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Immersive Virtual Reality as Empathy Machine: a critical eye on the extensions and limitations of the term

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Introduction

Virtual reality is widely positioned as the "ultimate empathy machine" (Milk, 2015) [1]. This label groups distinct outcomes together. This thesis evaluates how immersive systems shape understanding, separating empathic outcomes from technological immersion.

Research Goals

The objective is to examine empathy through three components: (1) affective, (2) cognitive, and (3) somatic, posing two questions:

Which types of empathy does VR actually produce?

How do design choices influence user understanding?

Methodology

The method is qualitative and interdisciplinary. It combines conceptual analysis, review of empirical literature, and analysis of VR works such as (“Traveling While Black, The Enemy”) acting as design experiments to isolate individual mechanisms of presence, embodiment and authorship.

The Frame: Environmental Design

VR replaces traditional camera framing with environmental design. Creators steer attention using spatialized sound and gaze-contingent triggers. The experience is authored, requiring an examination of the "mediated witnessing" (Nash, 2018) [2] rather than assuming a frameless reality.

Analyzing Environmental Design

The research analyzes how traditional framing is replaced by environmental design in IVR, utilizing diegetic cues (spatialized sound, directional lighting) and authored locomotion to steer attention (Bailenson, 2018) [5].

The Problem: Findings & Limitations.

Meta-analyses confirm the limitation of the medium, proving that VR "improves emotional but not cognitive empathy" (Martingano et al.,2021) [3].

- **Body Ownership:** Feeling physical ownership over an avatar is a sensory mechanism. It does not guarantee an empathic connection.
- **Improper Distance:** Immersive environments risk creating an "improper distance" (Nash, 2018). Users report high subjective certainty about understanding another group, despite limited historical context transmission. Affective satisfaction substitutes cognitive engagement.

The Solution

Designing Reflective Empathy.
VR design must cultivate "reflective empathy", integrating emotion with critical reasoning. Strategies include:

- **Enabling Agency:** Adjusting user choices to reflect the limitations of the represented subjects.
- **Collaborative Storytelling:** Establishing protocols where represented communities direct how their stories are shared.

Next Steps

Future research, include user studies and evaluations that take into account must empirically measure the relationship between a user's subjective certainty and their factual recall of context. The core challenge is balancing sensory immersion with cognitive distance.

[1] Milk, C. (2015). How virtual reality can create the ultimate empathy machine [Video].
[2] Nash, K. (2018). Virtual reality witness. Studies in Documentary Film.
[3] Martingano, A.J., et al. (2021). Virtual reality improves emotional but not cognitive empathy. Technology, Mind, and Behavior.
[4] Bollmer, G. (2017). Empathy machines. Media International Australia.
[5]Bailenson, J. (2018) Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do.