Article

Negotiating Deaf Bodies and Corporeal Experiences: The Cybernetic Deaf Subject

Thomas P. Horejes [1],* and Christopher J. Heuer [2]

[1] Department of Sociology, Gallaudet University, 800 Florida Ave NE, Washington, DC 20002, USA
[2] Department of English, Gallaudet University, 800 Florida Ave NE, Washington, DC 20002, USA

* Author to whom correspondence should be addressed; E-Mail: Thomas.horejes@gallaudet.edu;
Tel.: +1-202-448-6918.

Abstract: Deaf people negotiate their embodiment through corporeal experiences to provide a perception of what it means to be human. Some deaf people search for a framework where being deaf is human, not a disability. Other deaf people experience their deafness as a disability and use technology as a means to negotiate their embodiment and experiences. The role of technology or cybernetics, particularly cochlear implants, for the deaf will be examined as a way to understand cultural identities and diverse ideological perspectives concerning what it means to be deaf and normal. Then, this paper focuses on social constructed 'bodies' for the deaf using embodied theory and action as a part of a theoretical framework to showcase theoretical ideas and actualities of some deaf people's lives and experiences. These discussions are ways to open dialogues and collaborative inquiries on larger important issues such as what it means to be deaf and, in essence, human.

Keywords: deaf bodies; technology for the deaf; embodied experiences

1. Introduction

The politics pertaining to deaf embodiment begin with the inclusion or lack of technology in deaf people's lives. The evolution of technological devices for the ear provides diverse ideological perspectives concerning what it means to be deaf and normal both personally and socially. One's own and society's perception of technology for the deaf not only places the individual in an embodied category, but also links "perceptual processes with social constraints and cultural meanings" ([1], p. 6).

Embodiment here focuses on the body not only as an object to be studied "in relation to culture, but is to be considered as the *subject* of culture" ([1], p. 5). For Bourdieu ([2], p. 243), the function of cultural habitus or its embodiment is to serve as "a long-lasting disposition of the individual's mind and body" and in turn develop into one's own manifestations of what it means to be human.

Thus, understanding the role of technology in deaf embodiment is important to understanding human enhancement of the deaf subject as a precursor to the normal. It also helps describe what it means, for some, to be superhuman, what some call a cyborg. The notion of the cyborg was first developed by Manfred Clynes and Nathan Kline in a 1960 article that focused on humans synergized with both human and electrical components and functioning as a living organism [3]. Since then, there has been an explosion of Cyborg Studies and these themes have extended into the realm of deaf lives and their embodied experiences through technology including cochlear implants [4–7]. Cyborgs (short for cybernetic organism) are the people, cybernetics are the parts that replace body parts. Deaf people who refer to themselves as Cyborgs often have at least one cochlear implant, although it is not unusual for someone to have two—one for each ear. A cochlear implant is a:

> device that features a microphone, a processor, and a transducer. The processor manipulates what the microphone captures and sends a signal to the transducer, usually worn just behind the ear. The transducer changes the signal from electrical to magnetic, a signal that can be received through the skin by the implanted receiver. The receiver then stimulates the probe in the cochlea, causing "hearing" ([5], p. 78).

Hearing through a cochlear implant is not the same as so-called normal hearing. While forms of cybernetics for the deaf such as cochlear implants are not yet technically capable of delivering "more sound fidelity than the nervous system can handle" [8] deaf people who experience these variations of sound become embodied, and this in turn, shapes their perception of themselves. Their embodiment also has an impact on whether they will continue to be perceived as disabled, arriving at an 'almost normal' human state, or transcend and re-define humanity as a cyborg. In this case, cybernetics, which is implanted into cyborgs has two possible functions: "To replace body parts and abilities or to enhance human capacities" ([3], p. 44). For the former, replacing body parts through cybernetics such as cochlear implants becomes an embodied action to replace their hearing 'loss' with sound to arrive at normalcy. For the latter, deaf people have a deeper connection with the cochlear implant(s) as it becomes a part of their body and embodied experiences, or what Michael Chorost calls becoming *Homo Faber*. Here, *Homo Faber* refers to those who strive to become "the artistic human, the creating and self-creating human…[and] inherently a creature of technology" through the cyborg experience ([4], p. 181). In this category, these people envision a:

> world based on a merging between the human and the machine for the creation of a new being able to supersede the limitations imposed upon the body by nature and society—to the contemporary realities of bioengineered prosthetics that are used to overcome physical limitations and mutilations ([9], p. 2).

or to supersede into a superhuman. Here, the cyborg experience begins with the socially constructed omission (disembodiment) of a human feature of the body [10], using cybernetic technology to either replace their hearing loss with sound, to become cyborg/*Homo Faber,* or to supersede their humanity and become superhuman. However, there is at least one scholarship that defines a superhero as being able to channel both deaf and hearing worlds; in this sense, the deaf world is one without the cyborg

experience, but one of a deaf subaltern. In a way, in order to delve into the deaf world, one has to unlearn the hearing embodied experiences which requires superhuman tendencies in a "culture made up of immense and intense imagination, illustrating deaf identity in the making, and told by a superhero who is sometimes closeted yet fearlessly flying through both deaf and hearing spaces" ([11], p. xiii).

There are important real-world differences between what is technically a cyborg and what is a 'superhuman' as these terms relate specifically to a cochlear implant. Media portrayals of this technology, especially when engaging in speculation regarding what it may someday be capable of, use these or other equivalent terms interchangeably ([8], p. 109; [12]). This in part arises from the nature of media and its focus on the sensationalistic, or in science-related forums, on discussions of the potential and theoretical limits of technology. A deaf person's embodiment of the cochlear implant, especially if made from a medical or technological standpoint rather than a cultural one, is still grounded within the entirety of that medical standpoint. Chris Wixtrom [13] discusses this standpoint in part when he charts a powerful yet simple outline with two contrasting socially constructed views of deafness: One as a difference (normal or for some superhuman) and the other as pathology (abnormal). This indicates that a person who perceives deafness as a pathology might "define deafness as a pathological condition, deficit, or a handicap which distinguishes abnormal deaf persons from normal hearing persons" and on the other side of the continuum, a person who perceives a deaf person as normal might "define deafness as merely a difference, a characteristic which distinguishes normal deaf persons from normal hearing persons" [13]. For the latter, deaf people can use their difference to decide how they want to be perceived by society. These social constructions begin as soon as they lose hearing and immediately lead to decisions about how technology ought to play a role in their lives. While deaf people may manifest a variety of embodied experiences, it is important to recognize that what was formerly the pathological end of the embodiment spectrum is now evolving through technology into two distinct areas: cybernetic and superhuman (though these too intersect with the "normal" end of the spectrum).

Only a limited number of abilities that are currently made possible through implant technology, while certainly cybernetic, can be considered superhuman. For example, within the arena of the purely "superhuman" (or in other words within the arena of what 'normal' human beings with normal hearing cannot do), there have been reports of deaf people in Iraq with cochlear implants being affected by the electronic signal jamming the military uses to deactivate explosive devices left along roadsides [14,15]. Also, deaf people who have received implants have also mentioned in their writings that they can turn their implants off for peace and quiet, to not be distracted [16,17]. While this ability, too, stems from the cybernetics, it can be argued that it is also superhuman, if only in the limited sense that normal human beings with normal hearing cannot do this at will. That a cochlear implant restores hearing ability to any extent at all is certainly remarkable. The restoration is the result of a cybernetic device, and therefore cybernetic. But, as was previously mentioned, the extent of the restored hearing is not in and of itself superhuman. While the distinction between what is superhuman and what is cybernetic does not yet appear to play a major role in the embodiment experiences of deaf cochlear implant users, the uses of cybernetics to come as close to normal hearing as possible certainly do. Additionally, the cultural and social ramifications—especially within the deaf community—of the use of cybernetic technology, of becoming a cyborg, can play a major role in deaf embodiment of cochlear implants as well. However, there are numerous members of the deaf community who view cyborgs as being

colonialized by society [18,19]. For these people, a true deaf embodiment starts with a search toward what Paddy Ladd calls deafhood and this requires the decoloniziaton process of removing technology, ridding oneself of the social constructed value of speech, and immersing oneself into the deaf world. These people call themselves 'the people of the eye' ([20], p. 30). Thus, the implications of technology play a complex role in constructing deaf embodiment.

2. The Evolving Role of Technology for the Deaf Embodied Subject

When a deaf child is born in America or when an individual suddenly loses hearing, current medical knowledge understands such a condition as a biological fact that the individual has hearing impairment in one of their sensorial senses (hearing), leading to a loss of an embodied experience of the body (to hear). For those who are born deaf, Early Hearing Detection Intervention (EHDI) programs are put into place to provide resources for parents. These EHDI sessions offer the parents an overview of various educational programs/services available for their deaf child; one issue that is raised in every EHDI session is educating the parents regarding the role of technology for their child including hearing aids and cochlear implants. It has been noted, by hearing parents of deaf children themselves, that individuals involved in these and other programs may have their own biases/agendas concerning what is best for a deaf child. These biases and agendas often times include (but are not limited to) the issue of cochlear implants. Some parents believe these perceptions play a key role in the way various educational options are initially offered to them [21]. However, the social representation of deafness becomes complicated when certain 'experts' such as doctors and audiologists (often unknowingly) construct the types of embodiment that deaf people ought to experience. This also happens when they construct an expectation of what technological devices for the ear ought to do, or will do someday (in the sense of what advancements in the field will someday enable human beings, perhaps now with superhuman capabilities, to do).

In many ways, deaf individuals are objectified in negotiating deaf embodiment in the name of American ideology, one that values sound. Their humanity is set aside and the focus is no longer on their selfhood, but rather on their deafness to be calculated and documented regarding the ways that technology can 'assist' in 'completing' their so-called normal self. For example, in 2010, an Idaho divorced deaf father went against his ex-wife's wishes that their eight-year-old daughter use her cochlear implant daily. As a result, the ex-wife sued the father in court and he was eventually held in contempt by Judge Stow for refusing to force his daughter to wear cochlear implants. In this aspect, Judge Stow and the father had two different viewpoints toward deaf embodiment of the deaf girl. The judge ordered that both parties (both parents but specifically the father) "shall ensure Emma's [the daughter] use of her cochlear implants in both ears during all waking hours except when her activities would preclude the device or devices, e.g., water and helmet-related activities" [22]. In response, the deaf father felt that this was a form of coercion and violation of her daughter's right to be a normal and natural human being. Here, both have different views on what a successful and natural deaf embodied experience ought to entail. Many parents who first find out that their child is deaf, have their own ideas of what embodiment ought to look like for them and, typically, their first questions are "how do I make my child as normal as possible?" and "will my child be able to hear?" These questions involve the role of technology to shape their embodiment. These types of questions come with the ways of how

technology will play a role in their embodied lives. It is not until later that many hearing parents learn about different educational options for their children as it becomes increasingly clear that socialization and identity are important unaddressed embodied aspects of these children's lives [21]. Ultimately, understanding what it means to be deaf is often negotiated and in turn influences their corporeal experiences as humans in society.

As a case in point, the theme of the World Federation for the Deaf (WFD) in 1983 was "Deafness Today & Tomorrow: Reality & Utopia" [23]. While the philosophy of WFD was to promote equal access and human enhancement on what it means to be deaf, in the same year, there were other perspectives that contested what equal access and human enhancement ought to be. Notably, the Alexander Graham Bell Association for the Deaf and Hard of Hearing (AGBELL) viewed full usage of technology as a means to provide maximum opportunity for success while the WFD contested that it was access to sign language that ensured success. In these comparisons, the ear (sound via technology) and the eye/hands (language via sign language) become denominators to constructing deaf embodiment. Both parties rely on a certain sensorial experience (whether it is the ear or the eyes/hands) to determine embodiment; at the same time, both parties view each other as the enemy and as a threat to the true utopian notion of what deaf embodiment ought to involve. In the 1990s, a major threat to a true deaf embodiment was hearing aids and during the International Congress on the Education of the Deaf (ICED) in 1990, Jean François Mercurio, a Deaf French leader and an ICED member smashed his hearing aid with a hammer in front of a deaf crowd [24]. This symbolic act may have been considered an appropriate response against technology playing a role in these deaf lives and cultural experiences during that time. However, as time has gone by, hearing aids have become the norm and are now being replaced with cochlear implants, which are seen as a possible threat in the sense of what it requires for a deaf person to arrive at humanity. There are a considerable number of deaf members whom rely on the eye—not the ear—to make sense of the world visually and as the true embodiment of what it means to be deaf.

As demonstrated above, deaf embodiment has become a site of contesting ideologies primarily based on the importance of the ear (auditory cues) or the eye (visual cues) to shape what it means to be human; thus, redefining the ear/eye as primary embodied experiences for the deaf. To use technology is to view one's own deafness as needing to fulfill a hearing loss whether for personal or social purposes (this will become supported by some of the participants later). The decision to use technology, whether made by themselves or their parents, is to simultaneously negotiate what deaf embodiment ought to look like. There are some deaf people who embrace technology who view other deaf people who do not use technology as being marginalized in society. In retrospect, there are deaf people who reject technology as a precursor to their deaf embodiment and have often cast the other technological deaf people as an embarrassment or sellout to the deaf community. There are also deaf people whose individual choices span the entire range of possibilities between these two opposing views, whose decisions reflect other values entirely [24]. To discuss the discourses on deaf embodiment, one has to include the implications of cochlear implants and other types of technological devices for the ear.

For example, the Stealth Secret Sound Amplifier (SSA) was invented by Kagan Unlimited, Inc. in the early 21st century as an assistive listening device. The Stealth SSA was designed to be physically identical to the Bluetooth earphone designated for hearing users. Instead, it is not a phone, but rather a

disguised hearing aid so that the individual with the hearing loss could mask his/her disability with the Stealth 'Secret' Sound Amplifier and be perceived as normal as any other Bluetooth user. This device further reinforced the perspective that hearing aids are stigmatized products. Evidence for this argument is found on their website: "[i]f mention of a conventional hearing aid makes you feel *self-conscious*, consider the first personal audio amplification device that combines an ergonomic design with a discreet, professional look" ([25], *emphasis ours*). Here, self-consciousness becomes an important factor to embodied experience and the types of personal and social perspectives that go with it. This perspective on technology for the deaf is not new (See Figure 1).

Figure 1. Different aurolese phones intended to hide devices for the deaf during the 19th century (two photos on the left) & a technological device for the deaf intended to mask as a radio transmitter during the 1950s (far right).

Cochlear implants, the current technology intended to redefine what it means to be deaf, were developed to replace the hearing aids of the 20th century, which previously replaced the ear trumpets and long speaking tubes of the 19th century [24]. They are all similar in the attempt to mask the stigma of the deaf person as possessing a hearing deficit. Technology is meant to provide additional hearing ability and enable the deaf recipient to arrive closer to ostensible normalcy. Today, more and more deaf children are getting cochlear implants at an exponential rate [7,26–28]. This change suggests that any child who wears hearing aids has now become part of the minority. This has serious implications for deaf children using hearing aids whose embodiment has become negative and who have often begged their parents to get a cochlear implant to become normal like their deaf peers [29]. In many ways, the introduction of the cochlear implant has caused polarization and stratification among the deaf community. A separate but related issue is that cochlear implants are increasingly portrayed in the media as having the capability or potential to provide an essentially superhuman choice—the choice of whether or not to be deaf. A reporter for National Public Radio, in a story on cochlear implants, asked Dr. John Niparko, an ear and cochlear implant specialist at Johns Hopkins Hospital, if this could indeed be the case, if such a choice could one day be a reality. His response: "We're already there" [30].

Thus it is a questionable whether or not choice is a reality for all cochlear implant users. Is it something they consider as part of their own embodiment of their CI? One way to consider these complex questions is to provide the perspectives of deaf individuals who have had cochlear implants at different times in their lives. Analysis of the cases of these two deaf individuals presents a unique opportunity to understand the internal moral dialogues that people have *with themselves* about cochlear implants in the context of the moral choices and identity potentials within their social settings.

3. Glimpse of Deaf Embodiment from Two Cochlear-Implanted Subjects

The two cases we discuss in this paper come from a larger project involving in-depth interviews with various deaf people about their experiences growing up as deaf persons [31]. In this project the establishment of trust and comfort between the participants and researcher (Horejes) was paramount because cochlear implants are of key importance, thus when it came to gathering data on cochlear implants and understanding embodiment, it was valuable that Horejes' insider awareness [32] enabled him to examine the complexities of the cochlear implant in the deaf community. The use of one central research question: "What does it mean to be deaf for you?" enabled the deaf individuals who took part in the interviews to express their own sense of what it meant to be deaf. Of those interviewed, seven had cochlear implants and of those seven, two participants' narratives of the role of technology and how it influenced their deaf embodiment are discussed below.

The first participant, Carol (all names are pseudonyms) is a thirty-year-old deaf professional working in the corporate industry. She received her cochlear implant in August of 2006. Before deciding to get a cochlear implant, it took her six months of researching the costs and benefits of the technology, what insurance coverage was available, and what feedback there was from other people with cochlear implants (and their families). She both speaks English and signs American Sign Language (ASL) fluently. The second participant, Sean, is a twenty-four year old deaf college student who first got a cochlear implant at the age of three. Throughout his pre-elementary (first–fifth grade) schooling, he interacted with deaf students, but as he entered fifth grade, he was fully mainstreamed into the public school system and was the first deaf student at his junior high school and high school. He received his second cochlear implant at the age of eleven. However, when he turned sixteen and became what he calls a rebel, he never wore the cochlear implant because it was a burden and a constant reminder of his disability. However, when he became twenty, he started wearing the implant on and off. When he moved to Arizona a few years ago, he lost the equipment and now he is currently not wearing the implant, although he is seeking a second chance in getting a new cochlear implant. He communicates using a mix of both spoken English and ASL.

For both participants, the improved quality of cochlear implant technology played a significant role in eliminating resistance to the cochlear implant on the grounds of whether or not it was effective. Due to the improved features of the cochlear implant and its superior ability to pick up more sounds than previously possible, Sean was willing to consider a third cochlear implant operation to replace an older and outdated implanted device still in his body. Carol felt that having a second cochlear implant was a radical move. For Carol, getting the cochlear implant operation was justified due to its ability to be upgraded without having another surgery (another reason was to function better at work). Carol felt she was in competition with other deaf people who had the cochlear implant in terms of who was

closer to being hearing. Carol who is deaf, described a situation at work where one of her co-workers, who was hard-of-hearing, had a cochlear implant. Carol said: "my co-worker was able to communicate on the phone and that made me feel like a failure because I could not talk on the phone."

Like Carol, Sean felt pressure from society to get a cochlear implant when he expressed: "I want to be able to work, I want to be able to be integrated with society and I want to be able to sing." Here, being able to be integrated with society by means of hearing their voices and to connect to some of society's values such as music plays an influential role in deciding to get a cochlear implant. Sean's use of 'integration' is a powerful indicator of his need for assimilation to the larger mainstream society rather than cultural transmission to his deaf identity. Such a cultural transmission would focus on singing through ASL and the need to feel accepted by his deaf peers; instead, his longing to sing using sound and voice provides a bridge to becoming a part of the larger hearing-dominated society.

These experiences reflect that both participants shared their longing for a cochlear implant due to external factors (one was to hear on the phone and the other to sing to music); that is being able to have hearing sounds be part of their embodiment and to be a part of the hearing-dominated world. In this respect, deaf embodiment meaning being able to hear sound is an integral part of their social identities [33]; that is, they valued sound as a means of being accepted by society. However, once Carol got the cochlear implant, she realized that it still was not effective enough to enable her to talk and hear on the phone. Getting a cochlear implant provided a sense of hope that she would be accepted by society through her ability of finally being able to talk on the phone, but once she realized that she would never be able to talk on the phone, she felt like a disappointment. She recalled a moment where she reacted angrily and with disgust to her grandmother when she gave Carol the phone and said: "Go talk to your Aunt." Carol responded that she could not hear or communicate on the phone to which her grandmother replied: "I thought you could hear now because of the cochlear implant." These comments made Carol feel like she had not met her grandmother's expectations due to the common false myth of what the cochlear implant can do for a deaf person. She bluntly told her grandmother: "I am Deaf, I will always be deaf regardless of my cochlear implant." This powerful moment relegated her to the status as a deaf person who would 'always be deaf,' and that she would never be able to be a part of hearing society fully based on her inability to talk on the phone.

The physical presence of the cochlear implant device provided somewhat of a mixed response of potential stigma toward deaf embodiment. Over the years, the physical size of the cochlear implant has gotten smaller and more portable, making it less visible on the body and more comfortable in usage. However, more and more people with cochlear implants are allowing operations on both sides of their head in order to have two cochlear implants. This new technological breakthrough increases the physical presence of the cochlear implant not just on one side, but both sides of the head. For Carol (and later for Sean during his adolescent phase), the physical presence had little impact on their embodied experiences, rather, it was the reaction of the social audience to the cochlear implant that contributed to their uneasiness in wearing the implant as part of their embodied experience. Sean's experience of deaf embodiment and his attitude towards his cochlear implant differed at two points in his life. First, he resisted wearing the cochlear implant at an early age because of its visible presence on the ear, which his peers mocked him. He recalls: "they [his classmates] would stare...and looked at it as foreign...people would actually slap it off my head and play with it, it was annoying for me...and sometimes it annoyed me so I would take it off." He also resisted wearing it because he wanted to

contest the values of normalcy placed upon him by society. At this point Sean denounced the cultural values of hearing any form of sound. An important comment that Sean made about the cochlear implant he received when he was young was that getting the implant was his parents' decision and not his. He said: "I was informed about that [the surgery], but did not really know why I was supposed to get a cochlear implant so…well, I just did not know." At this juncture, Sean felt robotic and not 'normal' given the appearance of the implant on his body and Sean recalled that: "they [audiologists] would test my speech through the implant, they would focus on the mouth movement and I would have to speak word for word and speak that specific word and make my lips so fixed, and felt robotic." This is a critical factor in his resistance to the cochlear implant because he had not been empowered to make the decision for himself. He also disclosed: "I couldn't play football, I couldn't play serious contact sports…I didn't get into wrestling in my senior year, my dad was concerned because I wasn't wearing a cochlear implant and it affected my hearing, but whatever…." Sean was also forbidden by doctors to play any other contact sports in fear that it would damage the internal machine in his head; however, Sean indicated that it was pressure from his father to continue wearing the cochlear implant that prevented him from playing football because the helmet would have interfered with it. While Sean longed to play football and wrestle he was pressured by his father to avoid these sports because playing these sports would require him to take off the cochlear implant. His father valued Sean's progress with the cochlear implant and its potential to increase his hearing ability above Sean's skills in athletics. At another point of the interview, Sean also talked about the pain and discomfort the implant initially caused him. He said:

> I just got tired of it [the cochlear implant], it was being a burden, it was always a reminder of my deafness, I had to maintain it, and it…<sigh> I went through the weird vibe that a cochlear implant was not for me. I know when I first got it, it would send electrical shocks on the side of my body and the doc told me to let him know if it hurt…and when he would stimulate my cochlear implant, it would send shocks and I hurt so much until he would make it 'leveled' to make the sounds equal to my own level. Overall, it just…I went through a lot and I didn't want to go through that again.

Sean also discussed how the cochlear implant made him uncomfortable as he remembers: "[T]he first year, I didn't like it, the strings around me, the equipment that I had to wear, I felt suffocated, I felt uncomfortable, and resisted." However, as Sean got older, he became less resistant to the idea of a cochlear implant because he felt that it would benefit him in the long run which he considered to be more important than the possibility he might be labeled as deviant because of the visibility of the implant [33]. The benefits he described included being able to hear the words as he longed to sing as a mechanism to express his inner thoughts. This acceptance reveals that he now felt he had control to decide what to do with his body in terms of deciding when he could hear and turn off sound. Here, his embodied experience of sound becomes negotiated based on society's perception of his cochlear implant and the social perception that he has established and controlled. For example, he longed to turn on his ability to hear once he entered the hearing world and once he crossed his boundary to the deaf world, he longed to be able to turn off his sounds. He wanted to control his embodiment as a part of his overall experience as a human and indicates that: "[W]ith the CI, I felt more smarter [sic], more motivated, and now…I threw it all away" and suggested that having a CI would give him "more

motivation to examine the hearing world and to balance both two worlds", this control would elevate him to having superhuman abilities.

At the moment of the interview, Sean expressed his desire to gain employment and to be reunited with the hearing world as reasons to have the cochlear implant operation again. However, when asked how the deaf community would feel if he had a cochlear implant, Sean shook his head and emphasized the authenticity of the cochlear implant given that he had been born hearing and later became deaf at the age of three. In his words:

> I think they [deaf people] would make insults generally and think that I would want to be hearing, but what they don't realize is that I was born hearing so that's who I am so…me getting a cochlear implant would make sense, I'm not trying to be a fake hearing, but to regain what I lost when growing up. I think like a hearing person, I am hearing, just in a deaf body.

Thus, Sean had decided that his embodiment was greatly influenced by the biological fact that he was born hearing. His looking-glass self [34], the idea that each of us shapes our own identities based on what we believe other's perceptions of us to be, played a powerful and exacting role in how the cochlear implant impacted on his embodiment. The process of the looking-glass self requires continued maintenance of one's identity and, in the case of these two participants, in turn influences embodied experiences of their cochlear implants. Sean wanted to control how certain members of society would view and make judgments about him. He felt that he was now able to manage his presentation of self [35] and how he was perceived by the social audience. Carol confessed that at first, she did not like the cochlear implant and was not used to having a cybernetic device in her body. She stated that it took several years for her to get used to it but she now "loves it." Her sense of herself changed from self-rejection to self-acceptance and the shifting of her deaf embodiment influenced the ways she presented herself to the world. Carol was resistant to the notion of anyone (including herself) having two cochlear implants. She saw it as too radical/extreme and compared it to the intention of the movie, "Gattica." Carol explains that the movie "was about the 'deviant' and the 'normal' person. The deviant would be the individuals who did not have the CI (or expose themselves to technology/genetics) and the 'normal' would be those who were genetically engineered." She went on to compare the possibility of the cochlear implant in making the deviant become normal. The pressure to become 'normal' through technology is apparent in this moment when she compares the movie to cochlear implants—a movie with strong themes pertaining to the arena of the superhuman *versus* the normal (which is now in fact the 'flawed') human being, as an attempt by technology to 'normalize' the individual through genetic engineering. The same participant showed appreciation of the cochlear implant's ability to be turned-off; thus, showing the fact that she has control over the cochlear implant and is able to turn off the cochlear implant whenever she wishes. As a result, she exhibited greater resistance to having two cochlear implants because she considered it "absurd and unethical," and was more comfortable with her deaf embodiment when she felt less confined by the technological device on her body. For Carol, one cochlear implant was enough.

4. Discussion

For both Sean and Carol, control becomes an important aspect of deaf embodiment. Carol shuns away from becoming a cyborg [36] and views her deaf embodiment as one that she can navigate. She,

and Sean, both expressed a need to be in control of their cochlear implants to achieve their ideal of deaf embodied experience. Although Carol did not directly specify this control as superhuman, her manipulation with the sounds of the cochlear implant—whether she wants to turn it on or off—aligns with what some would call superhuman tendencies—the ability to become embodied between two different worlds. In a follow-up interview Carol revealed that she felt the deaf community was more accepting of her having one cochlear implant and having two was considered excessive. Here, the quality of the sound rather than the quantity of the cochlear implant (two) reflects her embodied perspective of being normal even if having two cochlear implants might provide a higher quality of sound.

Carol's and Sean's interviews show the different ways there are of negotiating embodied deaf experience. They emphasized that their cochlear implants played an influential role in shaping their status (whether good and/or bad) as a deaf person in both the deaf and hearing communities. Carol affirmed her deaf status in a 'so-what who cares attitude' with one cochlear implant but was more apprehensive about the hearing community's views of her cochlear implant and the deaf community's views of two cochlear implants. She expressed frustration that many hearing members assume that because she has a cochlear implant, she automatically can hear or is a part of the hearing community. Such views caused Carol to feel she was losing her status as a person trying to pass in the hearing society and being downgraded as a deaf person. She expressed disgust when her co-worker and grandmother assumed that she could hear on the phone after getting a cochlear implant. This disgust shows the possible threat of her cochlear implant to her deaf embodiment by allowing the cochlear implant to dictate her identity as a deaf person. At the same time, she attempted to negotiate her deaf identity by only wearing one and fearing that if she had two, she would no longer be in compliance with the normative boundaries of the deaf community [37].

Sean's embodiment shifted over time with the hearing community from a negative to a positive approach on wearing a cochlear implant. However, he felt that it would have a negative impact on his identity within the deaf community. Here, he belongs in the borderlands; whether he has a cochlear implant or not, he does not feel accepted fully in either world [38,39]. He feels that the cochlear implant is the effective approach to minimize his deafness in order to regain his hearing status within the hearing community because, as he put it, if a deaf person "does not get a cochlear implant, then the person is doomed to failure." He expressed a high-level of resistance to being classified as a native deaf person because he stated that those "types of people are not evolving nor keeping up with society… and are unable to advance themselves." Rather, he classified himself as a part of the 'digital' deaf (Michael Chorost's use of *Homo Faber* comes in mind here) who rely on the cochlear implant as "a part of the process to maintain society's progressive standards." The self-labeling of a 'digital' deaf person reflects a unique perspective on his deaf embodiment and the manner in which he situates himself in a medico-digital self. He does not feel that a true deaf embodiment should be one without a cochlear implant.

In a society that constructs and attaches meaning to the capabilities—both actual and potential—a deaf person's embodiment of the cochlear implant is strongly attached to these constructions. Though it is important to note that the NPR article mentioned above is a recent publication, and Dr. Niparko's statement about deafness being a choice may spring from insights into the technology neither of the participants introduced in this paper had access to, popular literature about cybernetics [40] and

portrayals of the potential for superhuman capabilities of implants, which can have a strong impact on the embodiment experiences of deaf cochlear implant recipients. Both Carol and Sean mentioned a desire to have cochlear implants to achieve greater integration, if not full integration into hearing society, and this is an aim echoed in a wide variety of cochlear implant literature, as well as by a wide variety of hearing parents of deaf children. Both Carol and Sean stated they enjoyed being able to turn the cochlear implant on and off, and Carol mentioned feeling irritation over her grandmother's perception that the cochlear implant would enable her to hear more than she could. Carol's grandmother's perception of cochlear implants is likely shaped by videos that are increasingly appearing online, some of which have been rebroadcast by mainstream media [41], and that show a cochlear implant recipient hearing sound for the first time and—in some videos, not all—reacting in amazement to what they hear [42]. Online discussions about such videos reflect amazement with the technology and the popular belief that implanted hearing technology fixes deafness and restores hearing in its entirety. They also reflect bewilderment regarding why any deaf person would be hesitant to get a cochlear implant or would discourage another deaf person from getting one [43]. Such comments have been examined with a growing sense of concern in online deaf community forums [44,45]. Such videos frame the potentially uninformed decisions both deaf and hearing people continue to make regarding deafness and cochlear implants—decisions that in turn affect an individual's embodiment of deafness.

Of particular concern to the two participants in this paper was integration within the hearing world. Carol's expressed frustration over the perception that she could hear more than she actually could, and Sean was concerned about the teasing and stigmatization he endured meaning that the cochlear implant can prevent the very integration with the hearing world that it is meant to bring about. Both Carol and Sean expressed the importance of being able to control their own embodied experience rather than allowing society or the deaf community to dictate what kind of body they ought to maintain. But at the same time they position their situation as being stuck in two different worlds, thus the borderlands of the hearing and deaf worlds. Technology for the deaf continues to play an exacting and critical role in the categorization of deaf subjects' identities and embodied experiences.

5. Conclusions

For deaf people, some view the cochlear implant as representative of:

> the dawn of a heroic victory of nature and the advent of a self-generated superhuman…[o]thers have decried our alienation from nature as a nihilistic and dangerous fantasy of autonomy and control—a dream of escaping death which amounts to a rejection of life or rejection of deaf culture ([46], p. 40).

Throughout socio-history, the changing designations of what deaf embodiment ought to entail have made an impact not only on deaf individuals over time, but also on how these processes have contributed to the ideology of that society including what it means to be human. Today, cochlear implants are becoming much more popular, with more and more deaf children using cochlear implants at an exponential rate [27,28,46]. This becomes a trend that any students who wear hearing aids are now cast as different than their normal deaf peers with the cochlear implant. This change also has implications for what deaf embodiment ought to look like not only for deaf children, and it also places

greater emphasis on the new norm of humanity. We conclude that this is problematic because to redefine a new norm of humanity is to determine which embodied action is more normal. Attitudes on technology are driven by ideological notions of normalcy and vary with given historical times and places. They are driven by unrealistically positive initial impressions of the effectiveness of this technology.

Instead, we suggest that it is possible for embodied experiences and actions to vary as alternative ways of seeing and acting as a human being. Instead of focusing on normalizing deaf embodiment, we offer that it is possible for deaf people to develop their own embodied experiences, whether it is with cochlear implants or not and whether they want to be viewed as cyborgs or not. Additionally, the superhuman element associated with cybernetics in the media plays a role in embodiment outside of the realization that one can turn one's new cybernetic hearing on and off, thus deriving benefits those with normal hearing do not have access to. Each individual's perception of sound, or the lack of it, drives his/her own practice of life or what Bourdieu calls habitus [2]. We agree with Lucy Yardley that to categorize what is natural or artificial as a clear-cut dichotomy (and we add types of embodied experiences) is counterproductive, and "while the adoption of particular forms of technology undoubtedly has significant socio-cultural implications, it is illogical to regard one person as less 'natural' than another simply because they utilize a technology aid" ([47], p. 51).

This paper illustrates the importance of social constructed embodied experiences of what it means to be deaf including the ways that technology contributes to these experiences. When the deaf community (whether it is at Gallaudet, in the blogsphere, or elsewhere) discusses the different ways of being deaf, it is critical to realize that the ways of being deaf as a norm is shaped by their socially constructed ideology much of which is shaped by technological innovation. The notion is that deafness is an object of study that can be constructed quite differently, leading to two polarizing paradigmatic shifts on deaf embodiment—the technological/medical and the linguistic/cultural—(though there is of course a range of deaf embodiment between and beyond these poles, such as paradigms that combine elements of both, as was examined in each of the above case studies). Examining the implications emerging technologies have on deaf embodiment can lead to a greater understanding toward normalcy and humanity.

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