

Extending the Self

THE ETHICS OF VIRTUAL REALITY

by Michael Jin



courtesy Stanford Virtual Human Interaction Lab

Virtual reality pioneer Jaron Lanier once wrote that blurring the boundary between the achievable and the imaginable presents one great existential challenge of our time. He hopes that the immersive computer-generated environments he worked on in the '80s may one day allow this dream to materialize. Even the less immersive worlds of *The Sims* or *The Incredibles* already free the imagination, though the experience of escaping normal constraints in games and movies remains vicarious. Virtual reality will concretely realize that freedom, making digital universes robust extension of our selves.

But before virtual reality changes human existence, it must undergo a long evolutionary process. At present, complete visual and aural immersion through head-mounted equipment represents the state-of-the-art. Gradually, the technology will mature, manifesting in areas like communications and entertainment. Finally, after scientists meet the major technical challenges, society at large must confront, as it often does with novel technology, new ethical issues.

Fittingly, virtual reality receives increasing attention every year. Lanier and *The Sims* creator Will Wright both

spoke at Accelerating Change 2004 (AC2004), a Stanford conference that focuses on technological and societal trends. At Stanford, Professor of Communications Jeremy Bailenson, another AC2004 presenter, conducts research specifically on human interactions in virtual reality. In his studies, Bailenson has demonstrated that what emerged from computer science two decades ago now has wide interdisciplinary impact.

PROMISING SOLUTIONS

According to Bailenson, virtual reality decouples what is perceived from what is real. For example, college professors in virtual classrooms could program their digital representations, or avatars, to grace each student with more eye contact. Conversely, the student with a foot-tapping addiction could program her avatar to not transmit the distracting behavior. In another unique application, Bailenson designed a simulation that gives users an avatar with altered skin color. Technology company Cisco Systems has already implemented the technology in its diversity training program.

▲ Which one is the suspect? Perhaps witnesses in the future will be shown this virtually generated police line-up, which allows recreation of the exact crime scene: distance, angle, and light included.

Another key feature of virtual reality lies in its intrinsic flexibility, since people can modulate bits more easily than atoms. Better communication arises because virtual models of people can be built, eliminating bandwidth videoconferencing. Only changes in the models need be transmitted, and problems of room spacing, lighting, and eye contact can be adjusted. Even police line-ups will improve, as computers can combine two photos of the same person to capture 95 percent of facial features. Virtual reality technology can generate three-dimensional models viewable from different angles and distances; these models can be placed in a modeled re-creation of the crime scene as well, aiding witness identification of suspects.

THE DARKER SIDE

In virtual reality, anonymity and easy simulation allow people to implement malicious ideas quickly. “The potential to never trust a person is out there,” Bailenson said. Physical damage will result from viruses that target the simulation software, replicating and spreading at the speed of light. Emotional damage will result when someone realizes that the prospective lover met virtually does not actually possess in physical reality those beautiful facial features, the graceful movements, or that silky voice. In this instance, society must decide whether the idealization of reality subtracts some essential element, or whether it simply satisfies the primitive preferences hardwired into our psyches and promotes true spiritual bonding. Commonplace outer beauty can drive the cultivation of inner beauty, much harder to simulate.

As for Bailenson, he believes that people will adapt to the new reality. Virtual reality is inherently neither good nor bad; it simply allows a powerful projection of human intentions. The white lies of virtual reality are just high-tech equivalents of Botox and dyed hair. As Bailenson notes, “the difference is that a nose job in virtual reality is a lot cheaper than a nose job around here.



TECHNO-PARADISE OR BRAVE NEW WORLD?

Some ethicists fear virtual reality will dehumanize us. They argue that when people succumb to a pleasant simulated world where the sun never sets, they lose a human essence that can only be embodied in the real world. One target of such criticism is virtual reality precursors like *Everquest*, a massively multiplayer online role-playing game (MMORPG). The game has been compared to crack cocaine—friends and family members have formed a Yahoo! Group called *Everquest Widows*, now 3,000 members strong. Such a situation may worsen when *Everquest: Virtual Reality*, arrives on the scene allowing players to supplant even more of real existence.

Taking this logic to the extreme, it seems plausible that humans may even choose to abandon normal existence altogether. As we saw in the science-fiction drama *The Matrix*, it is not difficult to imagine a virtual reality so sophisticated its users cannot distinguish it from real life. Eventually, it will become technologically feasible to create an enhanced *Matrix*-like universe designed to maximize pleasure and happiness. Such a virtual world would reproduce and extend the range of human behaviors

in a way *Everquest* could not, and allow people to live complete lives. Would that scenario be heaven on earth or be utterly devoid of meaning? Technological utopians affirm the former proposition and support such enlightened hedonism as the guiding principle of the far future. They believe virtual reality coupled with intelligence and emotional enhancement will ultimately deepen relationships by allowing people to better realize their intentions and overcome superficial shortcomings.

The current virtual reality headgear has more function than glamour. In the future it may be miniaturized into wrap-around glasses available at Walmart, or, in the far future, maybe even brain implants.

Other observers disagree with the premise of the hedonistic imperative. “To be human is to inhabit a world of vulnerability and limits,” columnist Michael Gove wrote in the *UK Times*. “The weakness of the flesh, and its end in death, frame all human endeavour. Human virtue, certainly as most moral thinkers have understood them, are

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responses to the fraught nature of our existence.” In other words, we must suffer into truth and virtue. Good cannot exist except in opposition to manifest evils.

Such vulnerability certainly diminishes in a simulation. In Bailenson’s Virtual Human Interaction Lab, I donned headgear and entered a virtual world with an abyss, bridged by a plank. The scenario conditions people to overcome fear of heights. But while crossing the plank, I could not resist stepping off. After a free fall, my avatar encountered the ground and died. But I did not particularly mind. Everything, even death, became less real.

spaces become available, the interface between them and physical spaces will become likewise more fascinating and important.

As virtual reality marches ever more into the mainstream, even couch potatoes will benefit. The average American person already spends 26 hours per week watching television. As any astute TV critic can tell you, much of television programming has little to do with reality, even the reality shows. The spirit of virtual reality already inhabits the living room. The implementation simply needs improvement. In a few decades, people will still watch



According to Bailenson, a recent study found, unsurprisingly, that an inhibition of the healthy fear of heights results after repeated conditioning in a simulator. On the practical level, the study suggests people used to a physically safe virtual world may be in poor condition to enter a dangerous real world. Shawn Woolley, who spent twelve hours a day playing *Everquest*, is said to have shot himself because of game events. But even if humans manage to eliminate dangers, the moral question remains. Perhaps we cannot abandon such dangers without giving up some virtue as well.

COMING TO A WAL-MART NEAR YOU

People will not wake up one morning to find *Matrix*-inspired brain implants advertised in infomercials. The technology will gradually weave itself into the fabric of society, affecting basically everything. Even the world of *Everquest* already affects real world economics: in-game items are sold on eBay. Exchange rates have been calculated by economist Edward Castronova and his colleagues; to their surprise, they found that *EQ* money is more valuable than the yen, and the *Everquest* world has higher GDP per capita than China. As increasingly immersive virtual

Monday Night Football, perhaps from the full-motion perspective of the quarterback.

Though the ethical issues surrounding paradise engineering are thorny, the requisite technology to produce any utopia or dystopia needs time to develop. “The essence of humanity you just can’t build digitally,” Bailenson said. At least, not yet. The technological gap gives humanity some time to consider the future of the human condition.

One optimistic answer to the concerns of Michael Gove is that virtual reality does not outmode human striving against limits but provides a vaster medium for it. Calculators and computers made paper arithmetic obsolete, but they opened up new areas of mathematical research. Spreadsheets and databases improved efficiency, allowing human efforts to be placed elsewhere. Similarly, virtual reality will radically enhance the natural capabilities of humans to communicate, act, and think. We do not transcend all limits; we simply lift the bar of the possible. As Jaron Lanier noted, our imagination and our reality may soon become the same thing. And a nose job does not begin to exhaust the human imagination.**S**

Michael Jin is a freshman with academic interests in biology, computer science, physics, and economics. He likes to reflect upon the past, live in the present, and think about the future.