# Theoretical Underpinnings of Virtual Reality: From Second Life to Meta

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**Abstract**

Since Facebook's transition and rebranding to 'Meta' in October 2021, there is a renewed academic and societal interest in the notions of 'metaverse,' 'virtual reality' (VR), and 'virtuality' (see e.g., Novak, 2022; Gent, 2022). This renewed interest reminds of the debates around the three-dimensional social virtual worlds like Second Life in 2007.

This paper has a two-fold conceptual aim. *First*, it presents a critical synthesis of how late-twentieth and twenty-first-century philosophers and media theorists have conceptualised virtuality and its relation to reality, in the context of VR. The analysis carefully distinguishes seven theories.

The *second* part focuses on a comparison (similarities and dissimilarities) between Second Life and Meta. The starting points are four conceptualisations of virtuality: an ontological, a phenomenological (in terms of subjective embodied experience), a cultural, and a technological conceptualisation (e.g., VR; augmented reality).

Ultimately, both aims and parts seek to contribute to a better and more nuanced understanding of the theoretical underpinnings of the current academic and societal discussions about Meta.

## 1. Introduction

Since Facebook announced its transition and rebranding to 'Meta' in October 2021, there is a renewed academic and societal interest in the notions of 'metaverse,' 'virtual reality' (VR), and 'virtuality' (see e.g., Novak 2022; Gent, 2022). In the coming years, Meta will invest in bringing together different kinds of 'realities' – virtual, augmented, and physical reality – and combining them with different experiences, such as shopping, meeting up with friends, working, or gaming. For instance, in Meta Horizon Worlds one can already, as an avatar, hang out with friends, among other things.[1]

The media coverage about Meta reminds of the hype surrounding the three-dimensional (3D) social virtual world Second Life in 2007. Back then, people were also amazed by virtual museums, virtual parties, and virtual concerts where you could go with your avatar. In October 2021, the 'Metaverse' was being reported on with a comparable level of astonishment and rejection. News articles worldwide presented, on the one hand, a discourse of virtuality that focused on enrichment and hype (e.g., through quotes from entrepreneurs and strategists), while some critics, on the other hand, labelled virtuality as an impoverishment from the real world.

The virtual is a multi-level concept that has undergone changes over time. From a broader perspective, considerations about the truthfulness of what we perceive as reality have preoccupied philosophical thought as early as Presocratic philosophy. In the eighteenth century, the physic-mathematical sciences spread the use of virtual as an image that only exists on one's retina (Proulx & Latzko-Toth, 2000). This way, the virtual was brought into relation with the notion of illusion.

This paper has a two-fold conceptual aim. *First*, it presents a critical synthesis of how late-twentieth and twenty-first-century philosophers and media theorists have conceptualised virtuality and its relation to reality, in the context of VR. This analysis, which also shows that discussions about VR and

virtuality are far from novel, seeks to contribute to a better understanding of theoretical underpinnings of the current academic and societal discussions about Meta. The *second* part focuses on a comparison between Second Life and Meta Horizon Worlds. Overlaps are, for instance, a 'sandbox,' where one can experiment and design, or actual companies that set up virtual offices on 3D immersive platforms. The starting point of this comparison are four conceptualisations of virtuality: an ontological, a phenomenological (in terms of subjective embodied experience), a cultural, and a technological conceptualisation (e.g., VR; augmented reality; headset).

[1] See https://www.oculus.com/horizon-worlds/

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## 2. Theories on virtuality

After the invention of computers in the 1940s, the term virtual started to receive a software connotation in the late 1950s; this meaning became popularised after the wider dispersion of the internet and VR technologies in the late 1980s (Ryan, 2001). The virtual was given a generic use to point at the simulative facets of computer technology. Computer-mediated virtuality, mostly associated with the notion of VR, became widespread in the late 1980s.

Heim (1998, p. 7) defined VR in terms of "immersion, interactivity, and information intensity." In Heim's view, VR is a technology in the first place; it is only secondarily "an experience that describes many life activities in the information age" (1998, p. 6). His vision clashes with Beardon's, who believes that "VR is essentially subjective. VR is an experience and not a piece of technology" (1992, p. 3). Although virtual reality has the effect of reality on users, they recognise that VR is not properly real (Beardon, 1992, p. 3). The quotes of Heim (1998) and Beardon (1992) already disclose the clash between the various conceptions of computer-mediated virtuality, i.e., primarily a piece of technology versus an essentially subjective experience or cultural construct. In the midst of the conceptual bewilderment, scholars have even increased the confusion by coining new combinatory usages or hybridisations (e.g., 'hyperreality'). As a result, the virtuality literature drowns in a multitude of concepts and perspectives.

The central aim of this first part is to clearly delineate these distinct perspectives. In the final paper, we distinguish and discuss seven analytically separable yet interrelated theories, based on an extensive literature review that focuses on academic works of the 1990s and early 2000s.

The *first theory*, 'The virtual as a separate realm,' departs from a strict ontological dualism between virtuality and reality (see e.g., Moores, 2005). The virtual is conceptualised as an unreality in which one can escape from social, moral, and legal constraints.

The *second theory*, 'The virtual as liminality,' also departs from a distinction between virtuality and reality (see e.g., Tomas, 1991). The virtual affects (transforms) the real in a positive manner, which is in line with the fourth theory.

The *third theory*, 'The virtual as illusion and representation,' is founded as well on a strong dualism (see e.g., Baudrillard, 1995; Slouka, 1995). Here, the virtual, albeit fake and artificial, has to compete with the real. The virtual no longer has actuality as its end and possibility is extinguished (see Baudrillard, 1995).

In the *fourth theory*, 'The virtual as enrichment,' the virtual also has to compete with the real (see e.g., Benedikt, 1991). Some authors, such as the early enthusiasts, depart from a binary approach. Other authors, however, support a complete merging of virtuality and reality, illustrated by the image of the cyborg.

In the *fifth theory*, 'The equalisation of the virtual and the real,' the virtual and the real are equal, and the virtual as a separate ontological category is hence refuted (see e.g., Rheingold, 1991). Reality is treated as a construct and a psychological perception. This view differs from authors in the sixth approach who support hybridization and not equalisation.

In the *sixth theory*, 'The hybridisation and embeddedness of the virtual and the real,' the virtual and the real exist in a hybrid relation (see, e.g., Markham, 1998). The virtual is strongly embedded in other real social spaces. This empirically grounded theory attempts to break through a clear-cut binary approach. The dualism is thus deconstructed, leading to views in favour of hybridisation and embeddedness.

The final and *seventh theory*, 'The multiplicity of reality,' treats, in line with the sixth approach, the virtual as a mode of being that is part of reality (see e.g., Boellstorff, 2008; Lévy, 1998; Shields, 2003). However, contrary to the previous approach, they operationalise a manifold terminology, in which the real is opposed to the possible, and the actual is opposed to the virtual. In doing so, these scholars overcome conceptual problems by operationalising more categories of reality than merely the virtual and the real. Their views are in direct contrast to theories that oppose the virtual to reality and that treat the virtual and the real as mutually exclusive.

In the final paper, this part will conclude with a discussion about how relevant these theories are today, in relation to current debates about Meta.

**3. Comparison between Second Life and Meta**

This paper subsequently argues that, at its minimum, virtuality can be characterised by four conceptualisations:

> A *philosophical (ontological)* conceptualisation, that is, the virtual in a hybrid relation with actuality;
>
> A *phenomenological* conceptualisation in terms of subjective embodied experience;
>
> A *cultural* conceptualisation, that is, the conception of Western society as a virtual culture, i.e. induced by virtual technologies, and the cultural values that are attributed to these technologies; and
>
> A *technological* conceptualisation related to virtual technologies, e.g., virtual media, virtual games, virtual worlds, virtual reality, augmented reality.

These conceptualisations will be the starting point of an in-depth comparison between Second Life and Meta Horizon World in the final paper. Ultimately, both aims and parts seek to contribute to a better and more nuanced understanding of the theoretical underpinnings of the current academic and societal discussions about Meta.

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