

# Look at Helen Keller: New Aesthetic Possibilities from Assistive Technologies for the Blind and Deaf in the Post-Lingual Age

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I originally gave this paper a year ago in Los Angeles for a panel on the topic of a "post-lingual" society. For me, the phrase "post-lingua" is an intriguing one. It plays with the idea that human communication and culture has progressed linearly from a primitive use of voice, through the age of literacy, into our current technological and graphical age. This is an age in which the *word* --in the form of speech act and text --is stripped of its referent and serves as fodder for the image in print, film, and electronic media. The "post-lingual" age is an age in which gatekeepers of proper culture and communication rail against youngsters' inability to read or speak correctly --replaced, so it seems, with sophisticated appetites for mashed-up TV and music and superpowers reserved for Playstation 2. The fear is that we're setting up our species for an evolutionary turn by which our tongues will disappear from lack of use --marking our time as "after the tongue."

But it's clear the progression from orality to literacy didn't kill off our abilities to speak. Even now, after the electronic and graphical revolutions, voice --and the communications devices that make use of it --telephone, radio, television, and internet--adapt themselves to what language historian Walter Ong has called a "secondary orality" <sup>1</sup> --or a way in which we use our voices that is forever determined by the presence of text. By using the phrase "post-lingua" as a lodestar, I'd like to show that text is currently undergoing similar adaptations as it finds ways of being useful and pleasing in our current culture, and that the most provocative examples come from assistive technologies for the blind and or deaf.

The reason why I made reference to Helen Keller in the title of this talk is that, although her story fascinates us for many reasons -- it's a tale of transformation of a wild child into a Victorian model of civility and a rumination on the exoticism and possibilities of plural disabilities --she also impresses of us with her developed talents for a range of communication technologies. She was a model hacker with the foreign codes of writing, reading, speaking, hearing, Braille and Sign Language. One can see a "hacker" aesthetic even in the artifacts of Keller's early letters, as each word bears a trace of the tools that were used to form it. But if one pulls focus away from these traces and concentrates on the meaning of her words, one sees evidence of a rare condition. One sees the work of a person who was literate before she was oral --that is, she knew how to write before she knew how to speak. I was hooked when I first read Keller's letters. As a graduate student working in new media, I struggled daily with lots of machines, booting and beating them up to help me make something I could call art. I felt that Keller's bouts with Braille, tablets and styluses, American Sign Language, lip reading, and vocalizing were an analog for my own struggles with email shell accounts, nonlinear editing systems, programming languages, samplers and synthesizers. Cultural theorist Donna Haraway has voiced a similar admiration

It's true that there now exists a cultural climate in which we admire those who come closest to the machine -- those who literally incorporate new technologies in the forms of (if not

jealousy) for differently abled people whom she considers most successful at hybridization with communication devices --the real cyborgs of our society. <sup>2</sup>

prostheses, implants, or even a reworked genome. But also, as readers and makers of culture cut off from the means of production, we admire the work of those who touch their tools. As our hands disappear from the process of artmaking and reappear on our screens as blinking icons and cursors, we find pleasure in running our fingers over Braille, even if all we feel is noise. Maybe we feel pleasure because of it.

Braille and Sign Language fascinate because of their foreignness and potential for being served up as graphic elements, just as English-speaking artists sometimes use Japanese characters -- not in reference to a word's meaning --but as an interesting shape that signifies the exotic. We find a way to read the sign, even though it is obfuscated.

All artists, to some degree, are in the obfuscation business. Through the process of dragging and dropping an idea into material --watching as it melts and combines --we fret over the survival of its "essence" and wonder, "What would happen to this idea if it were translated into another medium, if it were touched by another tool?" This is perhaps, too, why sighted and hearing people attempt to translate pictures into sounds for the visually impaired and sounds into pictures for the deaf, because through this process we might understand what is immutable about an idea behind an image or a sound.

A provocative example of this kind of project is the voice sonification project developed for the web by programmer Peter Meijer. <sup>3</sup> Meijer's script translates black and white images into sound files by assigning a sound frequency to each pixel depending on its gradient. By listening to the looped sound, a blind person should, according to Meijer, be able to "see" the image of, say, a man's face. As the user changes the gradient of the pixels, the sound loop adjusts accordingly.

I'm pretty sure this technology is more interesting to people with good sight than to visually impaired users and I must admit that, on first encountering this website, I really loved it and was just thinking about how I might be able to use it in my own work. In fact, on first proposing this paper on the aesthetic possibilities of assistive technologies, I had in mind an exploration of tools like Meijer's--tools for translating sounds into pictures and pictures into sounds--skipping over, as it were, a obvious mediator. As it turns out, the assistive tools that offer up the most interesting aesthetic possibilities are far simpler since the exchange of images and sounds is most easily mediated by text.

The deaf community is one that has benefited from the electronic revolution. Email, chatlines, instant messaging, and listservs are useful developments for linking up a diaspora of wired and literate deaf people. In addition, closed-captioning has made TV a more inclusive medium by giving viewers a text version of lines spoken and even sung in a program. Each of these means of communication is a new use for text and, as is the

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<sup>1</sup> Walter Ong, *Orality and Literacy: The Technologizing of the Word*, Routledge, New York, 1982.

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<sup>2</sup> Donna Haraway, "A Cyborg Manifesto", *Simians, Cyborgs, and Women*, Routledge, New York, 1991

<sup>3</sup> <http://www.seeingwithsound.com/javoice.htm>

case with most adaptations made for people with a specific disability, they provide benefits for others as well. I don't know American Sign Language, but because of internet chatlines, I can communicate in real time with a deaf or hard of hearing person without the aid of an interpreter. Because of closed-captioning, I can practice reading and speaking Spanish.

In addition, watching television with closed-captioning helps me recognize, for instance, a Sunday night movie for what it is --a cultural production which intends to distract me, means for me to suspend my knowledge of its artifice. This is impossible if I can read the script *before* the actors speak the words. It also reveals that, at the core of a TV production, there almost always exists a written text, which steadfastly, though invisibly, reigns over the spectacle.

Although they're perhaps most discounted by the increasing dominance of image over voice and text, the visually impaired also benefit in the post-lingual age. The facility with which voices can be recorded, broadcast, and distributed -- and screen reading software that translates computer text into synthesized speech --all benefit blind communicators.

The latter has been crucial, in that it allows at least partial access to the Internet by visually impaired users. But the web, in all its graphic glory, holds little of interest for blind users unless sites are specifically designed to take them into account as part of their audience. Most web browsers allow for a user to "turn off" the images. If

a website is designed carefully --a textual description can serve as an alternative to the image. Sighted users can also choose to "turn off" the images because it saves loading time -- an act, which suggests many of the graphic elements on websites are not necessary for communicating information.

But, still, these images serve a purpose and one of the biggest challenges for mediamakers is in deciding how to translate the detritus the post-lingual age. Or more specifically, to decide what a .jpg or .gif file on a website *does* to a viewer and how one might use text to do the same thing to someone who can't see.

Ong points out that "word" aesthetics are really only utilities in disguise. For instance the poetics of Homer's *Odyssey* --its use of meter, assonance, alliteration and rhyming --can be seen as just tricks for memorizing a long poem. [4] Looking at a website designed specifically for visually impaired users reveals an aesthetic at work --it's a poetics which is also born out of necessity since these websites can only use text to convey information. To the graphically literate, it looks pretty plain, but I think we're coming into a period of the iconic age in which plain text can be seen as having its own graphic effect. Evidence of this is text-based aesthetic is found in the use of emoticons in email, in ASCII art, and on listservs in the fancifying of users' names with carefully inserted exclamation points, parentheses, and dashes --characters which ironically spring from text's inability to communicate emotion and cadence as effectively as the spoken word.

This text-based aesthetic is working its way into mass-produced culture as well. Wired Magazine bears less evidence of the "wired aesthetic" these days, perhaps persuaded by the fact that most of its readers were skipping over the printed issue of the magazine in favor of the on-line version that was always served up *sans* graphics.

TV and mainstream cinema are of course the two industries with the most invested in presenting a graphic visual spectacle and may be the last to bear evidence of a text-based aesthetic. But a new assistive technology called descriptive video service suggests a slight shift away from the spectacle towards text even

in the movie theater. DVS is simply an additional soundtrack put on a film, which one can access by wearing headphones in the theater, or by selecting a track on a DVD. A voice on the additional track provides a description of everything that is communicated visually in the film. For me, what's most riveting about DVS is the verbal translation of the icons and logos of the film's production companies --products of the graphic age, never meant to be described textually, but now this description is its own media element. It's just like the character of Ghengis Kahn in Italo Calvino's *Invisible Cities* who slowly realizes he will only ever know his empire through Marco Polo's words, but learns to appreciate the descriptions of unknown cities as an experience just as real as travel.

Now that graphics are regularly translated into words, producers of media should soon take into account assistive technologies like closed-captioning, alternative descriptions on websites, and DVS --and consider them as sites for artistic work. Closed-captioning might, say, find a way to textually describe timing or tone of voice. Alternative descriptions of image files on websites might also be used to communicate more than a bare bones translation of a superfluous image. DVS might use different voices or tones to communicate information, or voices might take on the role of additional characters in the narrative, written specifically as part of the story at its inception.

In reading alternative descriptions for image files on the web and listening to DVS tracks, I keep thinking how much the style reminds me of Alain Robbe-Grillet's novels in which description of surface replaces a plumbing of psychological interiors and depths. His novels were described by theorist Roland Barthes as work that does not "explode or explore, nor is it obliged to charge upon the object and pluck from its very heart its substance. . . language is . . . a progression of names over a surface, a patient unfolding that will gradually paint an object." <sup>4</sup> Barthes believes text works because it *is* superficial, but I think, in the post-lingual age, with all of its exploding and exploring, we'll continue to find text at the heart of things --and perhaps in the heart of the heart is a voice.

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<sup>4</sup> Roland Barthes, *Image, Music, Text*, Hill and Wang, New York, 1977, p. 45.

[1] Walter Ong, *Orality and Literacy: The Technologizing of the Word*, Routledge Press, New York, 1982.

[2] Donna Haraway, "A Cyborg Manifesto", *Simians, Cyborgs, and Women*, Routledge, New York, 1991.

Italo Calvino, *Invisible Cities*, Harcourt Brace Jovanovich, New York, 1972.

[4] Roland Barthes, *Image, Music, Text*, Hill and Wang, New York, 1977.