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A Imaginação Distópica de Atwood e as Teorias dos Media de McLuhan. Repensar o Trans–humanismo através de Narrativas Ficcionais

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Abstract

This article attempts to reconcile the utopian visions of the future of digital media by transhumanists and techno-capitalists with the dystopian imaginations of such technologies in fiction. While the first quarter of the 21st century has experienced an explosion in possibilities and users of digital media, it has also started to show the shortcomings of these new technologies and their potential for misuse. Privacy breaches, mass surveillance, social pressure, and the spread of misinformation are only some of the issues that have come up in recent years when critically examining the history and trajectory of contemporary digital mass media and communication technologies.

Nonetheless, transhumanists, in their quest to upgrade the human condition via technological means, posit that technologies like virtual and enhanced realities, simulations, digital spaces, and social media are important tools to reach the next step in evolution. On the other hand, creators of fiction have taken notice of the dark underbelly of such

developments and imagined worlds where they are used to keep a large swath of society oppressed and content. By surveying two specific works of fiction, the TV anthology *Black Mirror* and Margaret Atwood's *MaddAddam* trilogy, this article contextualizes real-life transhumanism with fictional transhumanism in an effort to complement our understanding of the development of modern media and communication technologies.

Furthermore, Marshall McLuhan's theories on media as extension of man will be applied to establish media technologies not just as a second-order implementation of transhumanism, but as a vital component, and emphasize their transformative potential. Additionally, a post-Marxist critique of the capitalization of digital spaces, most recently the newest iteration of a metaverse, will be applied to highlight fiction's potential as "cultural manifestations which either operate apart from or undermine pragmatic, one-dimensional and conventionalized discourses of 'innovation' and 'development'." (Braunecker and Löschnigg 2020, 3)

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Keywords

transhumanism | science fiction | marxism | marshall mcluhan | social media

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Resumo

Este artigo tenta conciliar as visões utópicas do futuro dos *media* digitais empenhadas por trans-humanistas e tecnocapitalistas com as imaginações distópicas destas tecnologias na ficção. Enquanto o primeiro quarto do século XXI experimentou uma explosão de possibilidades e usuários dos *media* digitais, também começou a mostrar as lacunas dessas novas tecnologias e o seu potencial para uso indevido. Violações de privacidade, vigilância em massa, pressão social e disseminação de informações falsas são apenas alguns dos problemas que surgiram nos últimos anos ao examinar criticamente a história e a trajetória dos *media* digitais contemporâneos e das tecnologias de comunicação.

No entanto, os trans-humanistas, na procura de melhorar a condição humana através de meios tecnológicos, postulam que as tecnologias como a realidade virtual e aumentada, simulações, espaços digitais e redes sociais são ferramentas importantes para alcançar o próximo estágio da

evolução. Por outro lado, os criadores de ficção perceberam o lado sombrio de tais desenvolvimentos e imaginaram mundos onde são utilizados para manter uma grande parte da sociedade oprimida e contida. Ao examinar duas obras de ficção específicas, a antologia de TV *Black Mirror* e a trilogia *MaddAddam* de Margaret Atwood, este artigo contextualiza o trans-humanismo da vida real com o trans--humanismo ficcional, num esforço para complementar a nossa compreensão sobre o desenvolvimento dos *media* modernos e das tecnologias de comunicação.

Além disso, as teorias de Marshall McLuhan sobre os *media* enquanto extensões do humano serão aplicadas para estabelecer as tecnologias dos *media* não apenas como uma implementação de segunda ordem do trans-humanismo, mas como uma componente vital, e assim realçar o seu potencial transformador. Ademais, uma crítica pós-marxista da capitalização dos espaços digitais, na mais recente iteração de um *metaverse*, será aplicada para destacar o potencial da ficção enquanto "cultural manifestations which either operate apart from or undermine pragmatic, one-dimensional and conventionalized discourses of 'innovation' and 'development'." (Braunecker and Löschnigg 2020, 3)

— Palavras–chave

transumanismo | ficção científica | marxismo | marshall mcluhan| mídias sociais

In an ever-transforming world dominated by technological advancements, the portrayal of transhuman media technologies has become increasingly pervasive, inviting both fascination and concern. With the rapid rise of artificial intelligence in recent months and an unrelenting push for a fully immersive metaverse, transhumanist concepts have infiltrated our screens and imaginations. This article delves into the depiction of these transhuman ideals related to media within fiction, while also examining the realities of the transhumanist movement. While navigating the complex relationship between fiction and tangible progress, it is imperative to critically analyze the implications of these depictions on our society's perception of a transhuman future. Are we being exposed to visionary possibilities or are we being led astray by utopian fantasies that obscure the genuine challenges that lie ahead?

Transhumanism itself is concerned with matters of human perception, and therefore new venues of media production and consumption, as the following excerpt from Max More's "Letter to Mother Nature" first published in 1999 illustrates.

> **Amendment No. 2.** We will expand our perceptual range through biotechnological and computational means. We seek to exceed the perceptual abilities of any other creature and to devise novel senses to expand our appreciation and understanding of the world around us.

> **Amendment No. 4.** We will supplement the neocortex with a 'metabrain.' This distributed network of sensors, information processors, and intelligence will increase our degree of self-awareness and allow us to modulate our emotions. (More 2013, 450)

This article attempts to reconcile the actual goals and ideas of transhumanists with literary and filmic depictions of such changes, contextualize them with theories on media by Marshall McLuhan, and contrast them with the contemporary state of mass media in an increasingly digital world.

First, the writings of Marshal McLuhan will be surveyed as they pertain to matters relevant to transhumanism, especially when it comes to matters of technologies transforming or creating new media for consumption and communication, and how these affect human interactions on a fundamental level. Relevant technologies will be identified in the primary sources consisting of TV anthology *Black Mirror* (2011-), and Margaret Atwood's *MaddAddam* trilogy (2003-2013). Second, current arguments and calls-to-action from transhumanists on matters of media technologies will be introduced and contextualized with real-world technological developments that come closest to their imaginations. Third, the previously mentioned primary sources will undergo a close-reading on the content level to contrast their implementation of transhuman technologies and its effects with the imaginations of transhumanists. Lastly, a critical discussion of the potential effects of the depicted technologies will be delivered with a specific focus on class structures and Marxist cultural theories. By using fiction as a starting point, potential new avenues of consideration shall be uncovered when thinking about new and future technologies.

An Inventory of Defects

In 1967, Marshall McLuhan wrote what could very well be one of the guiding principles for both transhumanism and its fictional depictions: "Societies have always been shaped more by the nature of the media by which they communicate than by the content of the communication" (McLuhan and Fiore 1967, 8). As this article will show, both fiction and the real world are using this adage in their endeavors. Naturally, fiction can skip the crucial steps between the idea of a new technology and its realization, and philosophize

possible effects straight away. Reality, for better or worse, has to play by different rules and spend most of its time on the mid-point between the two and come up with solutions on how to enable and create the technologies in the first place. Perhaps it is this discrepancy that is at least partially responsible for the often quite radical differences in imagination between creative minds and researchers, transhumanists especially. Authors and other creators, as will be shown, mostly imagine a shining façade of exciting entertainment and sensory impressions that only masks the ever deepening crevasses in societies. Transhumanists, on the other hand, usually convey their calls to action wrapped in promises of enabling deeper connections between people and exciting new ways of experiencing the world and entertainment. The following pages shall be an attempt of consolidating these two different ends of the spectrum by way of media theory based on the ideas of McLuhan, and economic theories based on (post-) Marxist theories, therefore creating a new, fiction-inspired way of thinking about future media technologies and their impact.

While changes in media might not seem like straightforward augmentations and enhancements of the human at first glance, but rather a second-order implementation of transhumanism, McLuhan makes an interesting case against this surface-level view.

> All media work us over completely. They are so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they leave no part of us untouched, unaffected, unaltered. The medium is the massage [sic]. ... All media are extensions of some human faculty — psychic or physical. (McLuhan and Fiore 1967, 26)

Even though McLuhan wrote these words during a time when color television sets in family homes were the most advanced examples of electronic media, they still hold true in our times of digital media, perhaps even more so. However, while we are worked over completely by new technologies, the direction of these changes seems curiously predetermined.

Towards an All-Seeing Future

The expansion of sensory capacities, intelligence, and memory, as well as the outsourcing and supplementation of some of the brain's functions is far up on the list of priorities of outspoken transhumanists. A good starting point for this specific topic in transhumanist thought is Natasha Vita-More's effort to marry transhumanism and art. She states that "our physical and perceptual experiences are heightened by the urge to push their boundaries." (Vita-More 2013, 19) If one supposes this is true, transhumanism and its perception-enhancing technologies certainly offer a welcome route of progression for the arts. After all, enabling individuals to see a larger spectrum of light and colors, hear a broader spectrum of frequencies, or grasp vaster connections by enhanced memory capacities would significantly expand the toolbox available to artists.

In his article "Intelligent Information Filters and Enhanced Reality," Alexander Chislenko, Soviet émigré to the US, computer scientist, and enthusiastic member of both the transhumanist and extropian communities, describes a number of perception and communication based technologies that he envisions would have far-reaching and positive effects on individuals and societies in a transhuman world. Among his imaginations are enhanced multimedia experiences, much like those described in the fictions earlier, or "ER [enhanced reality] technology to improve our interaction with real objects." (Chislenko 2013, 141) Even though many of his predictions seem almost naïve in hindsight from a contemporary perspective, Chislenko's generally positive view of transhuman potentials is somewhat symbolic for the movement as a whole. While he himself was certainly already aware that some pitfalls lie on the road to true transhumanism, stating that "new powerful technologies may become very dangerous tools if placed in the wrong hands," (Chislenko 2013, 145) it is questionable whether he would have imagined that many of these pitfalls would reveal themselves already merely 25 years after he wrote this article.

The advent of social media in the 2000's, with big players like Facebook, TikTok, and Google, as well as the resurgence of virtual reality and augmented reality technologies in the 2010's, driven by many of the same companies that already made their name in social media or were eventually incorporated into them, has brought forth several technologies that Chislenko imagined in 1996. Additionally, with user bases of billions of people using them and an ever growing market value that is forecast to grow to over $200 billion in the near future in the case of VR technology, (Fortune Business Insights 2022) it is easy to see how these technologies permeate the lives of many people on a regular basis already, allowing us to make some inferences about Chislenko's imaginations and whether any other forecasts of his came true other than the rise of augmented and virtual reality devices.

This prognostication is arguably most closely realized through the utilization of virtual reality lenses and headsets. These devices find application in diverse fields such as video gaming, entertainment, training equipment (e.g., in motorsports or medicine), and within museum settings. The integration of additional technologies, including those that replicate movement, haptic feedback, audio inputs, or even olfactory sensations, contributes to a gradual convergence towards fictional counterparts. This convergence aims to immerse the user in a fully simulated yet remarkably authentic environment. With further development, these technologies hold the potential to evolve into what will later be analyzed in the fictional imaginations of the future of such technologies.

Another contemporary but more controversial effort to push media into a new age via the combination of virtual realities and social media is Meta Platforms' (formerly Facebook Inc.) newest iteration of a metaverse. The term *metaverse* is often attributed to Neal Stephenson's 1992 novel *Snow Crash* wherein the portmanteau of 'meta' and 'universe' describes a virtual world that is inhabited by avatars of real people. However,

while generally retaining this aspect of its meaning, the concept has gone through changes over the decades since its inception and has continually been proven hard to define. Venture capitalist Matthew Ball wrote a much-quoted treatise on the metaverse entitled "Framework for the Metaverse: The Metaverse Primer," in which he makes an attempt at a comprehensive definition:

> The Metaverse is a massively scaled and interoperable network of real-time rendered 3D virtual worlds which can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments. (Ball 2020)

The establishment of an autonomous virtual social realm, enabling users to connect, engage in leisure activities, and participate in a burgeoning digital market through their avatars, is considered a pivotal stride towards transhumanism. William Sims Bainbridge highlights this transformative concept in his article, "Transavatars" (Sims Bainbridge 2013), wherein individuals can explore varied identities. This innovative endeavor has been attempted multiple times in the past. In 2003 the multi-media platform *Second Life* launched based on the principles of a metaverse. The platform saw its user base rise to approximately 1 million at its height and eventually came with its own currency, virtual services, and even virtual real estate. (Linden Lab 2013) Later game-based metaverses entered the mix, like *Roblox* or *Fortnite*, that tied the social aspects of these virtual spaces to entertainment and established themselves as fully virtual escapes and places to unwind, socialize, and most importantly, spend one's money and time. In 2021 Mark Zuckerberg and the newly rebranded Meta Platforms company announced their own metaverse that promises to be the "next evolution in social connection and the successor to the mobile internet." (Meta Platforms) Making use of virtual reality, augmented reality, and other mobile devices, Meta intends to build the closest representation of what Matthew Ball defined as a metaverse as of yet. The project does not come without its controversies though.

While the company promises that it will usher in a new era of social connection and foster understanding and relationships between people, outsiders are skeptical, given the company's past that notoriously includes scandals like Cambridge Analytica. While going into detail about the manifold issues that plague the past and present iterations of a metaverse would be beyond the scope and aim of this article, Keza MacDonald's scathing review of it for *The Guardian* deserves to be mentioned, as the critique also pertains to the issues raised herein.

Self-identifying as a life-long enjoyer of digital spaces and an active member of

digital communities, MacDonald manages to crystalize one of the main problems of such corporate driven spaces at the very beginning of her article: "[A] soothingly sanitised alternate reality, where you can have anything you want as long as you can pay for it." MacDonald then goes on to reminisce about the equalizing possibilities cyberspace and online communities hold, and often have offered in less capitalized spaces in the past, incidentally, aligning these ideals of a digital space neatly with those of Sims Bainbridge:

> Virtual worlds can be incredibly liberating. The promise of cyberspace, right back to its inception, has been that it makes us all equal, allowing us to be judged not by our physical presentation or limitations, but by what's inside our heads, by how we want to be seen. The dream is of a virtual place where the hierarchies and limitations of the real world fall away, where the nerdy dweeb can be the hero, where the impoverished and bored can get away from their reality and live somewhere more exciting, more rewarding. (MacDonald 2022)

This also corresponds to what Tom Boelstorff found in his study on *Second Life* and its effects on its users. He states that "[users'] online lives could make their actual-world self more 'real', in that it could become closer to what they understood to be their true selfhood, unencumbered by social constraints or the particularities of physical embodiment." (Boellstorff 2008, 121) Metaverse does not seem to fulfil such promises though. Referring to worker exploitation in online gaming, misogyny, racism, and homophobia that run rampant in unchecked online spaces, MacDonald concludes that

> the idea that a metaverse will magically solve any of these problems is a total fantasy. All that they really do is reflect the people that make them and spend time in them. Unfortunately[,] ... the metaverse ... is being constructed by people to whom the problems of the real world are mostly invisible. (MacDonald 2022)

MacDonald also identifies the extreme outgrowths of capitalism as the root cause of the urge of companies like Meta to create such platforms in the first place, and simultaneously the reason for why they fail to deliver their promises of creating open and liberating spaces that benefit people not just materially.

> I would feel better about the ... metaverse if it wasn't currently dominated by companies and disaster capitalists trying to figure out a way to make more money as the real world's resources are dwindling. The metaverse as envisioned by these people ... is not some promising new frontier for humanity. It is another place to spend money on things, except in this place the empty promise that buying stuff will make you happy is left even more exposed by the fact that the things in question do not physically exist. As far as I can work out, the idea is to take the principle of artificial scarcity to an absurdist extreme — to make you want things you absolutely don't need. (MacDonald 2022)

In essence, MacDonald laments the hyper-capitalization of cyberspace which inevitably leads to a re-creation of real spaces, including all its problems and shortcomings, instead of a space for resistance and alternate structures that are free from fiscally imposed hierarchies. While a metaverse could still include such spaces in it, much like the internet contains dedicated forums and message boards championing equality parallel to those promoting hate and division, the primary variable deciding whether one or the other becomes visible and tolerated is the payment of an entrance fee.

Broken Promises

As particularly social media and its future trajectory are heavily employed in the primary sources surveyed for this article, the effects of this hyper-capitalization and other potential pitfalls are laid out clearly for the reader and watcher to see. Permeating the lives of billions of people worldwide, reporting a monthly user number of 2.85 billion in the case of Facebook (Meta Investor Relations 2021) or more than 1 billion for TikTok (TikTok Technology Ltd. 2021), it is easy to see why the technology has such a strong appeal for creators of science and speculative fiction. However, opposite to how these companies market themselves, as bringing joy and entertainment to people around the globe and furthering connections, authors usually portray the future of social media and its influence on day-to-day life in a more sinister light, drawing more inspiration from the controversies surrounding these companies, their practices, and the harmful influence they can have on individuals and societies. Some scenarios where such developments reach an extreme can be found in a duo of episodes from the show *Black Mirror*: "Nosedive" and "Hated in the Nation", the first and last episode respectively of its third season.

"Nosedive" depicts a near-future society in which implants are used in tandem with mobile devices to record and share one's life with others. Apart from the implants to one's eyes that can be used to directly broadcast one's point-of-view, this story is set apart by the fact that people are expected and encouraged to rate others on a scale from 1 to 5, creating an individual and openly accessible rating for everyone. This concept is then taken further by "Nosedive" as a person's rating is directly connected to their socioeconomic status. In the case of main character Lacie, who has a rating of 4.2 in the beginning, this manifests in her desire to reach a rating of 4.5 to be eligible for a discount on a new apartment, neatly linking very tangible capitalist effects to the use of social media. Because of this, Lacie feels socially pressured to adhere to a repressive and conservative norm in order to receive favorable scores in all her social interactions. However, despite all her efforts she cannot raise her score any higher on her own and hence contacts a counselor who reveals to her that the surest way to raise her score further is to associate herself with higher rated people. Immediately, the lingo he uses erases any doubts about the immense social implications this system has:

'Most of your interactions are confined to your inner circle and they're largely ... mid-to low-range folks. ... So in terms of quality, you could use a punch up right there. Ideally, that's up votes from quality people.' 'Quality people?' 'High fours. Impress those up-s-cale folks, you'll gain velocity on your arc and there's your boost.' (Wright, Joe, dir. 2016, 0:12:53 — 0:13:24)

People are neatly divided into "quality people" and those who are not depending on what rating they have, while the rating itself is perpetuated by sticking to high-range circles. While the episode does not go into detail about the origins of this system, whether centralized or decentralized, privately controlled or state sponsored, it does nonetheless lay bare how large populations can be socially engineered to conform to certain arbitrary standards enabled by peer-pressure and promoted by technological tools. As Maziarczyk states, "the constant (self-)surveillance of behaviour leads to complete erosion of meaningful interactions between people, forced to hide any negative emotions and refrain from any activities that might have a negative impact on their rating." (Maziarczyk 2018,134) Fittingly, as Lacie sets out on her quest to raise her own score, she repeatedly stumbles over the hurdles this system puts in one's way, ending up with a much lower score than she started out with. At the end of this journey, even though being in jail and sporting a below one-star rating, she feels more free and at ease with herself than at any point before, emphasizing the restrictiveness the employed technology imposes on people's lives and portraying the exit from the confines of the systems as a viable alternative.

"Hated in the Nation" paints an even more sinister picture of the potential effects of social media, especially when paired with other technologies. The story introduces miniature flying autonomous drones in a fictitious version of the United Kingdom that serve as a surrogate for the declining bee population. However, unknowingly to the public, these drones are also equipped with camera technology and facial recognition software to enable mass surveillance. The surveillance aspect, problematic in its very own right, is then paired with social media and its entanglement with cyberbullying, vigilante justice, and public shaming when a hacker, fed-up with cyberbullying and its absence of consequences, manages to gain control of the drones and has them kill anyone the general public deems fit to kill by using the social media hashtag "#DeathTo." This takes the previously named concepts to its extremes and enables remote killings of people through the security, anonymity, and distance of online social interactions.

While the episode does make clear that this is not the planned intention of these technologies, it is easy to imagine the consequences should such "killing polls" remain. Much like in "Nosedive", people would be under constant pressure to never step on anyone's toes in order to avoid possible lethal retaliation, and even despite their best efforts could end up on such lists through mere rumors and accusations. While it seems initially contradictory that the hacker, who himself starts this whole project out of an urge for

justice on behalf of the victims of bullying, would resort to such measures, the episode ends with one of the series' trademark twists: once law enforcement uncovers his plans and tries to shut down the whole drone system, an emergency kill-switch is triggered. This reveals the names of everyone who has used "#DeathTo" and in turn kills all of the users, which amount to almost 400.000 people.

In addition to social media, augmented and virtual realities are another frequent element of *Black Mirror* that take the center stage of a number of episodes. The first episode of season 5, "Striking Vipers", uses virtual reality and shows it to have great potential to influence the lives of its users. Karl and Danny, two old friends who used to extensively play the titular fighting game in their youth, reconnect years later when Karl gifts Danny the newest installment of the game series and the virtual reality device needed to play. Once both sport their respective devices, they are fully transported into the virtual world, as their real bodies go limp in their seats and the scene shifts to them inhabiting the bodies of their chosen avatars. Karl opts to fight as the female fighter Roxette, while Danny chooses the male Lance. After both their initial surprise about the realism of this virtual reality wears off, they feel the pain from each other's strikes and kicks and also otherwise embody their respective avatar. Eventually, they come to the realization that they feel attracted to each other in this virtual reality. What starts as an awkward kiss between them soon turns into a sexual relationship inside the game, the effects of which ultimately spill over into the real world. As they try to come to terms with the meaning of their newfound relationship and the experience of a radically different, albeit temporary, bodily identity, frictions occur in their personal lives. Danny struggles to reconcile this experience with his marriage and seeks to put a stop to the regular gaming sessions, while Karl seeks out the same thrill with other players or the game's AI but fails to recreate what he felt with Danny. Eventually, the two meet in real-life once more and share a kiss in their biological bodies. Both agree that this does not evoke the same feelings as in the game and they end up in a physical altercation instead. Ultimately, Danny comes clean about the whole affair to his wife Theo, resulting in an arrangement wherein Danny and Karl meet regularly in the virtual world, while Theo goes out in the real world, symbolically sans her wedding ring.

The episode is a thought experiment on the transformative powers that virtual reality could achieve by reaching a certain level. Both Karl and Danny find themselves as changed persons when they are inside the game, not only physically but also mentally, Karl even switching sexes and feeling attracted to the male avatar of Danny, while in reality he is a heterosexual man. Questions of what separates virtual reality from reality are brought up and the simulation eventually becomes a hyperreality itself due its indistinguishability from the physical world. Moreover, identity and bodily identity are brought to the forefront as this technology provides the potential to experience a body that is radically different from one's biological one. While this episode focuses on what changes a switching of bodies can bring to one's sexual identity and desires,

the possibilities to jump in and out of different bodies also poses interesting questions about its potential effects on racial identities or disabilities, to name but a few. It could enable any person with access to it to experience what it is like to be, at least physically, someone else, therefore possibly gaining the ability to communicate and empathize with others on a deeper level.

Margaret Atwood also imagines the appeal of advanced VR technologies and their potential to simulate increasingly extreme and intense scenarios. Her *MaddAddam* trilogy explores a dystopian world where corporations wield immense power, genetic engineering has led to the creation of new species, and the survivors grapple with the consequences of a global pandemic, weaving a narrative of environmental collapse, bioengineering ethics, and the struggle for survival in a post-transhuman world. The interconnected stories follow various characters, providing a multifaceted view of a future Earth transformed by human ambition and technological excess. Like in the "Striking Vipers" episode, Atwood includes all the senses in her depictions of a VR experience, with the explicit goal to re-create some of the most extreme sensations a human could feel without suffering the side effects. Through the memories of Atwood's Zeb, the reader learns about haptic feedback technologies that are used for these purposes: "'Haptic feedback gives you true, stimulating flesh-on-flesh sensations! Say goodbye to faked screams and groans, this is the real thing!'" (Atwood 2014, 145). The irony of calling these virtually created sensations "the real thing" is bursting from the page while simultaneously enforcing the intimate connection to the technology's primary use for pornographic content which is further elaborated later.

> Zeb ... discover[ed] ... that the Rev himself was a frequent visitor to the haptic wanksites ... . He favored those sites involving whips, penetration with bottles, and nipple-burning. He was also a big fan of the historical re-enactment beheading sites ... . They gave you the sensation, right in your own hands, of what it felt like to decapitate a woman with an axe. ('Fun! Historic! Educational!')

> For extra payment you could decapitate them without their clothes on, which was more exciting. ... A naked woman on her knees, about to lose her head — why was this riveting? ...

> He thought about hacking in ... so that when the axe came down you got the sensation not in your hand but in your own neck. What would it feel like to have your head chopped off? Would it hurt, or would the shock cancel that out? Or would you get a rush of empathy? ...

> Were those naked, kneeling, and shortly to be headless women real or not? He guessed not because reality online was different from the everyday kind of reality, where things hurt your body. ... But the effects were so amazing and 3-D that you ducked the gush of blood. (Atwood 2014, 145–46)

These passages in Atwood's work closely resemble the examples shown of *Black Mirror* before that employ the use of virtual reality and simulations in similarly advanced ways. In both cases the technologies are used to create a hyperreality that is either indistinguishable from the real world, or is advertised as being even more real than reality itself while still allowing for the experience of scenarios that would otherwise not be possible. Corresponding closely with Best's and Kellner's discussion of Baudrillard's hyperreality, who state that:

> [h]yperreality ... points to a blurring of distinctions between the real and the unreal in which the prefix 'hyper' signifies more real than real whereby the real is produced according to a model. When the real is no longer simply given . . . [but] artificially (re)produced as 'real' . . . it becomes not unreal, or surreal, but realer-than-real, a real retouched and refurbished in 'a hallucinatory resemblance' with itself. (Best and Kellner 1991, 119)

Essentially, because these VR applications promise unprecedented experiences to its users, they argue that these virtual spaces are where the joys of life can actually be found, which therefore makes them "the real thing".

However, apart from the possibly dire bodily consequences that can spill over from the virtual world, Atwood also illustrates an intriguing development in the world of *MaddAddam* when it comes to these hyperrealities: their allure fades as people become disillusioned by the absence of consequences. As users of these simulated spaces have accustomed themselves to ever increasing stimuli the re-discovery of reality and the physical world still comes with some morbid undertones as the text tackles this issue in passing.

> There was a group of street acrobats who did torch-lit high-wire acts on ropes strung across the flooded streets, and sometimes fell and broke parts of themselves, such as their necks. The possibility of injury or death was a strong attraction: as the online world became more and more pre-edited and slicked up, and as even its so-called reality sites raised questions of authenticity in the minds of the viewers, the rough, unpolished physical world was taking on a mystic allure. (Atwood 2014, 208)

To get people interested in the physical world again, it seemingly takes the possibility of witnessing horrible injuries or death in an unedited and unscripted setting.

The first book in the trilogy, *Oryx & Crake* (2003), enforces this point further when main character Jimmy finds himself looking for shelter in an old watchtower. In the evening, Jimmy watches the sunset and reminisces about what this must have been like before the apocalyptic events of the story, but his conclusions and sensibilities seem firmly colored by the pervasiveness of sensory technologies that reigned during those times.

> In the evening he watches the sunset, through the narrow slit of the tower window. How glorious it must have been when all ten of the videocam screens were on and you could get the full panoramic view, turn up the colour brightness, enhance the red tones. (Atwood 2013, 324)

This passage goes hand in hand with the previous descriptions of the world in the *MaddAddam* trilogy and its citizens that started to prefer the enhanced and technologized version of reality over the unedited one.

Beyond the Mirror

This article's survey of media and communication technologies establishes once again that fiction is only slightly ahead of reality. While no fully immersive and world encompassing virtual reality spaces yet exist, the first steps towards such technologies have long been taken. Whether these technologies will ever have the potency of those introduced in the fictional texts is naturally subject of speculation, but it is of utmost importance to question and examine the possible consequences before they come to pass. While the 20th century has already delivered a large sample size of the power of print media, radio, and television when it comes to influencing cultures and societies, as well as their propensity to be used for propaganda, the first quarter of the 21st century is beginning to show the fallibility of social media and cyberspace. Originally established as technological crutches to help people orient themselves better in an increasingly complex world and connect to each other, social media, mobile devices, and the internet itself have been co-opted and misused, chiefly by the private companies that create them. Therefore, this section shall serve as an attempt to take the fictional depictions of the future of these technologies and marry them with both the real-life trends and developments, as well as theories of media, communication, and (post-)Marxism to extrapolate some of the most pressing concerns and pitfalls the future holds before stumbling into them wholly unprepared.

A common thread among numerous, if not all, less-than-favorable portrayals of technology in fiction is the often assumed close relationship between capitalist systems, technological progress, control over these technologies, and their accessibility. Whether it is Atwood's *MaddAddam* trilogy or *Black Mirror*, media is usually depicted in these fictional futures as being firmly under control of private corporate interests. P.L. Thomas' observation that a common element in science fiction is "highlighting the dangers inherent in *who* is governing that science and *why*" (Thomas 2013, 18), these questions in regards to media technologies then have to be answered as follows: The *who* are the mentioned private corporate entities, the leaders of which secure political power through the gained influence and economic power. The *why* mostly consists of manipulating and influencing the public, both politically and on a consumer level, to propel the corporations and oligarchies into these positions in the first place. Once this has been

achieved, media is then used to pacify and divert the public's attention from trying to look behind the curtains and examine the foundations their societies are based on. The democratic voting booth the living room has become via media technologies, according to McLuhan, is essentially shown to be corrupted and used to the exact opposite effect (McLuhan and Fiore 1967, 22). However, the seeds of this corruption and weaponization of new media technologies can already be observed, albeit not on a scale as depicted in fiction. In 2019, a report by the Oxford Internet Institute has identified manipulation on social media as a growing concern for democracy, to name but one facet of this trend (Bradshaw and Howard 2019).

One of these concerns can be identified as the creation of artificial needs to further amplify capitalist consumer culture, or the constant and ever increasing intensity of the barrage of sensory stimuli to distract and occupy the public, all used as elements in both the *MaddAddam* trilogy and *Black Mirror*. Those last points especially are usually woven in as elements of world-building, their omnipresence and general acceptance inside the settings used as emphasis of the pervasive potential of media technologies and their part in the slow erosion of egalitarian societies. Fittingly, Villaverde and Carter propose that "technology is the new opiate of the masses. Transhumanism as a movement has provided the science fiction (SF) genre with an internal scaffolding of fear, power, and paranoia in the blinding light of progress" (Villaverde and Carter 2013, 119) bringing together transhumanism, speculative or science fiction, media technologies, and Marxism all in one place.

In the surveyed fiction this is evidenced by the pre-apocalyptic society in the *MaddAddam* trilogy that was predominantly concerned with the consumption of increasingly shocking media on the behest of gigantic conglomerates that segregated the population into corporate members and everyone else. At the same time, the social credit system linked to one's social media presence and everyday life depicted in the "Nosedive" episode of *Black Mirror* creates the social pressure to adhere to the system in order to enjoy economic benefits that are touted via advertisements on the platform itself and elsewhere.

Harking back to MacDonald's critique of the metaverse and its capitalist perversion and corruption of the advantageous potentials of cyberspace and virtual spaces, it is clear to see that many creators of fictional futures have an awareness of these critiques and think them through to their extremes. As Redmond identifies:

> Contemporary science fiction acknowledges the global (village) through corporate ownership, the (reverse) flow of people, and consumption habits such as the foods eaten, cars driven and languages spoken. In contemporary science fiction, people are desperately lonely, isolated and disenfranchised and consequently turn to simulated and hyperreal pleasures to survive the nothingness or surface level nature of their lives. The state of contemporary science fiction is the state of the nation — all flabby heart, all existential

confusion, with little hope of unity or progression or real escape, to be found anywhere or anymore. (Redmond 2004, 218–19)

While the global village referenced above was originally a mere statement of the way the world is headed regarding the spread of information, communication, and the effect this would have on cultures, it has taken on two almost diametrically opposed interpretations by creators and transhumanists. While transhumanists like More, Chislenko, Bainbridge, or the techno-capitalists of the world think of the continuation of this concept in solely positive terms, fiction has shown to be less optimistic. However, most of the distrust does not seem to come from the idea of an enhanced global village inherently, but from the fear that the means of such a space and the tools needed will be in control of either corrupt political bodies or purely profit driven corporate entities.

The latter of which can be interpreted as the last stand of capitalism to expand its frontiers and therefore means of exploitation, to use Jason Moore's terminology. As MacDonald succinctly put it by stating that the metaverse fosters the creation and is built on the premise of extracting value out of things that "do not physically exist", (MacDonald 2022) it can be said that this is the ultimate "new radical praxis — in which human and extra-human natures co-produce historical change" (J. W. Moore 2015, 25). Conversely, this time this historical change does not culminate in the tapping into of new natural frontiers and their subsequent exploitation, but in the creation of a new nature itself, albeit digital. Even though there are no physical resources to be extracted and profited from, the people eventually frequenting this place can be, as their productivity can be sapped and the flow of their financial means redirected. The argument can be made that these new digital technologies and their extensions of man fit the bill of "every new era of capitalism [that] brings with it a new industrialization, a new imperialism, a new science" (J. W. Moore 2015, 73). The new industrialization transforms society steadily into a more and more digitally based one and the mode of manufacturing into a software based one. The imperialism is realized in a digital space instead of a geographic one. Finally, the new sciences are those embraced by transhumanism that allow for more and more digitalization of the human life, creating the basic need for the various cyberspaces in the first place.

Moreover, even though these developments might seem like an uphill battle, and one that was mostly already lost in the fiction observed, the technologies surveyed do not necessarily have to lead to such dire outcomes. Counter forces to the profit driven convergence of cyberspace and its associated players can be found as well. A push for open access and open source software and information, along with the possibility to connect with like-minded people, even in the face of malicious opposition that tries to weaponize these means, nonetheless holds great potential. As Thomas Piketty identifies "[i]f one truly wishes to found a more just and rational social order ... it is not enough to count on the caprices of technology" (Piketty 2017, 294). Instead, it is the people using

their new technological means to fight off elitist tendencies and establish a just social order, most likely using tools against those that stood to profit from them.

Fiction identifies two possible modes of revolution against oligarchic and repressive trends: 1) the co-opting of online spaces to create and organize rebellion on a large scale, and 2) the rejection of technology and an existence outside of the general social structure. Writing about science fiction television series *Caprica*, Erin Brownlee Dell identifies the virtual reality space that exists inside the world of *Caprica* as an example of the first mode: "For the characters on *Caprica*, V-world offers an escape. While V-world is initially portrayed as a distinct copy of reality, it becomes much more than a representation; it becomes the space of possibility, resistance and ultimately, rebellion" (Brownlee Dell 2013, 137).

The second mode can be observed in *Black Mirror* via the rebellious act of forsaking technology, or one specific technology, which is portrayed as a particularly individual and intimate action. In "Nosedive" main character Lacie Pound only finds the strength and courage to ignore the social media/social credit system hybrid after a personal odyssey that leaves her with nothing to lose. The final act of rebelling against the system though sets her free emotionally and leads her to her true self and satisfaction. In contrast, Atwood's depiction of the God's Gardeners in *The Year of the Flood* is a communal effort of returning to a life more connected with nature and foregoing most seductions and advantages of technology alike. While the God's Gardeners are effectively outcasts before the apocalyptic events of the story, their unique skills in working with their environment without relying on any technology in their day-to-day lives prove to be life-saving.

Fictional accounts of future media and communication technologies are ripe with nightmarish scenarios. While transhumanists and techno-capitalists alike promise great advances for the capabilities of individuals and the betterment of society via advanced technologies, authors seem to implement them in the exact opposite way, further enforcing socio-economic hierarchies, enabling mass surveillance, manipulation on a large scale, and allowing for escapism. Despite all this, these technologies also allow a small glimpse into their positive potential. Enabling new forms of rebellion and upheaval remains a possibility, even when the platforms and tools are centrally controlled and stepping away from them requires courage and effort. While neither the dystopian nor the utopian visions of fiction and reality that deal with the future of human media and communication will likely come to pass, one would be remiss to dismiss one or the other outright. Once again, fiction has shown its strength in picking up on current trends and further evolving them to give possible concerns more weight, they only remain to be heard and heeded.

In the wake of several elections impacted by the use of social media and the internet in unanticipated ways, and the spread of misinformation through means that were once hailed as bringing information to everyone for free, being aware of the pitfalls of

new technologies becomes imperative. Moreover, while media technologies in particular are shown to be mighty tools to consolidate wealth and power, they also harbor the potential of using them to break repressive systems. During times of economic ascension of techno-capitalists, the hope of using some of their own inventions for facilitating a redistribution of wealth and prevent the exploitation of newly generated digital natures remains a ray of hope. Literature, film, and other forms of art are uniquely suited to foster such forces of revolution by illustrating alternatives and possible venues of resistance, even in the face of overwhelming odds. As Braunecker and Löschnigg state in their book *Green Matters: Ecocultural Functions of Literature*, literary texts hold great potential as "cultural manifestations which either operate apart from or undermine pragmatic, one-dimensional and conventionalized discourses of 'innovation' and 'development'" (2020, 3). Manifestations which are sorely needed as a guiding light to alternative futures that do not blind one with promises of bliss and hedonism.

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