

Dissimulation, Disability Rhetoric, and
the Application of Virtual Reality-Based Therapy

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Abstract

Advocates of disability right have been vocal about the terminology used to describe disabling conditions and the rhetoric used to address or speak to those living with them. In light of the upcoming wave of commercial virtual reality technology, this paper reflects on the language used to describe VR experiences and recommends a slight shift in the way we refer to digital environments. Specifically, advocates prefer language that implies a possession of a functional condition rather than a lack of function or loss of a limb. Considering this, we might use Baudrillard's term *dissimulation* rather than simulation, to describe the VR experience for disabled persons.

Keywords: dissimulation, virtual reality, disability, functional, accessibility

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Virtual reality is currently experiencing a resurgence in popularity, spearheaded by the success of the originally crowd-sourced Oculus Rift and Sony's upcoming "Project Morpheus." This revival has prompted the software developing community to reconsider the potential of the medium. After several hackneyed and cost-prohibitive attempts during the 1990's, followed by several years of quiet, yet steady development, everyone from amateur programmers to global corporations seem to be investing a sizable portion of their resources in virtual reality once again. Many who are fueling this renaissance are hoping that the technological limitations that had been previously insurmountable will have finally caught up with aspirations of total immersion. Projects that have thus far caught the most attention are long-awaited adaptations of popular computer game titles such as Valve's *Half-Life 2* and *Minecraft* mod *Minecrist*. Other incarnations of virtual reality's latest wave include spatial simulators that largely involve flight or touring a variety of significant spaces of popular culture such as the apartment featured in the sitcom *Seinfeld* or the bridge of *Star Trek: Voyager*.

While most of these projects are breathtaking in their own right, some of the most intriguing (and possibly disturbing) uses of VR have emerged from the intersection of virtual reality and the fine arts. An experimental installation piece created by art collective BeAnotherLab, "The Machine to be Another" uses virtual reality to insert the perspective of one user into the body of another. BeAnotherLab's website is a gallery of several fascinating projects that seek insight into long-standing questions regarding the subjectivity of identity. According to the collective's description, "The Machine to Be Another' is an embodiment system designed to address the relation between identity and empathy. The project merges performances with protocols of neuroscience experiments, in order to offer users an immersive experience of seeing

themselves in the body of another person” (“The Machine to Be Another – Art Investigation”). Through these experiments, the developers – who have released all related materials to the creative commons – encourage the use of VR technology to explore issues of identity concerning gender, race, and accessibility.

Wearing modified Oculus Rift headsets and choreographing their movements, two users are able to experience the perspective of each another. In one of the group’s initial well-publicized experiments, a male and female user sit back-to-back each wearing the VR mask that has been enhanced with a forward-facing camera that displays what that particular user’s perspective would be. According to BeAnotherLab, by slowly moving in like fashion simultaneously, the perspective of the male participant is experienced by the female and visa-versa. In a more literary application, a participant is paired with a VR-connected “author” who, accompanied by a pre-recorded voice, subjectively embodies a narrative as acted out through both participants. While these creative applications certainly demonstrate noteworthy potential for enacting theoretical positions, BeAnotherLab has also investigated more pragmatic uses of virtual reality. Highlighting the group’s efforts at developing a cost-effective method for physical rehabilitation, this potential was demonstrated during the presentation of “Dancing With the Feet” which features a wheelchair-bound performer connected to the perspective of a fully-mobile other. Conceived as a dance, both participants (who are each aided by an unconnected assistant) handle a variety of object in unison as a method of reifying the sense of embodiment.

Although public interest in VR has waxed and waned, the medical industry is one of a few that have continued to investigate potential uses for the technology. The proliferation of therapeutic applications for virtual reality indicates a desire for the technology to expand its scope beyond the more commercially-enticing uses for gaming and social media. Healing

through VR is significant in that the user is experiencing an embodiment that is slightly divergent from that experienced by the typified user whose physical abilities resemble those simulated within the virtual world. For the disabled and immobile, however, virtual reality grants the capability to experience the what life would be like without physical and certain intellectual limitations. Considering this, I argue that the disabled user of virtual reality is engaging in a manipulation of the simulacra that is distinctive from the simulation. Instead, I argue that a less familiar concept – that of the *dissimulation* – might be a worthier concept to evoke when describing this experience that is unique specific to those that live with functional limitations. To qualify this, I will first summarize how current research towards the disabled focuses on a rhetoric of what is possessed rather than what is lacking. This will be followed by a discussion of Baudrillard’s concept of the dissimulation alongside employing the concept of dissimulation to other uses of virtual reality that are typically associated with *simulation*. As I hope to continue this line of research, I will then conclude this paper by describing how a dissimulative environment might be instantiated to the able-bodied.

Although virtual reality’s technical origins may be traced back to Ivan Sutherland’s *Sketchpad* project of 1963 (Manovich 277) or Charles Wheatstone’s first stereographic images (Trend 101), the metaphysical mirror that is often used to discuss VR was first described by Plotinus. Derek Stanovsky recalls the ancient Greek philosopher’s thought on how the “limitations of the mirror image that reveals its status as a reflection of reality” (171). More recently, VR technology was initially revealed to the public in a myriad of forms, most of which fell significantly short of the digital vision portended by films such as *Lawnmower Man* (1992), *Strange Days* (1995), and a slew of computer-generated short films that enthralled many

denizens of smoke-filled college dormitories. Prior to these motion pictures, VR was central to cyberpunk novels such as Bruce Sterling's *Islands in the Net* (1988) and the landmark *Neuromancer* (1984) by William Gibson. The problem for most, however, was that the technology to access these immersive virtual environments was simply too expensive. During the 1990's, several dissatisfying attempts, such as Nintendo's "Virtual Boy" were made at providing VR-capable eye-pieces to gaming enthusiasts. With the emergence of the internet, satiating the public's now whetted appetite for access to the digital, VR silently slunk into medical and military departments and, until recent years, utterly slipped out of the public interest.

Spearheading the recent wave of attention towards VR is the Oculus Rift headset which began as a garage project of Palmer Luckey, a student at USC's Institute for Creative Technologies. After a successful crowd-sourcing campaign which raised \$2.4 million and an influx of \$75 million by a private investment firm last year, Oculus VR, the developer of the Oculus Rift, has now been purchased by Facebook for \$2 billion. Regardless of how virtual reality has performed in the past (and whether or not this sizable investment successfully produces some iteration of commercially viable, publicly accessible VR technology) both the medical and military branches of industry have consistently devoted resources to developing applications that take advantage of VR. This move may actually help realize the ideal state described by Jaron Lanier, who coined the term "virtual reality" in the late 1980s. "I am still hoping," he told *New Scientist* in a 2013 interview, "VR might lead to a new level of communication between people..." ("Jaron Lanier" 2013). Outside of the mainstream, however, attention towards virtual reality application has been maintained by the military and medical fields.

Alongside several other hardware projects that seek to catch the wake of the VR renaissance, countless professional and amateur developers are ravenously cutting their teeth on the prospects. Browsing the Oculus showcase, one becomes quickly aware that the majority of developers are focusing on translating nostalgic favorites and popular console titles. Although some original projects such as “Museum of the Microstar” and the avian flight simulator “Ambient Flight” both provide a breathtaking environment that is unachievable outside of VR, these projects are nonetheless extensions of simulators that have existed since NASA and Atari first worked on VPL in the 1990s. Although we should certainly be prepared for virtual spaces aimed at consumerism and socializing (which is likely the anticipated outcome of the Facebook purchase of Oculus VR), other less commercial methods of communication are also being realized.

One of these methods taps into the realm of medicine and the vibrant industry of virtual reality-based therapy. Almost as long as VR technology has been available, in fact, medical researchers have investigated potential uses for physical and cognitive disabilities. Believing that the potential for virtually embodying another being might resonate with those who are contending with physical handicaps or immobility, exploration of VR-based therapies have continued in earnest despite the lag in public attention. Using the Oculus Rift, contemporary developers and researchers have been working on expanding the technology so that it might enable physically limited or disabled persons to not only interface with a computer but regain some measure of independence. Recently, with enthusiasts have shared VR technology the homebound and terminally ill to provide them with digitized natural landscapes that would not have otherwise been accessible (Makuch 2014). Media researcher Annette Mossel has focused her doctoral studies on the development of the Virtual Prosthesis Trainer, a software package

that assists amputees in gaining control of their muscle-sensing, artificial limbs (Chacos 2013). Most remarkably, however, has been research similar to that which utilizes the VirHab system which uses VR to treat chronic pain associated with amputation and the immobility of extremities (Feintuch et al. 83).

With references reaching back to the ancient philosophers, the study of virtual reality, its impact on sensory immersion, and its effect on human/computer interface (HCI) has garnered significant attention of late. Much of the scholarship suggests that a user's presence in virtual realms is similar to a stone being plopped into a digital pool and that one's degree of immersion relies on the ability to ignore the interface (Myers 53, Wolf 207). This interface represents what Janet Murray may have meant when she described the "border of illusion" in her provocative work *Hamlet on the Holodeck* (105). Although controversial, Murray's work on immersion and narrative is echoed in David Engel and Frank Munger's work on disability narratives and the effect on identity. For them, the fluid narrative and exposure to multiple perspectives is vital to their "recursive theory of identity and rights" (86). Engel and Munger apply this recursivity of identification to disability rights noting that those, "who tended to perceive their own identities in terms of disabling consequences rather than personal capabilities often failed to view rights as relevant to their life experiences..." (87). For someone experiencing a physical or cognitive disability, then, the purpose of virtual reality, as described by Philippe Fuchs and Pascal Guitton, must seem wonderfully enticing. According to Fuchs and Guitton, the goal of VR, "is to make possible a sensorimotor and cognitive activity for a person (or persons) in a digitally created artificial world, which can be *imaginary*, *symbolic*, or *simulation of certain aspects of the real world*" (6). Like narratives, these virtual simulations offer a promise of independence and mobility that therapists consider fruitful.

In *Simulations*, Jean Baudrillard described our current existence as a simulation with no grounding in reality. “It is rather a question,” he describes, “of substituting signs of the real for the real itself, that is, an operation to deter every real process by its operational double, a metastable, programmatic, perfect descriptive machine which provides all the signs of the real and short-circuits all its vicissitudes” (4). Using the metaphor of a map that refers to an empire that no longer exists, Baudrillard is concerned with a semiotic existence that has become dismembered from any body of meaning. The simulated existence is one that is a semiotic substitution for what is real. With respect to virtual reality, simulation allows us to fly across mountains with the vantage point of a peregrine falcon; we desire to *be* that falcon and forget that we are actually hunched over a computer desk, thumbs flicking at a gamepad. In other words, we pretend to have wings and the ability to fly.

Contrasting his definition simulation, in which one pretends to possess that which he does not have, Baudrillard also posited the counter of *dissimulation*. “To dissimulate,” he describes, “is to feign not to have what one has” (5). Dissimulation, as opposed to simulation, maintains a toehold in existence, “leaving the reality principle intact: the difference is always clear, it is only masked” (5). Returning to the example of the virtual experience of bird flight, our dissimulated experience would never allow us to forget non-diegetic elements of the experience: that we are tethered to a computer through a headset and gamepad. Another less practical version of a flight dissimulator might foreground that the experience of waiting on the tarmac or flying in a decontextualized empty space without any comparable elements to gauge our motion. Although the dissimulation might appropriately be considered to be the flip-side of a semantic coin, I would like to turn the discussion towards the rhetorical significance of this adjustment.

Jay Bolter and Richard Grusin contrasted virtual reality with “telepresence” and the latter’s foregrounding of the physical aspects of the former (214). “While virtual reality abandons the world,” they described in *Remediation*, “telepresence insists that computer-mediated signals and real-time tracking devices are part of the physical world and can join with human operators in affecting their environment” (214-5). Their example of telepresence of the Mars Pathfinder, however, illustrates the user as maintaining a presence in the reality of the bustling control room but using technology to access two places at once. Regardless of how concerned the engineer is with the very distant and extremely expensive rover, her presence is nonetheless grounded in the real world simulation. Telepresence, in this sense, is a form of dissimulation.

Perhaps a better example of dissimulation forcing the user to maintain the real might be found engaging with installations such as the *Screen* CAVE environment. This virtual space is comprised of several walls upon which are projected verbal texts. With the aid of special glasses and motion detectors, participants in *Screen* are able to interact and play with the words. In *Expressive Processing*, Wardrip-Fruin details the act of engaging texts in this way, noting how “players don’t approach *Screen* without attention to words as words” (377). In Wardrip-Fruin’s observation, this blurring of the distinction between act of reading and the act of playing “until both experiences can no longer be sustained and the piece ends” (377). In light of dissimulation, we might discuss how the *Screen* participant possesses an inability to move beyond the boundaries of the room for example. A more sophisticated argument might have to be made if we were to go so far as to consider *Screen* as dissimulating the ability communicate without language similar to those with speech impediments or autism.

In these two examples, the presence of the user is grounded in reality. Although the CAVE environment intrudes upon semiotic devices, the user is very much in the space of the real world: one cannot walk through the walls of text, my feet are firmly planted on the ground at all times. In the example provided by Bolter and Grusin, the Mars rover represents a dissimulation of the distance between the engineers and the rover itself. This spatial distance parallels the cognitive disassociation associated with autism and other intellectual disabilities and the the limitations of mobility incurred by those with physical impairments. Both examples, however, utilize immersion to entice a degree of the sensorium. Writing from a vantage point that had already witnessed virtual reality, Mark J.P. Wolf revisits Baudrillard's ontological questions in this new light. In *Abstracting Reality*, Wolf describes how as "virtual worlds resemble the real world more and more, the real world is becoming more mediated" (222). This mediated experience, he continues, "provides a greater consensus of the senses than previous mediated experiences." Medical researchers are likewise convinced that immersion is necessary to generate this unification of the senses. By immersing the disabled user within the virtual environment, much of the VR-based therapies currently under development reflect this a significant investment in Wolf's theory.

Before describing how dissimulation is more aligned with the rhetoric of disability, we should briefly examine how the identity of the disabled person is linked to a rhetoric of *possessing* a condition rather than *lacking* a normative quality. As a reminder, dissimulation is to pretend to not possess that which one actually possesses. This may seem like semantics but is actually a considerate rhetorical position that is rooted in existing work in disability studies. Sensory and cognitively disabled people are cited as being particularly sensitive towards the language that is used to discuss their condition. Research has demonstrated that the disabled do

not view their condition as something that should be treated but is instead a facet of their identity that binds them to a community. In response to disabled rights movements, responsible agencies have altered the language used to discuss disabilities. The most recognizable example of this is the recent replacement of the term “retarded” with “disability” (Wehmeyer 122). Another more egregious example is the campaign to eliminate discourse regarding the aborting of fetuses in which disabilities have been detected in utero. These examples demonstrate the pressure to cease thinking of disabled as lacking an ability or independence that they normally would possess. In light of this, a disabled participant in virtual embodiment is dissimulating – pretending to lack – a disability.

Disability rhetoric has shifted drastically since the turn of the century and continues to do so in light of increased political and social attention towards issues of disability rights. In *Digital Outcasts*, Kel Smith tersely outlines the numerous issues that the disabled contend with when engaging with technology concluding that product and software designers are using cues from elements that increase accessibility to develop technology, such as wearable devices, for general use (2013). Debates about prenatal screening prompt an “expressivist objection” by positions that consider the disability to impact the identity of the disabled (Edwards 418). Talk of subsequent utero gene therapy threatens to raise objections by those who question whether their conception might have been considered a mistake (Belshaw 264). With the renewed attention towards virtual reality, the issue of rhetoric has extended to discussions of how to accurately and sensitively label “virtual therapy” (Levac and Galvin 2013). Furthermore, the disability rights movement has been studied for responses by activists towards curative “improvements” (Hahn and Belt 453). Interviews conducted by Harlan Hahn and Todd Belt describe the attitudes of these disabled activists as being rooted in not only an acceptance but an appreciation of the

condition. “In fact,” they describe, “many disabled citizens now regard living with their disability as a valuable experience that can yield a positive source of personal and political identity instead of viewing their disability as a negative defect or deficiency that results in a loss or decline of bodily functions” (453). In each of these examples, the research demonstrates how disabled citizens identify themselves as possessing a condition that is not only inseparable from their identity but actually a positive, even beneficial, trait.

The potency of disability rhetoric – as in all rhetorics – is evidenced in how handicapped individuals identify with their state of functioning. Skeptics of the impact of disability on identity, while questioning the significance of the debate, nonetheless concede that the disabling traits are cited as contributing to “identity conditions of some groups” (Edward 419). A proponent of the identity-disability connection, Michael Wehmeyer articulates this sufficiently by describing how “the fact that what we name and call a condition far too often has consequences for how others perceive the person and how the person perceives him- or herself; there are consequences for the person’s identity, in other words” (122). Using the transition from the word “retardation” to other inflections as an example, Wehmeyer describes how this semantic shift contributes to a positive reinforcement of identity. For example, we would no longer consider stigmatizing a disabled person as *being mentally retarded* but, instead *has an intellectual disability* (123). More specifically, Wehmeyer recommends that the language eventually shift to reflect a behavioral condition and that a disabled person be referred to as someone who “manifests disability (123).

The intersection of identification theory with regard to virtual reality and the impact of immersive digital environments has understandably been robust. Howard Rheingold’s ponderous conclusion to *Virtual Reality* is concerned with which ontological path humanity was (back in

1991) destined to take in the emergent symbiosis with machinery (288). This symbiosis may be the next iteration of what Pierre Lévy referred to as the “hyperbody” of communally constructed materiality (41). Lévy would go on to do discuss the rhetorical operation of virtuality and the new subjectivation as the “implication of technological, semiotic, and social means in the individual’s psychic and somatic functions” (169). Hinting at applications that this paper discusses, Michael A. Shapiro and Daniel G. McDonald assert that virtual reality “has the potential to both replicate the sensory information of the physical world and to provide information in ways that go far beyond current representational systems” (324). Alluding to new media’s simulative properties, Collin Gifford Brooke cautions against ignoring the intransitive properties (192). Whether the approaches are trepidatious or eager, much of the research seems certain of the inevitability of virtual reality’s impact on the way we perceive ourselves as well as others.

Given that the shift in disability rhetorical reflects a desire to embrace a view that responds to a possession of a condition rather than a lack of an ability, let us now return to the question of whether the usage of the term “dissimulation” is more appropriate than “simulation” when discussing virtual therapy. If dissimulation is “to feign not to have what one has,” it would appear to be a more suitable term when considering the rhetoric desired by advocates of disability rights and disability researchers. If we adhere to the prescriptions by Christopher Belshaw and Michael Wehmeyer, our language needs to employ a rhetoric of possession that maintains a constructive, affirmative view that considers the identity of the functionally disabled. For example, pretending not to have an amputated leg – instead of pretending to have a leg where one once was – maintains the amputees recognition that he or she possesses a condition of mobility. However, unlike a simulative environment where the patient’s missing extremity is

digitally replaced, dissimulative therapy might use virtual reality to focus attention on the amputated limb by representing it as something other than a mirror image of one that is functional.

Examples given demonstrate how disabled rights advocates, researchers, and therapists are in consensus on the need to inject a progressive rhetoric into the language used when discussing the livelihoods of those contending with functional limitations. If we are to maintain this movement, VR-based therapies should likewise consider how virtual reality should reflect this rhetorical consideration. So how might someone like myself – a (usually) able-bodied, middle-aged, nearsighted, male with typically selective hearing – experience a dissimulation of my simulacra? An easy answer would be by using something comparable to a sensory deprivation chamber. Immersing oneself in a constricting environment would certainly help to appreciate physical handicap. However, simply removing the sensorium may not provide with an adequate representation. Virtual reality could provide a variable dampening of the senses that would mimic varying degrees of sensory or cognitive incapacity. In a virtual dissimulation, I would pretend to not possess the self-sufficiency, stability, and independence that is associated with my fully-functional mobility and intellectual capacity. A practical application of this might be a VR experience that provides beginning drivers with the stunted senses of driving while intoxicated. If disabled persons possess a limitation or identity-impacting lack, how might stimulation of the sensorium address issues of anxiety stemming from a loss of independence? Mimicking a significantly reduced ability to see or hear might prove beneficial to diagnosing other sensory issues. Ultimately, it seems that dissimulation of ability could help realize BeAnotherLab's goal of evoking a keener empathy towards others as well as a more compassionate community.

Writing during the turn in VR's "pop-culture curve" of the 1990's in *Computers as Theater*, Brenda Laurel lamented the soft demise of the medium's potential but continued to emblazon the numerous investigations the brief experience had prompted us to consider (207). Although the interest expressed by the medical industry hardly waned during the "trough of disillusionment" it has been reinvigorated by the increased accessibility and affordability of the technology (Rizzo 568). Research into non-invasive, virtual reality-based therapy has provided substantial evidence indicating that immersion within a digital environment, where the disabled user is represented as not having an impaired limb, stimulates cortical networks and increases functionality of the impaired limb (Feintuch et al. 83). Through manipulation of the interface, the disabled user sees him- or herself represented as no longer having limitations in mobility. One distinction to make is that the effectiveness of this therapy appears to diminish the longer the person possesses the disability (Hahn and Belt 2004).

In *The Metaphysics of Virtual Reality*, Michael Heim described "three hooks on the reality anchor" that keep us rooted in a real-world existence - one of which is our own mortality. He asks his audience whether the ideal synthetic world is one that would be without death, pain, or anxiety. If this were the ideal, he warns, [To] banish finite constraints might disqualify virtuality from having any degree of reality whatsoever" (137). Flight simulators and 3D environments, as mainstays of the gaming industry for some time now, are examples of virtual reality that are suspect of harboring certain ideologies. These ideologies, along with other significant issues, must be considered – especially when addressing the rhetoric of any particular demographic. As the United States makes strides in accessibility for physically disabled and continues to seek ways to reintroduce the mentally and emotionally challenged into society, it is important that our rhetoric is one that not only recognizes constraints but celebrates them.

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