

Frozen Ecstasy: Visualizing Hearing In Marketing Materials for Cochlear Implants

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ABSTRACT

In this paper, I analyze marketing materials—principally brochures—from two cochlear implant manufacturers. Cochlear implants occupy a central place in the debates over deafness. Is deafness merely a medical condition that prevents deaf people from fully participating in the (hearing) society at large? Or is Deafness (written with a capital D) the moniker of a minority group, one with its own distinct language (e.g. American Sign Language), history, culture, and values, and thus deserving of the same civil rights afforded to other linguistic minorities? Because implants promise to eradicate deafness, they also threaten to undermine the claims of some deaf people to self-realization as members of a linguistic minority group. Not surprisingly, the marketing materials embrace a medical model of deafness as a stigmatizing deficit to be fixed. But they do so by downplaying the implant’s uncertainty (i.e. implants to date can not deliver on the promise to cure deafness *for all*) and by ignoring the contests within the Deaf community over the place of implants in the lives of d/Deaf people.

Categories and Subject Descriptors

K.4.2 [Computers and Society]: Social Issues – *Assistive technologies for persons with disabilities*, I.7.5 [Document and Text Processing]: Document Capture – *Document analysis*, I.7.m [Document and Text Processing]: Miscellaneous – *mass marketing of computing systems*.

General Terms

Documentation, Design, Economics.

Keywords

Cochlear implants, deaf studies, discourse studies, technical marketing communication, visual rhetoric.

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SIGDOC '07, October 22–24, 2007, El Paso, Texas, USA.

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1. INTRODUCTION

Hailed in the news media as a miraculous device for instantly transporting people from deafness to hearing, the cochlear implant “is a small, complex electronic device that can help to provide a sense of sound to a person who is profoundly deaf or severely hard-of-hearing. The implant consists of an external portion that sits behind the ear and a second portion that is surgically placed under the skin” (“Cochlear Implants”). The implant is designed to bypass the non-functioning or damaged hair cells in the inner ear by stimulating the auditory nerve directly with bursts of electrical impulses.

Depending on how the debate is framed, the implant promises either to restore hearing to deaf and hard-of-hearing children and adults, or to severely undermine the rights and viability of a linguistic minority with its own unique culture (Deaf Culture). Are deaf people tragically afflicted with an impairment that requires the mainstream (hearing) culture to care for, monitor, and educate those deemed “impaired” in order to make them more normal (i.e. more like hearing people)? Or is Deafness “a different way of being” [19] that is grounded in a unique culture and language (in this case, sign language). These questions tend to resolve into a basic distinction between two views of deafness: the mainstream view of the medical establishment that being deaf constitutes a disability, a defect or deficit; and the Deaf Culture view that Deafness is an identity, culture, and linguistic minority. These views are both reflected and shaped rhetorically. In this paper, I analyze the discourse and visual rhetoric of marketing materials from two major cochlear implant manufacturers (Cochlear Ltd. and Advanced Bionics) for the ways in which they construct deafness as a medical problem (as opposed to a social issue), downplay the implant’s tenuous status as a cure-all for deafness, ignore the debate over implants within the deaf community, and link hearing to salvation through the use of numerous images depicting implant users in various states of overwhelming happiness.

2. COMPETING MODELS OF DEAFNESS

The cochlear implant is comprised of four parts: A microphone for picking up sounds in the environment; a speech processor which translates the sounds into a complex series of electrical impulses, a transmitter/receiver for sending the signals through the skin barrier, and an electrode array surgically implanted into the patient’s cochlea (see Figure 1). The cochlear implant is not another device for making incoming sounds louder. Whereas hearing aids amplify sounds, the cochlear implant bypasses the tiny hair cells in the cochlea (which may be damaged, not present,

or not in great enough numbers) and stimulates the auditory nerve directly with electrical impulses—over a million per second (Chorost 2005). These impulses originate at the unit’s speech processor (worn outside the body), which processes incoming sounds (using one of the available digital or analog software algorithms) and sends them to the transmitter.

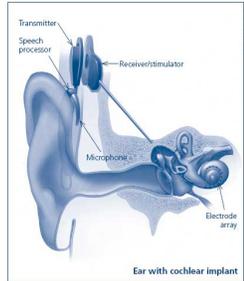


Figure 1. Cochlear implant graphic from The National Institutes of Health [6]

The transmitter—a small coin shaped device which attaches to the receiver magnetically—sends the signals, via radio waves, across the skin barrier to the receiver. The receiver takes the signals and sends them down to the electrode array inside the cochlea itself, where the signals are programmed to fire different electrodes along the array. The result is a rapid fire stimulation of different areas of the auditory nerve to provide a sense of sound.

The cochlear implant has been hailed as a miracle. Cochlear Ltd., one of the largest implant producers, calls the implant on its website “a technological triumph. It’s the only medical device designed to restore a human sense.” Their motto—“Hear Now. And Always”—crystallizes a view that resonates in popular accounts: namely, that implants provide immediate access to a full range of sound for users of all ages. Indeed, outcomes have been promising, even cause for celebration, especially for post-lingually deafened adults who were accustomed to processing sounds naturally before the onset of deafness. In the case of implanted children, younger recipients tend to do better: “The earlier the baby’s brain wakes up and says, ‘Hey, this is audio data, I’m going to be an audio brain,’ then the less habilitation that baby needs” [20; see also 12]. But the National Association of the Deaf cautions against generalizing to pre-lingually deafened children. Children born deaf or hard-of-hearing who are implanted as early as possible must still endure the “arduous process” of learning to speak, which “require[s] long-term commitment by parents, educators, and support service providers, with no guarantee that the desired goal will be achieved” [17]. By accepting at face value that the implant miraculously “restore[s] a human sense,” parents may be unprepared for the amount of work that inevitably follows surgery and that may last for years. According to one parent of a deaf child,

Having the implant doesn’t make you hearing. It makes you hearing if you do all the work, I guess. But it doesn’t make you hearing—just boom. A lot of parents are misinformed and they don’t work with their children. [The numbers of children in regional day school programs] have not diminished at all, even with the influx of cochlear implants. [20]

The “just boom” view that is reflected, for example, in the “Hear Now” rhetoric of Cochlear Ltd. does not account for—and to some extent clashes with—a different view, one that aims to

temper the excitement about implants with a reality that each implant user’s results will differ.

While the surgery is expensive (between \$40,000 and \$60,000), it is covered by some health insurance providers [8]. The FDA has gradually relaxed the age requirement on the implant, which was originally approved for adults only. Now U.S. children as young as twelve months may qualify for surgery [7]. In Germany, children “are getting implants as early as five months” [20]. As of 2005, the FDA reports that “nearly 100,000 people worldwide have received implants. In the United States, nearly 22,000 adults and 15,000 children have received them” [7]. The risk of complications from surgery are very low. The only significant problem has been a meningitis scare linked to a specific implant “positioner” that has not been used since 2002 [11, 13]. The technology continues to improve. Whereas the earliest implants in the 1970s, prior to FDA approval in 1984, contained one electrode and operated on one channel, the latest models contain up to 24 electrodes and operate on up to 22 channels. The software that powers the speech processor is continually being upgraded and refined. Multiple software algorithms, digital and analog, are available for implant users to choose from [9]. Since the speech processor is worn outside the body, its software can be updated or re-mapped easily. (However, the number of electrodes implanted in the ear can not be upgraded without surgically removing the implant.) The speech processor comes in two main types: behind-the-ear (BTE) and body-worn (the speech processor is placed in a shirt pocket or other location and connected by a wire to the transmitter).

But the cochlear implant is not just a technology. A full account of the implant must include how it reflects and shapes our cultural attitudes about deafness. Michael Chorost’s preference for the body worn processor, despite the better performance of the BTE model, begins to suggest the shape of these attitudes:

[The version that looks like a hearing aid] is a lot easier to put on, and it works just as well. Better, in fact, because it has a clever microphone design that uses the outer ear as a funnel to collect sound. But I usually choose to wear the box on my hip. The reason? *It doesn’t look like a hearing aid.* Few people know *what* the heck it is, and I find that wonderfully liberating. It frees me from all the cultural baggage that hearing aids carry.

For Chorost, the performance of the technology is, surprisingly, only one criterion for choosing among the two options. Other issues seem to play a deciding role for him—even when he is confronted with a seemingly easy choice. Specifically, Chorost’s decision seems to be influenced by his experiences as a former hearing aid user of being treated poorly or differently by the majority hearing culture. He implies that deafness is not just a physical condition that the deaf person alone experiences and alone negotiates (e.g. with implants, hearing aids, sign languages, interpreters, deaf communities), but also a perspective imposed from without by a majority hearing culture that not only saddles hearing aid wearers with discrimination but has historically made decisions about what to do with deaf people [2].

Chorost does not explain what he means by “cultural baggage,” most likely because he does not need to. Ideologies of deafness circulate readily in our culture. The dominant ideology, for example, paints deafness as a disability to be fixed or, at the very least, ameliorated. The medical community tends to subscribe to this view, which has also been called the “infirmary model” [16]

and the “pathological view” [4] by deaf activists and deaf studies scholars.¹ In an article written for head and neck surgeons, Thomas Gonsoulin describes the medical community’s perspective: “a nonhearing person operates from a deficit position” that significantly and negatively affects her “neural development” [12]. As a result, implant specialists and audiologists are driven by a desire to find a remedy for a physical condition that prevents nonhearing persons from participating in the wider (hearing) culture, acquiring (spoken) language, and developing both intellectually and socially. Gonsoulin suggests that what motivates the medical profession is “beneficence”:

The very reason for being a physician is to help others. This is our calling and often the validation of who we are in society. Almost by definition, deaf persons, from the profoundly to the mildly deaf, have a disability. It is part of our nature, part of our mission in life, to attempt to ameliorate that disability. We feel called to push the edge of increasing success for a promising scientific otologic intervention. [12]

Starting from a “deficit” or “disability” perspective, Gonsoulin suggests that it is difficult not to find absurd the argument that “deafness is not a disability.”

According to deaf studies scholars, the deficit perspective makes a number of problematic assumptions because it starts from the perspective that only hearing people have access to a necessary precondition for humanness. When deafness is reduced to a physical defect, its potential to catalyze a vibrant and unique culture is missed or, even worse, considered absurd. Rather than starting from a set of values that “are largely negative” [16], the cultural model typically starts with the claim that because deaf people have their own language (e.g. American Sign Language), they are a language minority, akin to any other language minority and deserving of the same respect and protection. The Deaf Culture or Deaf-World perspective (now displayed in capital letters) starts from a different set of questions than the deafness-as-defect perspective, such as “What are the interdependent values, mores, art forms, traditions, organizations, and language that characterize this culture? How is it influenced by the physical and social environment in which it is embedded?” [16]. The Deaf Culture perspective, moreover, defines Deaf identity in relation to each member’s participation in the traditions of the Deaf community, the social ties that bind Deaf people, the educational experiences they share in schools for the Deaf, the stories they tell and pass on, the Deaf clubs that have historically played an important role in the lives of Deaf adults, and so on—in short, each member’s enculturation and embeddedness within a Deaf community.

The Deaf Culture perspective, moreover, tends to relocate the problem from deaf people to the dominant hearing culture. Rather than starting from the perspective that deaf people are a problem for a “beneficent” society, the Deaf Culture perspective calls

attention to the ways in which deaf bodies have been managed historically and continue to be controlled through educational philosophies (e.g. “oralism”), the popular media, and technologies such as cochlear implants [e.g. see 2, 3, 4, 16, 18]. Ironically, the desire to cure deafness—to eliminate difference—comes at a time of “respect and celebration of difference” [18]: the popularity and recognition of American Sign Language as a second language for hearing people (especially on college campuses); the convincing case that sign languages are *real* languages (not ad hoc collections of gestures or mimes); the demands of deaf people for civil rights (e.g. the famous and successful Deaf President Now protest at Gallaudet University in 1988); the “shift away from describing hearing loss as a basis for describing being Deaf”; and the opportunities afforded by new technologies (e.g. video conferencing) that positively impact the quality of life for deaf people. Yet deaf bodies continue to be oppressed and managed. In the context of deaf education, Carol Padden & Tom Humphries write that the “reason why deaf children are treated so severely must be related to their long history as bodies under the control of institutions” [18]. From this perspective, the concept of oppression (specifically, “audism” [1]) helps to explain the dominance of the oralist approach to deaf education, the seeming absurdity of the Deaf Culture position, the public’s fascination with medical miracles that hold the promise of finally curing deafness once and for all [15], and the implicit assumption that sign languages are not as good for intellectual development as speech.

When deafness is treated solely as an affliction, a stigma, and a lack [see 16], deaf people are viewed as less than human, cut off from one of the minimum requirements for full participation in (hearing) society. The disability model is grounded in what Brenda Brueggemann calls a “will to speech” [4] that narrowly defines the rhetorical tradition by linking thinking exclusively to speaking. Those who can not speak are assumed in this tradition to have remarkable deficits in thinking and reasoning. Brueggemann summarizes this view: “*Language is human; speech is language; therefore, deaf people are inhuman, and deafness is a problem*” [4]. H-Dirksen Bauman puts it this way: “[T]he concept of what it means to be human becomes intimately tied with speech” [1]. Because some deaf people have perceived difficulty with speech, they are deemed a tragic problem to be solved at any cost.

Cochlear implants stand at the center of this controversy. On one side, they are hailed as a miracle cure for deafness and a validation of the argument that deafness is only a physical defect. Deafness can not “constitute cultural membership,” since “culture, as dictionary-defined, is passed on by people, not by genes” [12]. On the other side, implants are viewed as another in a long line of attempts by the “majority culture to impose its language and values on the Deaf rather than modify its institutions to take account of the perspectives and needs of members of another culture. Cochlear implant technology represents an attack on the culture of the Deaf, because it seeks to ensure that deaf children grow up to use a spoken language rather than the signed languages of the Deaf” [19]. The search for a cure has been compared to “genocide,” an attempt to eradicate a minority culture. However, the arguments in favor of Deaf Culture are not warranted for hearing people who start from a deficit perspective. Given that our medical and educational institutions subscribe to such a perspective, and that approximately ninety-five percent of deaf children are born to hearing parents who

¹ Brueggemann makes a distinction among three views of deafness: disability, pathology, and culture. The first two she distinguishes on the basis of the “institutions behind them: literacy education finds itself most intertwined with attitudes and assessments of disability, while science—particularly biomedicine and its technologies—paves a way to pathology” [4]. Most scholars, however, make a basic distinction between disability and culture [e.g. 12, 16, 19], and I follow their lead here, while recognizing the usefulness of Brueggemann’s tripartite distinction.

understandably want their children to be hearing like them [20], it is not surprising that cochlear implants have been embraced, perhaps uncritically [8, 17], by mainstream culture.

The cochlear implant debate brings to the fore questions of agency. Who has the right to speak for deaf people? Do cochlear implants release deaf people from the burden of being deaf by giving them the means to join the mainstream culture? Do the “disadvantages” faced by people who are deaf . . . have social and institutional causes” that require “changes in the way society is organized” [19]? In short, to what extent do deaf people have a right to self-determination when their choices may clash harshly with the values of the mainstream culture?

3. MARKETING COCHLEAR IMPLANTS

These competing models of deafness and the ways in which they find expression in news discourse provides the backdrop for a study of how assumptions about deafness and hearing inform the delivery of technical marketing information to prospective implant recipients and their families. In April 2006, I requested and received promotional packages from two major implant manufacturers (Cochlear Ltd. and Advanced Bionics). Even though both packages included materials for prospective adult users, each also included at least one document for children, such as a coloring book, most likely because I had requested information for parents of prospective implant users. Cochlear’s folder was printed on two sides with “Pediatric Patients.”

Given the high cost of the implant, it was not a surprise to receive carefully designed and high quality materials from both companies. Each package came loaded with sleek, heavy, rich, and colorful brochures, flyers, coloring books for (deaf) kids, and closed-captioned DVDs.² In what follows, I reconstruct these two promotional packages as a loose narrative, one that substitutes a construction of the implant as a complex, contested, and far-from-perfect technology for a construction of the implant as an inevitability, a mere accessory, and a road to unadulterated happiness.

3.1 Reliability Over Performance

Brochures for cochlear implants present readers with an idealized world in which every deaf and hard-of-hearing person is an implant candidate. In this world, the decision to implant is easy, because the decision-making process hinges so much on reliability (how often

² Cochlear Ltd.’s package included: a cover letter; a 35-page full-color 8.5x11 brochure featuring an implant design called the “Nucleus Freedom”; an 11x25.5 full-color tri-fold brochure on “Reliability Matters”; a 25-page 8.5x11 coloring book with stickers explaining to children the steps involved in receiving and living with an implant; and two DVDs (“Jacob’s Journey” and “Back to the Hearing World”). Cochlear Ltd. is on the Web: <http://www.cochlearamericas.com/>.

Advanced Bionics’ package included: a 39-page 9.5x11 brochure featuring an implant design called the “HiResolution Bionic Ear System”; a 14-page 9.5x9.5 “Processor Accessory Guide” that also contained two additional pages of stickers and one additional page of cut-outs; a 24-page 8.5x11 coloring book with stickers in the same vein as Cochlear’s coloring book; “Tools for Schools,” a folder designed for educators of children with implants, containing four pull-outs and two CDs (“The Adventures of Bionic Buddy” and a reference CD with resources, images, and presentations); an 8.5x11 tri-fold brochure on “The Bionic Ear Association”; two DVDs (“Cecilia’s Story” and “Hearing Your Life”); and two full color 8.5x11 fliers to accompany the DVDs. Advanced Bionics is on the web: <http://www.bionicear.com/>.

does it fail?) rather than on the more important but more difficult question of performance (how well will it work?). When the decision to implant appears to be simple (because the implant rarely fails and because it presumably works just like natural hearing), the implant can more easily be characterized as an accessory. In this way, the marketing materials can focus on the wealth of options that await implant recipients (color, size, audio input accessories, battery life, processor type).

Cochlear’s 11x25.5 tri-fold brochure, “Making an Informed Decision: Reliability Matters,” reduces informed decision-making to a question of reliability – i.e. what is the likelihood of the internal device experiencing a catastrophic failure? The brochure states: “When making your decision, reliability of the internal implant should be the first and most important consideration.” And: “The reliability of the internal implant you choose is of the utmost importance.” The brochure is offered up as supplying the only information prospective patients and families will need to make an informed decision: “With factual information in hand, you can be confident that you are making the best choice – one that will last a lifetime.” The brochure uses two graphs to display failure rates. In one graph, a difference of 1.33% between Cochlear and Advanced Bionics is magnified to create the illusion of a much greater difference (see Figure 2).

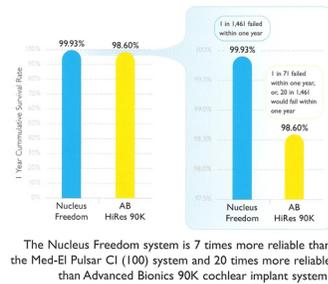


Figure 2. Comparison of reliability statistics. The designers have magnified the left graph as a callout on the right to accentuate the 1.33% difference. Source: Cochlear’s “Making an Informed Decision”

While the two companies’ products are comparable in terms of failure rates, they are made to seem incomparably different. Reliability is clearly an important criterion for consumers of implants. But insofar as Cochlear reduces the decision-making process to a question of reliability (will the device fail?), it sidesteps the more important question of quality (how well will it work?). A question such as, How much benefit can the prospective implant user expect from her implant?, is simply too hard to answer, given the wide differences between users in terms of age, age of onset of deafness, facility with spoken language prior to surgery, type of implant and software, and commitment to post-implantation therapy. While generalizations can be made about users and success rates (e.g. post-lingually deafened adults tend to do better than pre-lingually deafened children), the variables that affect performance can not be reliably quantified. Chorost [9] writes of one implant user named Beth who had “all the right factors” for success but whose “hearing didn’t improve.” For Chorost, “Beth’s poor results are a mystery.” No wonder, then, that Cochlear sidesteps the thorny question of quality.

3.2 Sounding the Inevitable

If Cochlear frames decision-making in terms of reliability, Advanced Bionics presents it as an inevitable march towards implantation. While acknowledging in their brochure for the

“Bionic Ear Association” that the decision to implant is an important one, Advanced Bionics also leaves little room for choices that do not involve implantation. From the back cover:

Advanced bionics understands that choosing to get a cochlear implant is a decision that affects the rest of your life. Your support network starts with the Bionic Ear Association (BEA). The BEA was developed by Advanced Bionics to provide information, guidance, continuing care, and lifelong support to cochlear implant candidates and recipients.”

In this example, what seems, at first, like a choice between getting an implant and not getting one is actually no choice at all: The implied reader has already chosen the implant. In this way, the services provided by BEA (“information, guidance,” etc.) read like a journey that always ends with “lifelong support” (i.e. implantation). In the following example from the same brochure, a testimonial from a user suggests more clearly how a seemingly open-ended request for information seems to lead inevitably to implantation:

I wanted to find out more about cochlear implants, so I joined the BEA online at www.BionicEar.com. A BEA member personally contacted me, answered my questions, sent me some great literature and videos, connected me with Cochlear Implant Centers, and kept in touch with me through the process.

This request for information seems to lead down an inevitable path towards implantation (which is presumably part of “the process”). Not considered here is the possibility that such a request might lead down another path that does not include implantation.

This logic of inevitability is reinforced graphically in Advanced Bionics’ “Processor Accessory Guide.” This 14-page brochure opens and closes with images that play on the same theme (see Figure 3 for one of these images).

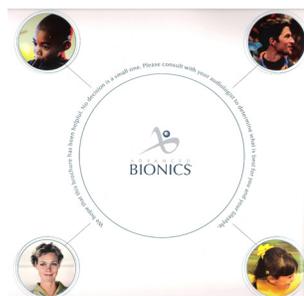


Figure 3. The last page of Advanced Bionics’ “Processor Accessory Guide”

In this image from the last page of the brochure, the Advanced Bionics name and logo are enclosed by a large circle with text tracing the circle’s outer path. Four smaller images of implant users, located in each corner of the page, are similarly encircled, and a graphic line leads from and connects each smaller image to the large circle. In three of the four images, implants can be clearly seen on the heads or behind the users’ ears. The text on the path seems to reinforce the idea that the decision to implant is an important one: “We hope that this brochure has been helpful. No decision is a small one. Please consult with your audiologist to determine what is best for you and your lifestyle.” And yet the text curiously equates *all decisions*, big and small, since “No decision is a small one.” The decision to implant thus becomes not unlike any other decision we have to make every day, even the most trivial ones (see the next section on the sometimes trivial act of accessorizing the implant).

Moreover, Figure 3 reinforces the inexorable logic of implantation, insofar as the four smaller images of implant users are linked to Advanced Bionics both graphically and thematically (with connecting lines, repeating circles, and the company logo playing a dominating role in the middle of the page). Again, it seems that all roads lead inevitably to implantation.

3.3 A Mere Accessory?

By constructing the decision to implant as both inevitable and trivial, Advanced Bionics provides a rationale for presenting the implant as a fashion accessory, akin to jewelry and endlessly customizable to suit the wearer’s mood and personality. The problem with this view, of course, is that the implant is not an accessory but a complex technology still very much a work in progress for the companies manufacturing them. It is easy to lose sight of this fact when browsing marketing materials. We still do not understand enough about natural hearing to replicate the ways in which the hair cells in the cochlea receive sound and translate it into nerve impulses. Currently, implants “replicat[e] only one of the ear’s mechanisms” for converting sound, called “place coding” [9]. The other two mechanisms – rate coding and phase coding – are “so much more difficult to replicate electrically that the engineers have focused on place coding” [9]. Reducing the decision-making process to such surface level issues as the color of the external processor may be good for business but it undermines the need for prospective implant users and their families to be well informed. Indeed, the National Association of the Deaf cites as a main concern of the deaf community that “family members, especially parents of young children, may not make informed decisions” when they are “misled” about the implant’s benefits [8].

Advanced Bionics has devoted an entire brochure to selling the idea of the implant as a customizable accessory. The “Processor Accessory Guide” is a 14-page, 9.5x9.5 full-color brochure that describes power options, earhook designs, color choices, accent caps, and the body-worn processor as an alternative to the behind-the-ear model. In the middle of the brochure are two additional pages of try-it-yourself colored stickers to be used with a third page of cardboard cut-out BTE processors. To get a feel for how the implant will look on them, prospective users can place one of the accent colors (Blending, Sophista, Techno, Metallic, or Kinder) on one of six cut-outs. The cut-out is then “place[d] on right ear for simulated look.”

The accessory guide depends on the idea that style is substance. The focus is on comfort, ease-of-use, convenience, color, mood, personality, and protecting the environment. A few examples:

With the HiRes™ Auria™, you or your child have a wide range of sound processor options that can be customized to fit your lifestyle today, and evolve to meet your needs over time.

PowerCels™ are easy to use, environmentally friendly and extremely cost effective. Now, that fits everyone’s lifestyle.

Ultra-light for comfort, convenience and retention.

SIMPLE Style!

This stylish composition is perfectly convenient for teens, adults and those who want to keep everything behind the ear without additional wires. The custom rechargeable PowerCel™ technology is environmentally friendly, convenient and lasts for years.

The HiRes™ Auria™ can be customized to keep what you wear on your ear *very small* and *ultra-light*.

Whatever you want, the HiRes™ Auria™ Base Colors and Accent Colors can fit your mood and lifestyle.

In these examples, customization does not extend to the software that powers the implant (which is also, technically, customizable) but only to surface level concerns. Visually, this focus on style may draw on the genre of beauty and makeup ads, as in Figure 4.

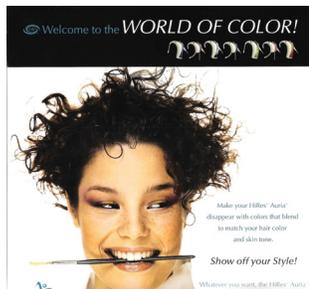


Figure 4. A page from Advanced Bionics' "Processor Accessory Guide"

It would not be surprising if this were in fact an ad for makeup taken from a beauty magazine such as *Glamour* (the paint brush in the model's mouth becomes a make-up brush). While the product is invisible on the model, the viewer is expected to make a metaphorical connection between the product and what the image promotes (beauty, style, sex appeal, independence, happiness, fashion).

3.4 In/Visibility

Not everyone is an implant candidate. According to the National Association of the Deaf,

Individuals whose eighth nerves are not functioning well (the auditory neurons are damaged) are poor candidates for implants because the cochlear implant needs intact neurons to function. People who became deaf many years before considering an implant are often poor candidates for a cochlear implant. Persons who are prelingually deaf (whose age at onset is at or prior to age 3 or 4) may benefit from a cochlear implant, but typically require much more post-implant training to succeed. Individuals who are not strongly committed to cochlear implants and who do not invest the substantial amounts of time required for post-implant rehabilitation and training will benefit less than will those who do make those post-operative investments. [8]

Moreover, Chorost notes that "race is an important factor in who gets an implant. Of the 439 families of children [Gallaudet University] surveyed in 1999, only 4 percent were African American, even though African Americans make up 12 percent of the U.S. population" [9]. Socioeconomic factors may ultimately explain why sign languages may continue to be a viable option for some groups, despite improvements in the technology. Even though Chorost forwards the idea that the signing deaf community may be a "community without children" in fifty years, he does entertain the possibility that, at least in the near term, "the signing deaf community is likely to become increasingly populated not by children of lesser gods but by children of lesser economies" [9].

And yet diversity reigns in cochlear implant marketing materials. With the exception of class differences, differences do not seem to matter when it comes to displaying potential implant candidates: young, old, black, white (see Figure 5). This claim does not depend solely on finding enough images of non-white children and adults in brochures either.

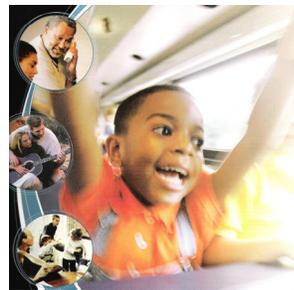


Figure 5. A page from Advanced Bionics' "HiResolution Bionic Ear System"

This appeal to diversity is strengthened by the implant's tenuous visibility in marketing images. As Figure 4 shows, the implant may simply be invisible. Given the stigma associated with being deaf, no wonder marketers promote, often subtly, the technology's invisibility, the way it fits seamlessly into a (potentially audist and hostile) environment populated by hearing people and negative stereotypes. If it is invisible, the argument goes, anyone could be wearing one.

Cochlear's "Nucleus Freedom" brochure, like the brochures of its main competitor, contains a number of images of people wearing partially or fully visible implants. But the implant is also fully hidden in a handful of other images. (It is not clear whether hidden implants are actually hidden under hair and camera angles, or simply not present at all.) Of thirty-two images in this brochure that feature at least one person, an implant is visible in only eighteen images.³ Moreover, images of invisible implants are sometimes placed on prominent pages of the brochure. For example, the opening spread on the inside cover contains three images of people; the implant is invisible in all three images. The single image on the next spread does include a partially visible implant (the earhook can be seen but not the processor or transmitter). The third spread includes a table of contents on the left page and an image of two girls on the right page, but no implant can be seen on either girl (see Figure 6).



Figure 6. A partial page from the third full spread of Cochlear's "Nucleus Freedom" brochure

Granted, the girl's hair is covering the implant – that is, if the girl in the foreground is actually wearing an implant. Or perhaps the girl behind her is the *real* implant user? My point is simply that the marketing materials capitalize on the reader's desire to restore hearing by making deafness (and all signs of deafness, such as implants) invisible. One can give the impression of hearing – the

³ I only counted repeating images on the same page one time. In the case of small images (e.g. p. 15), I sometimes had to look very closely and carefully to see the implant.

discourse of “passing” speaks to this – by removing or hiding the stigma long associated with hearing aids and other technological prostheses.

3.5 The Holy Grail

The implant is also marketed as a perfect technology, a seemingly miraculous solution to the problem of deafness, despite the widely recognized difficulties that many implant users have negotiating noisy environments and certain activities (e.g. talking on the phone, listening to music, whispering). And yet both companies downplay the challenges of these “holy grail” activities by featuring them prominently in brochures. Figure 5 shows a man talking on the phone and a couple playing the guitar. Figure 7 shows a boy, presumably an implant user, with a phone to his ear on the front cover of an Advanced Bionics brochure.

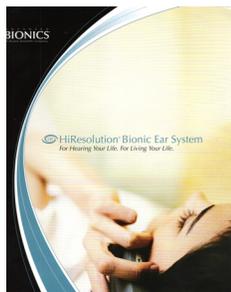


Figure 7. Front cover of Advanced Bionics' "HiResolution Bionic Ear System"

This misleading image gives the impression that implant users talk on the phone just as hearing people do, when in fact it may be more effective for the user to connect the phone (or other device, such as an mp3 player) directly into the processor itself, removing the need to hold any device up to the ear (although a phone would still need to be held up to the mouth). In Figure 8, one girl whispers to another girl, as the main text (“Hearing Your LIFE!”) proclaims the connection between hearing and living. This image is placed prominently on page one of the brochure.



Figure 8. Page 1 of Advanced Bionics' "HiResolution Bionic Ear System"

There are a number of images in this vein. In the main brochure for each company, I count a total of fifteen images: nine images of people listening to or playing music, five images of people talking on the phone, and one image of people whispering.

3.6 Hearing as Salvation

The tenuous visibility of the implant is mirrored by the tenuous visibility of hearing itself. Hearing is never really visible or noticed until it is in question; hearing is the assumed ground of conversational interaction. Deafness only becomes marked when

interaction breaks down, when someone “talks funny,” or when implants or aids are clearly visible. People who are hard of hearing (and perhaps have a facility for lip reading as well) may be able to pass for hearing in certain situations. Brenda Brueggemann writes about passing for German whenever people would question her about her “accent” [5].

How do you visualize hearing if hearing is invisible in the static medium of print? As a marketer of hearing devices, how do you reveal and reinforce the importance attached to hearing by the dominant hearing culture? Outside of marking the text with symbols such as musical notes (which does occur in the brochures), there are two strategies at work for visualizing and reinforcing the life-giving status of hearing. In the first strategy, hearing is metaphorically compared to seeing. Deafness is by extension akin to blindness. The name of Advanced Bionics’ “HiResolution” implant is one example of how a vocabulary of seeing informs the delivery of technical information to the public. In Figure 9, both Advanced Bionics (left) and Cochlear (right) rely on a technique of visually revealing and muting a repeated image to demonstrate the implant’s benefits.



Figure 9. Hearing is seeing in a page from Advanced Bionics' "HiResolution Bionic Ear System" brochure (left) and Cochlear's "Nucleus Freedom" brochure (right)

This technique is also used by Cochlear to show the differences between its product and two other brands. The same image is shown three times, with the clearest image representing the clearer picture of sound for the users of Cochlear’s product.

According to the other means of visualizing hearing, hearing is linked to being fully and joyfully human (or, as Advanced Bionics puts it: “Hearing your life”). Hearing is more than mere happiness, however. Hearing is visually equated with pure joy, ecstasy, rapture, and, in at least one case, even borders on salvation and rebirth. A number of striking images featuring children and adults in various states of frozen ecstasy – mouths wide open, heads back, living for the moment, so seemingly happy – are at the center of this strategy. Figures 5, 6, and 8 begin to suggest its contours. In Figure 10, a shirtless boy is captured in an ecstatic state on the front cover of Cochlear’s “Nucleus Freedom”: mouth agape, head tilted back, arms outward as if receiving a gift from above, the water from the sprinkler washing over him and cleansing him in its baptismal, restoring waters. He has been reborn into the world of the hearing, the world of the living. In a related strategy (not shown), hearing is linked to serenity and self-satisfaction.

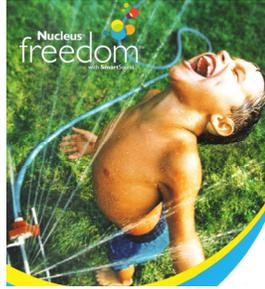


Figure 10. An ecstatic pose on the front cover of Cochlear's "Nucleus Freedom" brochure

4. CONCLUSION

This paper has considered some of the ways in which marketing materials for cochlear implants persuade potential users and their families of the effectiveness of their products. A loose narrative is at play here. The grounds for making a decision are framed by the question of reliability. Having reduced decision making to a single criterion (failure rates), manufacturers can sidestep the more difficult questions regarding the implant's "under the hood" performance, not to mention the variable, and to some extent surprising, outcomes for patients. The decision to implant becomes inevitable, and the brochures turn to more trivial issues such as comfort, convenience, and color. Finally, the value of hearing to a hearing culture is reinforced by portraying the implant itself as salvation, the joyous outcome of an inevitable and relatively painless decision making process.

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