Metaverse and Its Communication. The Future is Here. True or False?

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Abstract. This text analyses the metaverse: its definitions and concepts, its meaning and impact; digital art, fashion and their communication; its performance issues, its failures, and criticism. It compares existing metaverse definitions and concepts, evaluates of their advantages and disadvantages, their chance of coming true, their present degree of evolution. Closer looks are dedicated to the influence of a virtual space on art and fashion, their communication and dissemination and to the metaverse failures, problems, and criticism. Not only the metaverse technology, but also its intended innovation of communication, work, education, healthcare, business, products, and social interactions, suffer from performance, quality and security issues. Today, irreconcilable visions of the metaverse coexist: a valuable, socially useful metaverse and a consumer and entertainment metaverse. It is impossible to predict the future, but any virtual world concept will have to solve these critical issues. Not the metaverse, but the greatest crisis of our times (with climate change, pandemic, war, economic crisis) is altering the products and their communication, undermining the luxury, fashion and art sector. It is changing the value of identity and producing a paradigm shift. Something must end, to allow the growth of something new: because change is life.

Keywords: Metaverse · Metaverse concepts · Metaverse products and communication · Metaverse failures · Virtual Reality · Imagined futures/realities

1 Introduction: Metaverse. Subject and Term Definition

When in November 2021 a student asked me to tell the class more about the metaverse [metaverse is in this text is written in lowercase, like universe] and its communication, I could only answer what I had read in the news. I told them that on 28 October 2021, Mark Zuckerberg, CEO of Facebook, speaking at the company's virtual reality conference announced that the group controlling Facebook Inc (FB.O), Whattsapp, Instagram, and Oculus [1] would now be called Meta. This rebrand centred around the development of the metaverse, an integrated immersive ecosystem, in which the barriers between the virtual and real world are seamless, avatars and holograms are used to work, interact and socialize. This metaverse was said to be, the successor to the internet [2]. The company would invest in virtual reality and unite apps and technologies under one new brand sign, which was unveiled at the company's headquarters. The thumbs-up "Like" logo was replaced with a blue infinity shape. On that day, the newly named Meta's shares

closed 1.5% higher, at $316.92 [3]. The available information on Meta and the metaverse [4], could however neither answer my, nor my students' countless questions. I decided therefore, to further enquire.

The task set to this research is to study the metaverse, reflect on its meaning and impact, in particular on art and fashion products and on their communication, as well as on the failures, problems and the criticism of the different metaverse concepts.

The method chosen for this enquiry consists in collecting/comparing existing metaverse definitions and concepts, evaluating of their advantages and disadvantages, their chance of coming true, their degree of evolution. Chapter two studies the possible influence of virtual space on art and fashion, their communication and dissemination, all topics of interest to fashion communication. The metaverse's failures, problems, worries and criticism are collected in chapter three. A general scientific literature is still lacking and different research fields study selected metaverse topics, separately. Fashion theory treats themes such as avatar customization, fashion and beauty retailing, or metaverse usability and availability to the fashion industry. Communication theory addresses communication and public relations, digital advertising, team collaboration, remote education, security and privacy problems. Game theory studies network and internet architecture, coded distributed computing, meta-chains and blockchain based frameworks [5].

What is the metaverse? The term was first quoted in 1992 by Neal Stephenson's novel *Snow Crash*: "So Hiro's not actually here at all. He is in a computer-generated universe, that his computer is drawing onto his googles and pumping into his earphones. In the lingo, this imaginary place is known as the Metaverse" [6]. The dystopian novel depicts the metaverse as a virtual reality (VR) space that utilises internet, augmented reality (AR), avatars and software agents.

A scientifically agreed upon definition of the metaverse, has yet to be found and there is no scientific acceptance on what the metaverse is [7]. A general scientific literature is still lacking and texts require attention: in regard to dates (what was valid a few weeks ago, might have changed), to the danger of quickly drawing "too simple" conclusions and to applying old explications to new processes. The existing metaverse definitions combine similar terms and elements, in similar ways. The scholarly article *Metaverse beyond the Hype*, presents the definition: "the layer between you and reality," referring to a "3D virtual shared world where all activities can be carried out with the help of augmented and virtual reality services" [8].

Expensive tools are needed to access the metaverse: virtual reality headsets, augmented or extended reality glasses (AR, XR) and haptic gloves. The white, bulky headset for Quest 2, with built-in camera, microphone, eye-displays and visors, costs $399, while the Meta Quest Pro headset reaches $1590. [9]. While these tools indispensable to access the 3D space, certainly reflect the latest innovations, the idea behind them, dates back decades. T.G. Zimmerman patented, for instance, his first "sensor-ed" cyber glove in 1982 [10]. The "new" metaverse idea we are presented with is in reality quite "old". Most of the technology, indispensable to immersive worlds, is still being developed, while researchers study its possible impacts in many fields [11].

Let us enquire, in the following chapter, the metaverse and it impact on art and fashion and their communication [12]. Innovative changes arise when creative ideas, which are

simultaneously present in different fields of society, mix in alternative combinations, composing new knowledge, products, practices, and possibly spaces. [13]. They do not always arise when, economy giants invest lots of money in the realization of their goals.

2   Metaverse Effect. Digital Art and Fashion and Their Value

When Meta was created, many of its competitors also launched similar initiatives. In May 2021, Microsoft announced a Microsoft-led "enterprise Metaverse," to be integrated in the Teams platform by 2022 [14]. Likewise computing giant Nvidia declared that "the economy on the Metaverse [would] be larger than the economy in the physical world" with Nvidia's "at the heart of it". Gaming giants Unity Technologies and Roblox Corporation had two of their largest-ever initial public offerings, which expressed their metaverse ambitions [15]. In the East, similar initiatives were taken by the largest companies and gaming giants, such as Tencent or Krafton. Alliances were made by governmental institutions and companies in the communication technology sector to launch their own metaverses. Great e-commerce companies, like Alibaba and ByteDance, parent company of the social network TikTok, began to register metaverse trademarks and acquire VR and 3D-realated start-ups [16].

This high level of interest resulted in huge financial investments: Microsoft has spent $70 billion; Google $39.5 billion; Unity Sofware $1.6 billion, and many more companies, including Shopify, Roblox and Qualcomm, also began financially participating [17]. Since the beginning of 2021, Meta alone has spent over $15 billion. [18]. In 2021, McKinsey estimated that by 2030, the metaverse revenue for e-commerce would amount as much as to $22.6 trillion, for academic virtual learning to $270 billion, for advertising to $206 billion and for gaming to $125 billion [19].

The suggestion of huge returns and the announced imminence and importance of virtual worlds has led companies, operating in other fields, such as arts or fashion, institutions such as governments and even the catholic church to begin inquiring on possible applications of the metaverse in their specific sectors [20].

For some companies or stakeholders, the draw of the metaverse is its ability to widely exhibit art in a digital format. The Italian Ministry of Culture defines digital art, as the art that "generates works by digitally developing images," "learns from different fields of art, [...] from photos or [...] from scratch, using the screen of a PC like a canvas, but above all it interacts with different environments, even simulations of virtual reality, combining movement and sound" [21]. At the Uffizi Galleries in Florence, a digital copy (or rather a new Digital Art Work or DAW) of the Tondo Doni by Michelangelo Buonarroti, was offered on sale for €240'000 [22]. For those unable to attend Florence's Biennale in 2022, the opportunity to enjoy the beauty of the exposed works of art in the metaverse was offered. The simulation did not recreate Palazzo Corsini, but allowed for the participants to virtually encounter, in a large, white room with a central amphitheatre, the winning works of past editions, while the represented AR figures came to life, moving their eyes and mouths. The intent of this simulation was to allow the digital visitors "to get a taste of what an experience in reality would be" [23]. The visitors were therefore invited in the metaverse, to get a taste of the real world. It should be noted that here, inverting the roles, the metaverse is revealed to be a mere imitation of the irreplaceable real experience.

Digital copies of art and digital art works (DAWs), virtual fashion and digital fashion events, differ substantially from their "real" counterparts and answer a different consumer demand. Cultural institutions, virtual fashion brands, art dealers and others who deal with these "products" [24] always communicate their value, because a judgment based on an agreed set of values, establishes these items' usefulness and legitimacy [25]. When Christie's sold, on 11 March 2021, in the first public sale of digital-only art, the digital collage "Everyday: The first 5000 days" by Mike Winkelmann, also known as digital artist Beeple, for the stunning sum of over $69 milion [26], the auction house was not only answering an already present demand for digitalized art, but was also declaring this item to be as precious as all the other sold works of art.

The growing e-commerce of digital-only clothing, accessories and fashion is the corresponding answer of the fashion industry to this new demand for "valuable" digital goods and services, and represents an innovative change of the fashion market [27]. In virtual surroundings, rather than buying physical fashion, customers dress their photos in "digital" garments, accessories and jewels, designed by digital-only or by traditional luxury brands, which also present virtual versions of their collections. Louboutin, Balenciaga, Gucci and many Central Saint Martins' graduates have recently launched digitized collections [28]. This digital fashion, offered by inventive industries, such as XR Couture, The Dematerialised and Dress-X, benefitting of the pandemic-induced e-commerce rise [29], seems a growing category on the market. These virtual fashion platforms accept obviously cryptocurrency also [30]. Many fashion brands also offer virtual gaming attire. Balenciaga created a "skin" for Fortnite, Nike recently bought the RTFKT virtual sneaker brand and Louis Vuitton launched a video game, with collectible non-fungible tokens (NFTs), partially designed by Beeple, for its 200th anniversary. The Gucci's projection on Roblox of its classic "Gucci Garden" attracted 19 million visitors [31]. Metaverse "fashion" does however not only regard garments, but also other immaterial products, such as new experiences and entertainment [32]. In Decentraland, a digital space, where visitors buy land or construct buildings, fashion experienced its first Metaverse Fashion Week. Brands such as Hogan, Mango, Elie Saab, Philippe Plein and Etro, which for the occasion reinterpreted its iconic sign as *liquid paisley*, showed digital fashion collections as NFTs, on virtual catwalks, allowing also for shopping experiences in pop-up stores, and the attendance of a large variety of parallel events. The future will show if the fashion sector will benefit from digital fashion, virtual catwalks and their new communication [33].

The digital art and fashion sales are provided with a blockchain, to ensure identification and legal ownership [34]. The blockchain is an immutable digital register, which memorizes all financial transactions in a safe, permanent way, shared within an accessible network. On a larger scale blockchains have the potential to transform economic operating models, global economies and social systems. The digital payment, ensuring an item's exclusive property and copyright, is essential in the art and fashion sector [35].

Digital art and fashion are represented by "non-fungible tokens" (NFTs), stored in the unchangeable blockchains, which identify the virtual artifact's specifics. By validating its authenticity and uniqueness, the NFTs also establishes each item's value [36].

Virtual economic transactions, ensured by NFTs and listed in a blockchain, can only be conducted using cryptocurrency, which is untraceable. This allows economic

operations to be carried out with total anonymity. This is a dark flipside of virtual transactions. Hackers blocking vital websites (revenue or governmental agencies, airport websites) demand always for cryptocurrency ransoms, which have a real purchasing power in cities, such as Lugano and Singapore. Bitcoin and Ethereum are the best-known ones, but hundreds of other cryptocurrencies circulate on the web and are used by about 20% of the US population, with a total value of $2 trillion [37].

3 Metaverse Failures, Problems, and Criticism

Despite the hammering communication, on the verge of propaganda, on the alleged financial and social value of the metaverse, the projects did not develop as prospected and were marred with failures, unresolved problems and criticisms. The digital companies' metaverse utopia remains far from reality. To date, Meta spent more than $15 billion on its metaverse venture, without being able to tell where the money went [38]. In November 2022, Meta was forced to dismiss 11,000 employees or 13% of its staff. The metaverse bet had required too many resources, at a time when economic conditions, geopolitical tensions, and inflation had caused lower revenues, making its realization unbearable [39]. Meta's brand change took place, as the company was battling scrutiny over its algorithms and was blamed for not preventing hate speech and misinformation [40]. Former product manager Frances Haugen testified before the U.S. Senate that Facebook had chosen profit, over user safety, knowing its artificial intelligence systems were insufficient to root out dangerous content [41]. In June 2022, Sheryl Sandberg resigned her post as Meta chief operating officer. Although not responsible for the metaverse, she had been the driving force of Meta's *advertising policy*, which in 2021 accounted for 98% of the company's $118 billion annual revenue. This policy was implied in heavy allegations of illegal user data user data collection [42]. In fact, in May 2023, Meta was hit by a record European Union privacy fine of $1.3 billion over its illegal users' data transfers to the US. [43]. The legal dispute over advertisement polices has by no means subsided and illegal user data collection is still an unresolved problem of the big tech metaverse concept [44].

The metaverse technology is also suffering serious quality and *performance issues*. The graphics of Meta's app Horizon Worlds was criticized and widely mocked, as similar to a 1990's video game [45]. Its cartoonish and rudimentary [46] updated avatar version, may be sufficient for gaming, but certainly cannot represent professionals at important meetings, job interviews, or at academical exams [47]. The metaverse "is not taking off" as planned. Leaked internal documents revealed that even Meta's employees do not like to spend time in its metaverse and that the excessive stability issues, and bugs, prevent users from fully experiencing Horizon Worlds [48]. Experts also expressed their disappointment, in a metaverse technology, that they thought to be definitely farther along [49].

Not only the metaverse technology, but also its intended innovation of communication, work, education, healthcare, business, products, and social interactions [50], suffers from serious performance, quality and security issues. *Metaverse communication* has a higher susceptibility to manipulation by interested businesses and the VR headsets record all interactions and can collect far more data for profiling [51]. Additionally, *digitized*

work means more worker surveillance [52] and subtracts lots of time from real work priorities. A Wall Street Journal study showed that professionals spend more than half of their working week in meetings, an amount that has, in the last two years, increased by 250%. Other tasks (such as emails, research, collaborations), relegated to the end of the day, subtract time from one's rest periods. The fusion of real and virtual work, turns everything into work, making it increasingly difficult to recover. This is however a peculiar feature of the virtual world: it entices users to remain connected all the time, with worrying consequences for health, efficiency, and anxiety levels [53]. The prospect of a fast-growing digital sector has also created a global underclass of precarious, underpaid "ghost" workers, toiling for ridiculous wages, recruited out of impoverished population bands. These gig workers "impersonate" the still missing features of the imagined virtual systems. Despite their crucial role for safety, content moderators are paid miserably to view every murder, sexual assault or child abuse video, banned from platforms and suffer often from post-traumatic stress disorder [54].

The adoption of more digital work has additionally also an environmental impact as it involves an excessive *energy expenditure.* The needed energy is often bought from poorer countries at lower prices, causing them supply problems, price increases and inflation, that may lead to their system's collapse. A critical point is pollution, which in poor countries is not an issue. The exponential digital consumption of therefore also a sustainability problem for the environment [55].

The metaverse has also a lot of worrying *security issues* and it poses risks to its users both physically and mentally. Users moving in tight spaces with a headset disrupting their vision might fall and get hurt. In safety manuals, they are warned to access virtuality in a "safe play space," and not to forget real-world hazards. Wearing a headset for too long can cause nausea, seizures, blurred vision and should be avoided when tired or under the influence of drugs or alcohol. While it is advised that children, under the age of 13, never use the headsets, New York Times reporter Kash Hill, who spent 24 h in the metaverse, noted however that the virtual world is mostly populated by children [56]. The metaverse is also the "new frontier" for trolling and within its worlds, users are reporting increasing levels of abusive behaviour, to which they are exposed "every seven minutes", with instances of harassment, bullying, presentation of sexual content, racism, threats of violence and grooming of minors [57].

In just one year, all these major problems and issues changed the big tech metaverse concepts and narratives. Enthusiasm about the virtual world subsided. In the big tech CEO's posts, the metaverse is no longer being promoted as the only path to a happy future of flourishing revenues and consumer satisfaction. While Meta attempted to shift its metaverse narrative from a privately ruled, own virtual world, created with no regard to financial losses or user wellbeing, to an inclusive, interconnected space, following "public and private norms," cooperatively created by "industry partners, research institutions, experts" and users, as a "constellation of technologies, platforms, and products," with the intent to "keep people safe" [58], the planned metaverse vision seems to have been abandoned. A post from December 2022 by Andrew Bosworth, Head of Meta's Reality Labs, avoided even mentioning the term metaverse [59], and instead hinted at a consistent shift of emphasis, from virtual to the fostering of an augmented reality. This metaverse has little to do with the idea promoted in 2022. It appears that Meta may

understand that its colossal project does not respond to the present market situation and the consumers' real needs [60].

4   Conclusion

This enquiry has reviewed existing metaverse definitions and concepts, has analysed its meaning and impact. It has studied digital art and fashion, and has identified its existing problems and criticism. It has shown that while a vision of a digital world shared by all was sold to the public, the digital companies sustaining its inevitable arrival, invested immense amounts of money in a metaverse concept that was invented to produce more revenue, encourage more consumption and more extensive user data collection for profiling [61]. It was not a fantasy about virtual reality, but about money, power and control. Presented as a novel idea, similar lucrative businesses are already taking place, not in the metaverse, but on gaming platforms, such as Minecraft or Roblox, were the rules and objectives are set by the game. The users, represented by avatars buy, at high costs, digital equipment and virtual items, able to stratify class in the virtual world also [62]. On these platforms, the players create a new world according to their fantasy, with freedoms and rules ignored in the real world. This is not a beautiful idea of a new internet, but a dull game for rich people tired of real life. Pretending to find the future of learning or healthcare by playing Roblox, is similar to faking an understanding of global economy and market changes with Monopoly. It sounds ludicrous, superficial and stupid. Big tech's metaverse dream is a science-fictional construct, that captures a childish, technology fantasy, similar to the one on off-world colonies on Mars, in which you can play to be anyone, do anything, to vanquish foes, regardless of rules, real-world social status or physicality [63]. It is a game for annoyed consumers craving for fun, and disregards humanity's welfare.

Today in scientific and in commercial publications, contrasting, irreconcilable visions of the metaverse coexist and are constantly mixed: a valuable, socially useful metaverse idea is sandwiched with a lucrative, consumer and entertainment metaverse concept. Many ideas and topics are still at an initial, theoretical stage and the indispensable digital tools have yet to be developed, but as long as the concepts remain undefined, all these issues will remain unresolved. The absence of a scientifically recognized general literature and the scarcity of available up-to-date. "new" knowledge on the metaverse are two revealing symptoms of its present indeterminateness.

It is impossible to predict the future and big tech companies, experts and scientists cannot tell if, how or when a metaverse will come true or what it will look like. Should the future include a "real-time rendered 3d virtual world", it will certainly reserve unpredictable surprises [64], that sci-fi dystopias, movies, games, or digital executive's childish fantasies cannot anticipate.

The appearance of any virtual world concept will however have to solve countless critical issues relating to security, trust, privacy, bias, disinformation, surveillance, application of laws, health, digital addiction and the exposure of vulnerable people. It will also have to address the rapidly changing events of our turbulent time: the escalating impact of climate change, an unexpected and persistent global pandemic [65], the breakout of war in Ukraine, and their effects on people and markets [66]. After a pandemic-induced three-

year boom, the tech sector suffered between 2022 and 2023, a strong setback, which resulted in mass job cuts and financial crashes. In 2022, 107'000 jobs were lost from public and private tech companies confronting rising inflation and a tumultuous stock market. Until the end of June 2023, more than 152'094 workers, totalling 259'094, were laid off [67]. Bitcoin, the most popular cryptocurrency, fell below $16,000 in November 2022, after having been on a downward trajectory throughout the year. High inflation and a living cost crisis had caused investors to reduce their investment risk, by selling their cryptocurrency [68]. Meta and Microsoft saw losses as large as $7 billion, which caused mass layoffs, and the NASDAQ dropped 30%, wiping a $7.4 trillion off investors' portfolios [69]. This tech boom decline, caused in 2023 the failure of the Silicon Valley Bank, which insolvent since September 2022, was forced to close on 10 March 2023, followed by other banks, such as the giant Credit Suisse. [70]. The end of 2022 and the start of 2023 marked an unexpected end of tech's upward streak, as the digital sector and its metaverse ambitions, went from soaring, to falling in rapid succession.

To reliably anticipate the future, even our digital future, all these unforeseen events, and the people's ensuing needs, feelings and reactions to those dramatic happenings, would need to be considered. The climate change, the Covid-19 pandemic, the war in Ukraine, and the economic crisis, moved many towards more discreet, understated purchases and to a strong feeling of "needing less". Today not the rise of the metaverse, but this greatest crisis of our times is altering products and their communication, undermining the luxury, fashion and art sector, and is changing the value attributed to identity, producing a paradigm shift [71]. How this paradigm is changing has yet to be established and while we wait for scholarly studies, a renewed reading of Thomas Kuhn's *The Structure of Scientific Revolutions* might be indicated [72]. The virtual worlds are not here yet, but society, its behaviours and identities are changing now, in a way not imaginable in 2022 [73]. Future arrives, one day at a time, and something must end, to allow the growth of something new. Stunning innovations, which will not rise from the metaverse, will be the powerful motors of a beneficial change, because: "Change is not merely necessary to life - it is life" [74].

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