simmel wrote along these lines in an essay on the aesthetics of ruins:

28 Mike in UNTIL DAWN (UK 2015, O: Supermassive Games).

29 UNTIL DAWN; OUTLAST (CA 2013, O: Red Barrels); HALF-LIFE (US 1998, O: Valve); RESIDENT EVIL 1 (JP 1996, O: Capcom); RESIDENT EVIL 2 (JP 1998, O: Capcom); RESIDENT EVIL 5 (JP 2009, O: Capcom); RESIDENT EVIL: CODE VERONICA (JP 2000, O: Capcom); EVIL WITHIN; The (JP 2014, O: Tango Gameworks); F.E.A.R. 2: PROJECT ORIGIN (US 2009, O: Monolith Productions).

"This shift becomes a cosmic tragedy which, so we feel, makes every ruin an object infused with our nostalgia; for now, the decay appears as nature's revenge for the spirit's having violated it by making a form of its own image."[30]

Here a partial message of the mad scientist myth is revealed: the violation of the natural order.

This moment of horror also works so well because many of these ludic spaces appear familiar. They resonate with our everyday lives: Waiting rooms, examination rooms, corridors and offices, toilets, office kitchens, and so on. A familiar environment is alienated through the game, it unsettles us. An "environmental estrangement" takes place, which forces us to view familiar spaces from a different, usually unpleasant perspective.[31]

The aim of this estrangement is to call into question our trust in medicine and science. In a way, the ruins are like a stage in a play, they support the main performer who, in the game, is the figure of the mad scientist, and at the same time they serve as a commentary. In contrast to the traditional stage, however, they are not a space set apart from the audience, but are spaces to be actively explored and uncovered by the player. Thus, the players themselves become part of the figure of the mad scientist, an extension of his body. After all, he is at the heart of the destruction, and is its catalyst.

But the stage metaphor falls short. In fact, space also functions as a language, especially in digital games. Joachim Friedmann, referring to Juri Lotman's concept of the "semantic field," has shown that space is never a "neutral container" but rather semantically charged actions.[32] According to Lotman, the setting of the border in particular takes on a central semantic role. Here, in turn, resonances with the theory of "collective identities" are apparent, for here, too, borders are of central importance in the definition of the "us" and the "others."[33] Thus, the

30 "Diese Verschiebung schlägt in eine kosmische Tragik aus, die für unser Empfinden jede Ruine in den Schatten der Wehmut rückt, denn jetzt erscheint der Verfall als die Rache der Natur für die Vergewaltigung, die der Geist ihr durch die Formung nach seinem Bilde angetan hat: Simmel, Georg: "Die Ruine. Ein ästhetischer Versuch," in: socio.ch http://socio.ch/sim/verschiedenes/1907/ruine.htm, from 20.05.2017. My translation.

31 A. Görgen/M. Kirschel: "Dystopien von Medizin und Wissenschaft: Retro-Science-Fiction und die Kritik an der Technikgläubigkeit der Moderne im Computerspiel BioShock," pp. 271-288.

32 Friedmann, Joachim: *Transmediales Erzählen*, Konstanz: 2016, p.29.

33 Ibid, p. 31.

devastated spaces in digital games are to be read as signs of a transgressed border. The space of science is visibly separated from other spaces, but the devastation quickly threatens to spread to non-scientific space as well.

"IT IS THE WAY OF MAN TO MAKE MONSTERS. AND IT IS THE WAY OF MONSTERS TO DESTROY THEIR MAKERS"[34]

In order to examine the figure of the mad scientist in digital games, it makes sense to ascribe it two different functions: The instigator and the antagonist. There are also other functions to be discerned. In addition to the types A (instigator) and B (antagonist) which will be outlined below, we can also identify types C (supporter) and D (comic relief) in digital games, though the scope of this essay is limited to the first two.

TYPE A: THE MAD SCIENTIST AS THE LEGITIMIZATION OF THE GAME'S ACTION

Let us begin with type A: The mad scientist as the instigator of horror. In the horror-survival game UNTIL DAWN, we only meet the unethical scientists through narrative references, the existence of an abandoned sanatorium and the monsters they have created. Players can piece together a coherent story if they are careful enough to find the clues scattered throughout the game: hospital admittance forms, doctor's reports, and old video recordings. Thus, they learn the story from several survivors buried in a mining accident who were admitted to a nearby hospital half a century ago. These miners fell victim to an ancient Native American curse, and transformed into hideous monsters before the very eyes of the doctors treating them. Instead of helping the victims as they underwent this transformation, they were observed and experimented upon. The doctors, in keeping with the nature of the genre, were the first to fall victim to their unethical curiosity, as their patients, now mutating into so-called *Wendigos*, developed super-human reflexes and

34 Dr. Harlan Wade in F.E.A.R.

strength and killed them. In the present-day action of the game, however, the sanatorium staff has been dead for over sixty years.[35]

It is a similar story with the character Yi Suchong, a medical researcher in the story of the first-person shooter game BIOSHOCK. In the game's narrative, he and geneticist Brigid Tenenbaum were responsible for genetic and neuropsychological modifications of prisoners into monstrous "Big Daddies." In the service of venture capitalist Frank Fontaine, Suchong had no scruples about his research, in contrast to Tenenbaum. We witness an example of his almost sadistic cold-bloodedness in an "audio-diary," a tape-recording in which we hear Dr. Suchong compelling a boy (this is a childhood experience of the protagonist Jack) to kill his puppy as part of a "mind control" experiment. By the time of the game's action, however, Suchong has already died at the hands of his creation. A similar "ironic death" also befalls the character of Dr. Harlan Wade in F.E.A.R. For several years he had supervised the increasingly unethical experiments on his own daughter Alma, who had developed psychic telekinetic powers in her early childhood. Released by her father, the daughter turns on her creator and brutally murders him.

In these games, the scientists themselves do not take an active role in the game insofar as the player cannot directly interact with them. The players are not given the opportunity to stop the researchers in time before the damage is done. Instead, it is through their creations that the players interact with the mad scientist. Without Yi Suchong, there would be no monstrously deformed Splicers and Big Daddies for the player to fight in BIOSHOCK. Without the nameless scientist of the Black Mesa Research Centre, an invasion of alien monsters would never have been possible in HALF-LIFE.

One fundamental difference to film and literature is that players of digital games usually need to actively work out the background story. Whereas in the past, the plot of a game was told through the classic use of cinematic cutscenes, more recent games rely on immersive and environmental storytelling as a narrative device. The gameplay then is no longer interrupted by the above-mentioned film sequences. In BIOSHOCK, for example, the background story is told through strategically placed audio-diary entries which the players must first find and then choose to listen to. However, it is possible to complete the game without having even heard the voice of Dr Yi Suchong.

35 Pfister, Eugen "Teenie-Slasher-Horror-Klischees vom 'Psychopathen' zum 'Indianerfluch' (Fallstudie 55: Until Dawn)," in: *Horror-Game-Politics*, http://hgp.hypotheses.org/1352, from 11.05.2021.

"SURE, I AM NOT HUMAN ANYMORE BUT JUST LOOK AT THE POWER I HAVE GAINED":[36] TYPE B: THE ANTAGONIST

Often the mad scientist is not only the instigator of horror in digital games, but he also embodies it. He becomes the central antagonist in terms of the narrative and, in particular, in terms of game mechanics: The Soviet scientist Dr. Demichev in SINGULARITY, Professor Hojo in FINAL FANTASY VII, Dr. Strasse in WOLFENSTEIN: THE NEW ORDER, but also, to an extent, Dr. Fred Edison in MANIAC MANSION.[37] They no longer solely justify the plot, but move independently in the game world, also encountering the players. There are a few examples where it is possible for the players to reason with them. For example, players can try to reason with the character of Dr. Nathan Dawkins[38] in *Beyond: Two Souls* to get him to change his mind. Dawkins, who at the start of the game takes on the father role of the young protagonist Jodie, turns out to be the main antagonist towards the end of the game. He creates a rift in a parallel dimension so that he can communicate with his dead family. At the climax of the game, the player can try and convince him of the error of his actions—press X to reason—and as a consequence of this newly gained insight he takes his own life. Here, the mad-scientist narrative develops in parallel with its cinematic tradition, which is no coincidence, as developer Quantic Dream, led by David Cage, is known for developing games that see themselves as interactive films. In FALLOUT 3,[39] players also get the opportunity to defeat the sociopathic Dr. Stanislaus Braun by other means than brute force.

The ability to reason is however an exception rather than a rule. In the majority of games featuring a mad scientist as the antagonist, the player's interaction is limited to a fight for life or death. Neither Dr. "Deathshead" Strasse, in the Wolfenstein series[40] nor William Birkin in the RESIDENT EVIL game series can transcend this frame of expectation. One of the biggest challenges for game developers

36 Albert Wesker in RESIDENT EVIL 5.

37 SINGULARITY (US 2010, O: Raven Software); FINAL FANTASY VII (JP 1997, O: Square); WOLFENSTEIN: THE NEW ORDER (US 2014, O: MachineGames); MANIAC MANSION (US 1987, O: Lucasfilm Games).

38 Here, too, the similarity of the name to the well-known British evolutionary biologist and self-confessed agnostic is no coincidence.

39 FALLOUT 3 (US 2008, O: Bethesda Game Studios).

40 WOLFENSTEIN: THE NEW ORDER (US 2014, O: MachineGames); WOLFENSTEIN: OLD BLOOD (US 2015, O: MachineGames).

here is how to stage a satisfying showdown with a mad scientist, when a traditional attribute for scientists in cultural representations is their physical fragility.

In WOLFENSTEIN: THE NEW ORDER the writers/developers decided to equip the aging sadistic doctor with a highly-developed mechanical exoskeleton. The player must defeat him in the endgame in an energy-sapping battle. Here, the mad scientist is no longer just a story-set piece, he becomes tangible game mechanics. He takes up space, he causes damage to the player and he takes damage himself. More importantly, he becomes an obstacle. He has to be overcome, defeated. The confrontations with William Birkin in RESIDENT EVIL 2 and Albert Wesker in RESIDENT EVIL 5 are similar. The overarching narration of the RESIDENT EVIL game universe begins with the mass production of the so-called T-virus commissioned by the *Umbrella Corporation*. It transpires in the games that a side effect of this virus transforms those infected into dangerous zombies. In the main storyline, a certain Dr. James Marcus is credited with its research, but has already died before the game action in RESIDENT EVIL 1 takes place. In other words, he is a type A mad scientist. His former assistant William Birkin continues the research on the pathogen and infects himself voluntarily with the G-virus in RESIDENT EVIL 2. As a result, he mutates into an increasingly grotesque monster who progressively loses the ability to act rationally. The player must defeat him several times, and each time Birkin dies he mutates into a yet more grotesque and more dangerous form, so that in the end he no longer resembles a human being at all. The final battle against Albert Wesker in RESIDENT EVIL 5 is similar.

What these mad scientists have in common is that through the zealous pursuit of research, they are turned into overpowering foes that the player must defeat. Scientific progress at any price is communicated through the mutated bodies of the enemies. Here, mad scientists resemble their cartoonish counterparts from platform games such as Dr. Eggman from the SONIC game series and Dr. Willy from the MEGA MAN[41] series. The reason for the prosthetic extension of their bodies lies in the game mechanics. Ascribed the role of antagonist, according to the logic of many games they must also take on the role of the "final boss," and should therefore constitute an almost insurmountable threat to players. In doing so, they also transgress the boundaries of our established normative notions of the human body, thus aesthetically highlighting their social deviance from the rest of society. This trend towards humans augmented by prosthetics is partly reflected in the super hero films of the last two decades, such as the figure of the mad scientist

41 The MEGA MAN series presently encompasses eight titles, from: MEGA MAN (Japan 1987, O: Capcom), to: MEGA MAN 11 (Japan 2018, O: Capcom). See: "Gameography" for a full list.

Doctor Octopus in *Spiderman*.[42] Unlike films, encounters with mad scientists in games do not follow a predefined script. Although the outcome is predictable—the players are supposed to win—achieving this goal is not a given. If it comes to a fight, in contrast to novels and films, there is always the risk of defeat.

It can be argued that failure, meaning the death of the player's character, may even be one of the central moments of the gaming experience, especially in first-person shooter games and action-adventure games. Failure is an integral part of the learning process in the game. In particular, battles at the end of the game, so-called 'boss fights', are usually designed to be particularly challenging, so that often the player will need to repeatedly tackle them anew, until the mad scientist can finally be overcome. The frequent repetition of one and the same game sequence coupled with a growing feeling of frustration potentially makes it increasingly difficult for the player to feel any empathy with the opponent, as is common in films and novels. So, while mad scientists are often perceived as tragic heroes in film and literature, it is hard to develop a similar understanding of an increasingly mutated Albert Wesker. Instead, we learn from the game to internalize their attacking patterns and specifically look for weak points in our opponents. The final boss degenerates into an annoying obstacle that has to be swept aside by any means necessary.

"I'VE LOST CONTROL!"[43] THE MAD FEMALE SCIENTIST IN GAMES

At the start of this essay, I mentioned that the mad scientist in digital games is predominantly male. Here, in line with traditional depictions of the mad scientist in other media, it seems that almost exclusively men are believed to have a cool—empathy-less—but supposedly logical thirst for knowledge at all costs. However, the character of Brigid Tenenbaum in BIOSHOCK shows that there are some exceptions. It is also notable that Tenenbaum, unlike Suchong who appears to be motivated solely by greed, is originally led by a love for science, albeit misguided. In audio diaries found in the game, this love for science is explained to be motivated by antecedent experiences as a prisoner in a German concentration camp. A supposedly male scientific curiosity must apparently be justified by a traumatic

42 In comics, which in many respects follow a similar narrative structure to build suspense as digital games, comparable mad scientists such as Dr. Freeze, Poison Ivy, etc. already existed much earlier.

43 Dr. Helga von Schabbs in WOLFENSTEIN: OLD BLOOD.

experience. As a mad scientist, Tenenbaum is an exceptional case for different reasons. Over the course of the narrative, she acknowledges, for instance, that she has made mistakes, and from this moment tries to make up for them by supporting the protagonist of the game. There is an audio diary that deals with Tenenbaum's role as a woman/mother: "What makes something like me? I look at genes all day long, and never do I see imprints of sin. I could blame the Germans, but in truth I did not find tormentors in the prison camp, but kindred spirits. These children I brutalized have awakened something inside that for most is beautiful and natural, but in me, is an abomination…my maternal instinct." Thus, according to the game's narrative, in order to become a successful researcher, Tenenbaum has had to consciously reject her role as a woman. Maternal instincts here are portrayed as a threat to the position of scientist. She finally succumbs, however, to her "maternal instinct" by protecting the young girls who have been genetically modified and mentally conditioned into becoming so-called "little sisters." In this respect, the character of Brigid Tenenbaum leaves the classic scheme of the mad scientist, while at the same time confirming this "male" myth.

The character of the psychiatrist Sofia Lamb from BIOSHOCK 2[44] comes closer to the male role model. As chosen leader of the hopeless and forgotten of an inhumane libertarian city-state, locked in a struggle against those in power, she seeks to establish a society free from selfishness. With this noble goal in mind, however, she does not shy away from increasingly unethical methods. She subjects the poor and the working classes to mass mental conditioning to establish a society free from egotism, and to fight those in power. Then, when she realizes towards the end of the game that her plans are endangered, she decides to kill all of her followers. With her manic fixation on a social utopia, the character of Sofia Lamb's thus conforms far more to the usual trope of the mad scientist than Tenenbaum.[45]

The character Helga von Schabbs in WOLFENSTEIN: OLD BLOOD is a trained archaeologist and leader of an SS division for paranormal activity, engaged in a project to summon a mystical primordial monster. We are shown that von Schabbs is intellectually superior to the protagonist in several—not interactive—cutscenes. After she summons a mystical monster, however, it quickly turns on her and she is fatally injured. Both Lamb and von Schabbs fulfil the role of mad scientist. There are differences to male scientists, however. With both characters, the

44 BIOSHOCK 2 (US 2010, O: 2K Marin).

45 Pfister, Eugen: "Avec les anges si purs / La mer / Bergère d'azur, infinie (BioShock 2)," in: *Horror-Game-Politics*, http://hgp.hypotheses.org/1621, 30.11.2021.

players cannot interact directly, their actions are predetermined by the story.[46] Nor can the players face them at the climax of the game in a final battle. Also, both characters represent so-called "soft sciences" of psychology/ philosophy (Sofia Lamb) and archaeology (von Schabbs).

There is one game where the player can battle a woman in the role of a mad scientist. Alexia Ashford in Resident Evil: CODE VERONICA. Her character seems almost directly lifted from the background story and game-play features of the character William Birkin from RESIDENT EVIL 2, including the increasingly grotesque physiognomic mutations. Nevertheless, compared to examples of male mad scientists, it hardly seems an "equitable" representation. Her appearance in cutscenes brings to mind the stereotype of an immature young girl with her high-pitched voice and nervous giggle and mannerisms. Her coyly delivered: "I still have experiments to perform. Would you care to play along?" evokes more the idea of a spoilt, latently asocial girl from a rich family, rather than an assertive scientist. She thus conforms to the cliché of a sexualized "child-woman" often used in games.

In most games, then, the classic figure of a mad scientist remains primarily male. The fact that female mad scientists are often assigned so-called soft sciences like psychology and archaeology would suggest that game developers are still invested in seeing the figure of the mad scientist imbued with traditionally "male" attributes for the foreseeable future. It would appear that women are not deemed to possess the evil rationale necessary to inhabit such a character, as bourgeois gender norms from the 19th century would still appear to have a strong foothold here, as described by Karin Hausen.[47] The idea of "polar gender characteristics" found broad social consensus at the time: men as "individuals" were assigned "culture," "reason," "activity," "energy," (political) violence and thus the "public" sphere; women were assigned "nature," "emotionality," "passivity," "weakness," and in this sense, the "private," domestic sphere .[48] This is exemplified in the character of Brigid Tenenbaum, who suddenly finds herself unexpectedly confronted with her "maternal instinct"—supposedly only reserved for women—which apparently makes it impossible for her to continue her research. Even the character

46 In BIOSHOCK, however, the players have the opportunity to decide the fate of Lamb by making certain moral decisions.

47 Hausen, Karin. "Die Polarisierung der 'Geschlechtscharaktere'—Eine Spiegelung der Dissoziation von Erwerbs- und Familienleben," in*: Frauenarbeit und Familie. Series: Schriftenreihe des Sfb 186 der Universität Bremen*, Hausen, Karin/Wunder, Heide (eds.), vol. 3, 11-40. Klett-Cotta, 1976, pp. 363-393.

48 Ibid.

of Helga von Schabbs, who is otherwise a match for the protagonist, is condemned to passivity by the monster at the climax of the game. This can be understood in the tradition of how women are persistently represented in a problematic way in digital games. Typically, women "tend to be found in the passive, non-controllable supporting roles."[49] In particular, enemies and 'bosses' are and have always been predominantly male in games.[50] Alexia Ashford alone fulfils this role, although she is not presented as a rational scientist but with her shrill giggle, gives us more the impression of a mentally and emotionally unstable person.

OUTLOOK: "STEP ONE: FIND PLANS, STEP TWO: SAVE THE WORLD, STEP THREE: GET OUT OF MY HOUSE! LET'S GET GOING!"[51]

On the one hand, the myth of the mad scientist in digital games appears to be a current iteration of a traditional—in fact century old—popular cultural perspective on science. Its translation into a fictional framework enables a space to negotiate widespread fears evident in public discourse, be they on stem cell research, artificial intelligence or quantum physics. The trope of the mad scientist is a reflection of the distrust held by many towards the closed world of science, which in turn perpetuates this distrust. The frequent appearance of the mad scientist attests to the fact that what we are dealing with here is a popular cultural discourse that is deeply rooted within our (Western) cultures. When faced with a grotesque monster, a larger-than-life caricature or emotionally conflicted figure, the player immediately knows how to respond in the game world. The political message that the mad scientist carries has not fundamentally altered in content. According to this logic, scientists are still assumed to harbor a secret desire to transgress ethical limitations, which naturally is also the premise of the narrative. This widespread suspicion is beautifully illustrated in one of the three possible endings in the first-person shooter game SINGULARITY. With the help of the benevolent scientist Barisov, the protagonist succeeds in defeating Demichev, the mad scientist. If the

49 Grapenthin, Helga: "Geschlechterbilder in Computer- und Videospielen," in: Bevc, Tobias; Zapf, Holger (eds.): *Wie wir spielen, was wir werden: Computerspiele in unserer Gesellschaft*, Konstanz: UVK 2009, pp. 161-184.

50 Ibid., p. 170.

51 Dr. Fred Edison in DAY OF THE TENTACLE.

players then decide to help Barisov, however, the story repeats itself, only this time Barisov becomes the world-conquering mad scientist. This can be understood—with reference to Toumey—as an anti-rationalist reaction, or as a necessary repetition of a collective warning not to give up social control of science.

The humanities—with the exception of the occult National Socialist archaeologist mentioned above—seem for the most part harmless in the context of these games. It is mainly genetic engineers, quantum physicists and medical doctors who allow themselves in these games to become seduced into unethical behavior, and their cold-blooded and inhuman rationality is generally attributed to men. In this respect, the depiction of the mad scientist in these games corresponds with those in films, television, etc.

On the other hand, the myth's translation into the digital game has brought with it some significant qualitative changes, the effects of which can only be speculated on at this point. When the mad scientist becomes an opponent in the digital game, here in contrast to film and literature, the player must actively defeat him (or her). Thus, in games, the mad scientist has to be transformed into a powerful threat in order to pose a challenge to the players, either with the help of artificial prosthetics or by progressively mutating, diminishing/obscuring his human nature. This makes him appear and act even less like a human being (therefore the players need not treat them as such). The constant irritation caused by attempts to defeat the mad scientist make the figure yet more emotionally distant for the player. Anyone who has died twenty times at the hands of the enemy and now has to repeat one and the same battle again probably feels little sympathy for his virtual adversary.

There are many questions still to be answered, which could not be covered within the scope of this short text. Here, I focused on the mad scientist as the instigator of dramaturgical conflict and as the antagonist. For the time being, I had to omit those representations which show the mad scientist as a benevolent or neutral figure. It would be interesting here to investigate how 'good' or 'bad' mad scientists differ in how they are staged and their message is communicated. Finally, the central question of what effects the increased dehumanization of and emotional distance to these scientists can have on science and public discourse must unfortunately remain unanswered at this point.

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