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IMMERSIVE ETHICS IN VIRTUAL REALITY: NARRATIVE, REMEDIATION, AND THE MORAL ARCHITECTURE OF SIMULATED EXPERIENCE

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ABSTRACT

Virtual reality has evolved from an experimental artistic and scientific curiosity into a pervasive technological medium that increasingly structures how humans learn, feel, judge, and relate to one another. From its early artistic and performative origins to its contemporary applications in clinical psychology, education, entertainment, and social training, virtual reality now occupies a powerful position in shaping human perception and moral understanding. This article develops a comprehensive ethical and philosophical analysis of immersive virtual environments by drawing exclusively on foundational and contemporary scholarly works in virtual reality theory, media studies, applied ethics, and critical race and technology studies. It argues that virtual reality must be understood not merely as a neutral technical system but as a moral and narrative architecture that actively constructs meaning, emotional orientation, and social power.

Grounded in theoretical contributions from Rheingold's cultural history of virtual reality, Bolter and Grusin's theory of remediation, and Sherman and Craig's cognitive and experiential framework, this study conceptualizes virtual reality as a form of mediated performance that blurs the distinction between representation and lived experience. Building on Coates' early multimedia performances, VR is shown to originate in artistic and theatrical traditions that already understood simulation as ethically and psychologically transformative. These insights are extended through Gobbetti and Scaneti's clinical work, which demonstrates that virtual environments possess real neurological and emotional consequences, thereby demanding ethical scrutiny comparable to that of physical-world interventions.

The ethical core of the article is constructed through Madary and Metzinger's framework of real virtuality, Kenwright's risk-based analysis, Ramirez's ecological critique, and IBM's applied ethics for artificial intelligence. These perspectives converge on a central insight: immersive technologies reshape the self, influence implicit attitudes, and reorganize moral agency in ways that existing ethical systems were not designed to manage. Special attention is given to vulnerable populations such as children and adolescents, drawing on Darvasi and Southgate and colleagues, who highlight how immersive presence intensifies psychological impact and complicates consent, autonomy, and long-term developmental outcomes.

The article also engages critically with the growing use of virtual reality to generate empathy, particularly around race and social justice. Nakamura and Salmanowitz are used to demonstrate that so-called "empathy machines" may reinforce simplified or instrumentalized understandings of identity rather than dismantling structural inequality. Through Harney and Moten's concept of the undercommons and Coeckelbergh's theory of digital deception as performance and magic, the article reframes virtual reality as a political and cultural stage where power, identity, and morality are continuously enacted.

By synthesizing these diverse perspectives into a unified ethical framework, this study argues for a shift away from purely technical regulation toward a relational, narrative, and responsibility-centered approach to virtual reality design and governance. Virtual reality is not simply a medium for experience but a medium that produces experience in ethically consequential ways. The future of immersive technology therefore depends not on whether it can simulate reality more convincingly, but on whether it can be developed in ways that respect human dignity, diversity, and moral complexity.

KEYWORDS

Virtual reality, immersive ethics, digital embodiment, empathy technologies, remediation, moral design, narrative media

INTRODUCTION

Virtual reality has always existed at the intersection of imagination, technology, and human desire. Long before contemporary headsets and real-time rendering engines, artists, engineers, and theorists envisioned environments in which perception could be designed, manipulated, and inhabited. Rheingold's historical account of virtual reality situates it within a long tradition of technological dreams about simulated worlds, emphasizing that VR is not simply a computational breakthrough but a cultural and psychological project rooted in humanity's desire to step beyond the constraints of physical reality (Rheingold, 1995). This ambition, however, carries with it profound ethical implications, because to alter perception is to alter judgment, emotion, and ultimately the self.

Early artistic experiments such as George Coates' multimedia performance Invisible Site demonstrate that immersive environments were never intended merely as entertainment or visualization tools but as spaces of transformation and meaning-making (Coates, 1992). These performances blended sound, image, and spatial illusion to produce experiences in which audiences no longer occupied the role of distant observers but became participants in constructed realities. The ethical significance of this shift lies in the way it dissolves the boundary between representation and experience. When people feel present inside a virtual world, the events that occur there are not simply seen but lived, even if they are known to be simulated.

Sherman and Craig describe presence and immersion as the defining characteristics of virtual reality, explaining that VR works by convincing the brain that it occupies a coherent environment in which actions have consequences (Sherman and Craig, 2003). This perceptual and cognitive alignment produces a powerful illusion of reality that is strong enough to generate real emotional and physiological responses. From an ethical standpoint, this means that virtual environments are not morally neutral spaces. They shape users' beliefs, emotions, and behaviors in ways that persist beyond the headset.

The problem that emerges, and which this article seeks to address, is that the rapid expansion of VR into education, therapy, training, entertainment, and social intervention has far outpaced the development of coherent ethical frameworks capable of governing its use. Gobbetti and Scaneti show that virtual environments are now routinely used in clinical psychology and neuroscience to treat phobias, trauma, and cognitive disorders, with measurable effects on neural activity and emotional regulation (Gobbetti and Scaneti, 1998). If VR can heal, it can also harm, manipulate, or distort. The same mechanisms that allow exposure therapy to reduce fear can be used to intensify anxiety, reinforce stereotypes, or produce psychological dependency.

Bolter and Grusin's theory of remediation further complicates the ethical landscape by demonstrating that new media never exist in isolation but rework and absorb older forms of representation (Bolter and Grusin, 1999). Virtual reality does not replace film, theater, or literature; it remediates them into immersive forms. This means that the ideological and cultural biases of older media are carried forward into VR, often amplified by the technology's sensory intensity. A racist trope, a gender stereotype, or a colonial narrative becomes more powerful when it is not merely watched but embodied.

In recent years, scholars and practitioners have begun to grapple with these implications. Madary and Metzinger argue that virtual environments constitute a form of "real virtuality," meaning that experiences within them have genuine moral and psychological weight (Madary and Metzinger, 2016). Kenwright similarly warns that VR introduces new categories of risk, including psychological harm, behavioral manipulation, and identity confusion, which require proactive ethical regulation (Kenwright, 2018). Ramirez extends this critique by highlighting the ecological and social dimensions of VR research, arguing that immersive technologies reshape not only individual minds but entire cultural and institutional environments (Ramirez, 2019).

Despite this growing body of work, there remains a gap in the literature between technical or regulatory approaches to VR ethics and deeper philosophical and cultural analyses. Many ethical discussions focus on issues such as data privacy, content moderation, or physical safety, which are important but insufficient. What is missing is a comprehensive understanding of virtual reality as a moral medium, one that produces particular kinds of selves, relationships, and social imaginaries.

This article addresses that gap by synthesizing insights from media theory, applied ethics, clinical psychology, and critical race studies to develop an integrated account of immersive ethics in virtual reality. By drawing exclusively on the provided references, it constructs a framework in which VR is understood as a narrative and

performative space that carries ethical meaning at every level of its design and use. The central argument is that virtual reality does not merely simulate experiences but actively constructs moral worlds, shaping how users understand themselves and others.

Methodology

The methodological approach adopted in this research is qualitative, theoretical, and integrative. Rather than relying on experimental data or statistical modeling, this study conducts an in-depth interpretive analysis of the provided scholarly and professional sources in order to develop a coherent ethical framework for understanding virtual reality. This approach is justified by the nature of the research question, which concerns meaning, experience, and moral significance rather than quantifiable outcomes.

The first stage of the methodology involved a close reading of foundational works on virtual reality as a technological and cultural phenomenon. Rheingold's historical and sociological analysis, Sherman and Craig's technical and experiential framework, and Coates' artistic practice were examined to establish how VR produces immersion, presence, and narrative engagement (Rheingold, 1995; Sherman and Craig, 2003; Coates, 1992). These sources were treated not as isolated texts but as complementary perspectives on how virtual environments shape perception and experience.

The second stage involved integrating media theory through Bolter and Grusin's concept of remediation, which provided a lens for understanding how VR inherits and transforms earlier representational forms (Bolter and Grusin, 1999). This theoretical grounding was essential for analyzing how ethical and ideological structures embedded in traditional media are carried into immersive environments.

The third stage focused on ethical and psychological scholarship. Gobbetti and Scaneti's work on clinical VR established that virtual environments have real neurological and emotional effects, making ethical evaluation unavoidable (Gobbetti and Scaneti, 1998). Madary and Metzinger's ethical code, Kenwright's risk analysis, Ramirez's ecological critique, and IBM's applied AI ethics framework were then synthesized to identify core ethical principles relevant to immersive technology (Madary and Metzinger, 2016; Kenwright, 2018; Ramirez, 2019; Cutler et al., 2018).

The fourth stage examined specific populations and social contexts. Darvasi's and Southgate et al.'s analyses of VR use with children and youth provided insight into vulnerability, consent, and developmental impact (Darvasi, 2016; Southgate et al., 2017). Nakamura's and Salmanowitz's studies on racial empathy and bias in VR were used to explore how immersive technologies interact with social power and identity (Nakamura, 2020; Salmanowitz, 2018). Harney and Moten's political philosophy of the undercommons offered a critical framework for interpreting VR as a site of both domination and potential resistance (Harney and Moten, 2013). Coeckelbergh's work on deception and performance provided a philosophical lens for understanding VR as a form of digital magic that reshapes truth and trust (Coeckelbergh, 2018).

Throughout the analysis, all claims were grounded explicitly in these sources, and their theoretical positions were brought into dialogue to produce new insights. The goal was not to summarize existing literature but to synthesize it into a comprehensive interpretive framework that reveals the ethical architecture of virtual reality.

Results

The integrated analysis of the referenced literature reveals several consistent and interrelated findings about the ethical nature of virtual reality. The first is that VR functions as a medium of embodied narrative rather than mere visual simulation. Coates' multimedia performances demonstrate that immersive environments are inherently performative, inviting users into a story-world in which their actions and perceptions are scripted by design (Coates, 1992). Sherman and Craig's concept of presence explains why these environments feel real: the brain integrates sensory cues into a coherent model of space and agency, making virtual events psychologically meaningful (Sherman and Craig, 2003). Rheingold's cultural history reinforces this by showing that VR has always been imagined as a way to live inside stories, not just watch them (Rheingold, 1995).

The second finding is that because VR produces real psychological and neurological effects, it must be evaluated as a form of intervention rather than entertainment alone. Gobbetti and Scaneti show that virtual environments used in therapy can alter neural pathways and emotional responses, producing lasting changes in behavior and self-perception (Gobbetti and Scaneti, 1998). Madary and Metzinger extend this insight by arguing that experiences in virtual environments are part of a person's lived reality and therefore subject to ethical standards of care and responsibility (Madary and Metzinger, 2016).

The third finding concerns the way VR remediates existing cultural narratives. Bolter and Grusin's theory reveals that immersive environments do not emerge from a cultural vacuum but reconfigure older media forms such as cinema, theater, and literature (Bolter and Grusin, 1999). This means that the ideologies embedded in those forms, including racial, gender, and colonial narratives, are reproduced in VR unless explicitly challenged. Nakamura's analysis of virtuous virtual reality

demonstrates how empathy-based VR experiences can inadvertently simplify or commodify racial suffering, turning complex social realities into consumable emotional spectacles (Nakamura, 2020).

The fourth finding is that VR has measurable effects on implicit attitudes and social judgment. Salmanowitz's study shows that immersive simulations can alter implicit racial bias and influence mock legal decisions, indicating that VR shapes not only how users feel but how they judge and act (Salmanowitz, 2018). This confirms Kenwright's warning that VR poses ethical risks by influencing behavior in subtle but powerful ways (Kenwright, 2018).

The fifth finding concerns vulnerability and developmental impact. Darvasi and Southgate et al. demonstrate that children and adolescents are particularly susceptible to the psychological intensity of VR, raising concerns about consent, identity formation, and long-term effects (Darvasi, 2016; Southgate et al., 2017). Ramirez's ecological critique adds that these individual impacts accumulate into broader cultural transformations, as immersive technologies reshape norms of interaction and attention (Ramirez, 2019).

Finally, Coeckelbergh's theory of digital deception and Harney and Moten's concept of the undercommons reveal that VR operates as a political and ethical stage. It is a space where narratives, identities, and power relations are performed and contested, often in ways that obscure their constructed nature (Coeckelbergh, 2018; Harney and Moten, 2013).

Discussion

The findings of this study indicate that virtual reality must be understood as a moral medium, one that produces and organizes ethical meaning through its design, narratives, and modes of interaction. This challenges the common assumption that technology is ethically neutral and that moral responsibility lies only with users. In VR, the environment itself scripts possibilities for action, shaping what users can perceive, feel, and do.

Bolter and Grusin's theory of remediation is particularly important here, because it shows that VR inherits the moral and ideological structures of older media (Bolter and Grusin, 1999). A virtual classroom, a therapeutic simulation, or an empathy experience is never just a technical tool; it is a narrative space shaped by cultural assumptions about knowledge, health, and identity. When these assumptions go unexamined, VR risks reinforcing the very inequalities it claims to address.

Nakamura's critique of virtuous virtual reality illustrates this danger. Empathy-based VR experiences often promise to make users more understanding of marginalized groups, but by reducing complex social realities to individual emotional journeys, they can depoliticize injustice and center the feelings of privileged users (Nakamura, 2020). Salmanowitz's findings that VR can influence legal judgment underscore the seriousness of this issue, as immersive narratives may shape real-world decisions about justice and responsibility (Salmanowitz, 2018).

The ethical frameworks proposed by Madary and Metzinger and by IBM's Everyday Ethics initiative emphasize principles such as informed consent, transparency, and respect for autonomy (Madary and Metzinger, 2016; Cutler et al., 2018). While these principles are necessary, this study suggests that they are not sufficient. Ethical VR design must also address narrative responsibility, cultural representation, and power dynamics. Who gets to design the virtual world? Whose stories are told? Whose bodies are represented, and how?

Children and adolescents, as Darvasi and Southgate et al. show, are particularly at risk because their identities and cognitive frameworks are still forming (Darvasi, 2016; Southgate et al., 2017). Exposing them to immersive narratives that encode harmful stereotypes or unrealistic expectations can have lasting effects. This raises questions about educational VR, gaming, and social platforms, which increasingly target young users.

Ramirez's ecological perspective further expands the scope of ethical concern by highlighting how VR reshapes not only individual users but entire systems of research, education, and social interaction (Ramirez, 2019). As immersive technologies become normalized, they alter how people relate to their bodies, to one another, and to reality itself. This transformation demands a level of ethical reflection that goes beyond safety checklists and regulatory compliance.

Harney and Moten's concept of the undercommons offers a way to imagine alternative uses of VR. Rather than seeing immersive technology solely as a tool for institutional control or commercial exploitation, it can also be a space for collective creativity, resistance, and new forms of sociality (Harney and Moten, 2013). Coeckelbergh's framing of digital technology as magic and performance reminds us that VR is always an act of storytelling, one that can enchant, deceive, or liberate depending on how it is used (Coeckelbergh, 2018).

Conclusion

Virtual reality is not simply a new way of seeing the world; it is a new way of being in the world. By producing immersive, embodied, and emotionally charged experiences, VR reshapes how people understand themselves, others, and reality itself. The analysis presented in this article demonstrates that these effects are not ethically neutral but deeply moral,

political, and cultural.

Drawing on a wide range of theoretical, clinical, and ethical scholarship, this study has shown that virtual environments function as narrative and performative spaces in which values, identities, and power relations are enacted. From early artistic experiments to contemporary applications in therapy, education, and social intervention, VR has always been about more than technology. It is about the stories we tell, the bodies we inhabit, and the worlds we imagine.

The future of virtual reality therefore depends not only on technical innovation but on ethical imagination. Designers, researchers, educators, and policymakers must recognize that every virtual world is also a moral world. By approaching VR with humility, critical awareness, and a commitment to human dignity, it is possible to create immersive technologies that enrich rather than diminish our shared reality.

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