Empathy in the Time of Technology: How Storytelling is the Key to Empathy

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Abstract

Will the transhuman technologies that our accelerating future promises enable us to increase our empathy to others? Or will their use decrease our ability to understand 'the other' that exists outside our own selves, families, communities and cultures? As the world grows smaller and more connected, humans will grow ever more divergent because of their possession – or not – of a multitude of transhuman technologies, and so the role of empathy grows larger and more important than ever. In theory, sensory/media input stimulates mirror neurons, which enable empathy.Practically, empathy is created through storytelling, which is not only the most successful remote means of creating social empathy, but has actually been the engine of social/cultural liberalization and change. I will demonstrate both the positive and negative affects on empathy through the increasing reliance we have on transhuman media technologies and how I believe storytelling is the key to empathy creation.

In *Love in the Time of Cholera*, Gabriel García Márquez (Marquez 1988) joins two seemingly opposing concepts – love and sickness – and paradoxically unites them in his story as each enabling the other, as the hero becomes physically ill from his unrequited love and uses the pretense of mortal illness to be united with his love.

The question that faces humanity in the 21st Century is equally paradoxical, in that it joins the two seemingly ill-suited concepts of empathy and technology: will the H+/transhuman technologies that our accelerating future anticipates enable us to increase our empathy with others or will their use decrease our ability to understand 'the other' that exists outside our own selves, families, communities and cultures?

Empathy is:

> …the projection of one's own personality into the personality of another in order to understand him better; intellectual idenfication of oneself with another. (Webster's 1979)

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As the world grows smaller and more connected, the role of empathy grows larger and more important than ever. Where no empathy exists, conflict breeds. However, as our technological connectedness has increased, there does not appear to be a proportionate increase in global empathy. Instead, we are living in a time of relatively decreasing empathy, compared to our connectedness to the greater world. Its lack can be found all around us, be it in our wars, crime, inequality, anti-social behavior and even the lack of social consensus within previously homogeneous cultures and the myopic behavior of the "me generation."

How we develop and utilize transhuman communications technologies has enormous implications in our empathetic future, whether it concerns scientists considering the ethical implications of their own technologies, the creation of "friendly AI," or our ability to communicate empathetically via new media – or new bodies. As the rate of technological change accelerates, the issues surrounding empathy and their importance will only increase.

Key to understanding how empathy plays out neurologically is the emerging role of mirror neurons. Discovered in primates in the 1990s by Giacomo Rizzolatti, working with Leonardo Fogassi and Vittorio Gallese at the University of Parma, Italy, mirror neurons are:

> …a set of neurons in the premotor area of the brain that are activated not only when performing an action oneself, but also while observing someone else perform that action. It is believed mirror neurons increase an individual's ability to understand the behaviors of others, an important skill in social species such as humans. (Iacoboni et. al. 2005)

It has also been observed that children with autism have abnormally low activition in the inferior frontal gyrus pars opercularis, which contains the mirror neuron system, while imitating and observing emotions. The lower the activation, the more the social impairment (Dapretto et. al. 2005). Autism is a condition often associated with a reduced ability to empathize with others.

Mirror neurons, and therefore empathy, may not exist only in primates. Mice appear to demonstrate empathy, or at least effective behavior modeling, although brain scans have not yet been done to determine the precise location of their empathetic response (Langford et. al. 2006). If mirror neurons are found here as well, it could demonstrate that empathy is an evolutionary adaptation for mammals in general and increasing empathy (increasingly effective modeling) seems to correlate generally with higher levels of organization. If accelerating technology means our own species and its interactions continue to gain in complexity, then by necessity, we must increase our levels of empathy to follow suit. If we don't, we may become unfit to continue as a species and bring about our own demise.

Empathy and technology have been linked for millennia. As a long time social and tool-making species, both abilities are evolutionary adaptations for our collective survival. Empathy and technology became inextricably linked when information technologies developed. The first great wave of transformative information technologies happened with the birth of written language, allowing thoughts to be recorded and referenced later, enabling one to experience the thoughts of another at any time. The next wave came with the advent of the printing press and the popularization of vernacular literature as a mass-medium (Davis 2004). This allowed the mass dissemination of counter-cultural and liberalizing ideas throughout Western civilization. Some of the most powerful ideas were distributed through printed stories as novels, the first great mass entertainment medium.

But what is it in a story that makes us empathize? I believe it is the imaginative act of the reader translating the words on the page into thoughts and feelings, enabling them to see the world through the characters' eyes and feel their feelings. It is also the recognition that humans share common needs, goals and aspirations and that these are either met or unmet in the story of every life, be it real or fictional. Whether the story is a comedy or a tragedy only depends on the point of view. There could be an entire

essay in what will happen to storytelling itself if H+ technologies allow human consciousness to achieve a global or cosmic perspective. Regardless, what makes literature such a potent brew is that we do not suffer these virtual travails in our own reality. We survive the vicarious experience, which might be devastating to us in reality, and emerge relatively unscathed, packing storytelling's virtual punch.

Storytelling is both the seductive siren and the safe haven that encourages the connection with the feared "other." As a reader, I know that I don't really have to go to Japan, be sold into human slavery and train to be a geisha to feel for a geisha's existence. I don't even have to speak to a geisha and risk the mutual embarrassment of cultural or linguistic misunderstanding. I just have to read *Memoirs of a Geisha* and somehow, my appreciation for the travails of women in another culture that is so alien to mine will grow in ways usually impossible without intense human contact.

In Pulitzer-prize winner Jane Smiley's (2005) work, *Thirteen Ways of Looking at the Novel,* Smiley makes a compelling case that the novel as a communication form has helped cultures create an empathetic response, first through the readers' relationship with the individual characters in a specific story and then by repeated novel reading, an activity which creates a generally empathetic personality in the reader. If you regularly place yourself in the shoes of different characters and experience empathy for them, this recurring behavior cannot but help open up your view of the world and create a more empathetic personality.

Smiley makes the equally compelling case that the history of the novel is integral to the liberalization of different cultures (but most dramatically, Western culture) over the last thousand years, beginning with the first "novels," Lady Murasaki Shikibu's *The Tale of Genji* and the Icelandic Sagas, written in the 11th Century. Novels usually present social underdogs as the protagonist, be they women, children, ethnic/racial/religious outsiders or those who take up their cause. By finding the historical links between novels and societal change, one can clearly see the subsequent social evolution made by a culture's exposure to specific novels.

In her analysis of one hundred novels, Smiley found the more the protagonist suffered from, yet overcame, social immorality (deprivation, disenfranchisement, slavery, sexual/racial/religious/ageist chauvinism or discrimination, hate, war, etc.), the more successfully the novel changed the reader's perceptions of what was right and wrong in their society. Think about *Uncle Tom's Cabin*, *Anna Karenina*, *To Kill a Mockingbird*, all of Dickens, Dostoevsky, Defoe, Zola Neale Hurston, Sinclair Lewis, E.M. Forster. These works and writers profoundly changed how their societies viewed what was the moral status quo and while no single work or author could be pointed to as the lynchpin for social evolution, in the aggregate, their voices were clearly heard. The exception to this might be Harriet Beecher Stowe's *Uncle Tom's Cabin*. Her polemic against slavery was so thoroughly read throughout every level of literate American society, and so thought provoking and galvanizing in its abolitionist stance in its time, when President Abraham Lincoln met her years later during the Civil War, he greeted her with the remark, "So this is the little lady who made this big war." Such was the power of her single, well written, well timed novel. Empathy and courage won the day where fear, ignorance and injustice previously held sway.

How we relate to stories and storytelling can be seen as an acid-test for empathy. Smiley believes people who do not read novels often lack this empathetic response, to the point of narcissism. Whether she believes the narcissist is incapable of novel-reading or that a lack of novel-reading makes the narcissist, she does not say. Not being a psychiatrist, nor will I. However, she does make a fascinating observation that the G.W. Bush administration is the least well-read administration in history. No novels pass their eyes. When asked during the Gore-Bush campaigns what their favorite novels were, Al Gore said *The Red and the Black*. George W. Bush said *The Very Hungry Caterpillar*, which is, of course, a children's picture book and not a novel (or even a story) at all, merely a colorful exercise in how gluttony can have a

positive outcome. Only in retrospect do we realize the historical ramifications of his choice (Smiley 2005)! Smiley describes the broader social consequences of a lack of novel reading:

> Those who don't read novels are condemned to repeat the oldest mistakes in literature – the mistake of hubris, a Greek mistake, and the mistake of attributing one's own emotions to God, a Judeo-Christian-Islamic mistake. Pride, arrogance, moral blindness and narcissism are endemic among humans, especially humans who occupy positions of power, either in society or in the family... In a world where weapons of mass destruction are permanent features of the landscape, I cannot help believing that a lively sense of the reality of other consciousnesses on the part of those whose fingers are on the trigger is essential to human survival. The novel has made a world in which people are fairly adept at both feeling and thinking, and at thinking about feeling... When we talk about the death of the novel, what we are really talking about is the possibility that empathy, however minimal, would no longer be attainable by those for whom the novel has died. If the novel has died for the bureaucrats who run our country, then they are more likely not to pause before engaging in arrogant, narcissistic and foolish policies. If the novel has died for men (and some publishers and critics say that men read fewer novels than they used to), then the inner lives of their friends and family members are a degree more closed to them than before. If the novel dies, or never lives, for children and teenagers who spend their time watching TV or playing video games, then they will always be somewhat mystified by others, and by themselves as well. If the novel should die, what is to replace it? (Smiley 2005)

So how does Smiley's eloquent plea for novel reading as an empathy engine relate to mirror neurons and H+ technologies? The evolution of mirror neurons and their links to language, emulation and empathetic response make a powerful case that without the vicarious stimulation of storytelling and unfamiliar role models, there is little motivation the human brain has to reach out and feel for "the other.' Empathy originally evolved as a result of direct contact, not abstract thought. Whenever empathy evolved in our mammalian past, it wasn't thinking we'd be reading *Oliver Twist* and feeling sorry for someone we never met, were not related to, had no chance of actually helping and didn't actually exist. It had more immediate stimulus in mind: to learn from and protect the tribe and hence, their genetic offspring. Instead, we now read *Oliver Twist* and apply those ancient, empathetic impulses to other orphans, both real and imagined, from a sense of guilt and altruism, just from reading a book.

Thanks to mirror neurons, as I read, so I am. But since we are discussing advancing technologies, are there more current media applications than novels (a thousand year-old art form), which can achieve the same results?

There is a belief among some academics and storytellers that the non-visual story has a deeper psychological impact than the visual story, since the non-visual relies on each mind using its personal experience to build its imagination, making it a more intimate, relatable 'vision' with a greater impact on one's empathy. In essence, the receiver of the story becomes the co-creator of the story. (Woodard 2002) According to this theory, the more senses employed to experience the story, the weaker the story's potential empathetic influence. Certainly, from my own experience, films and plays have great impact, but so far, I can think of none that has either personally or historically demonstrated any more empathetic impact than novels. Historical influence, possibly, if you count propaganda like *Triumph of the Will*, or sheer reach of the meme, if you think of the pervasiveness of *Star Wars*, but not necessarily empathy. If this theory is true, it might negatively affect the empathetic response derived from the virtual reality technologies transhumanist are relying on for their vision of an empathetic future.

Transhumanists often place their faith in the ability of future technologies to replace more outmoded forms of communication, like those that rely on the imprecise mechanisms of language, to link their

minds in what they believe will be a more effective connection with others, through a merging of thought or telepathic link or internalized instant messaging (Kurzweil 2005). They feel this will increase empathetic responses in people, putting them in another's shoes in a simultaneously virtual and visceral way, allowing them to actually experience being 'the other." This is part and parcel of the beautiful techno-utopian vision of a harmonious and transcendent future. But I do not believe in holding one's breath and waiting for a technology that does not exist and may never fulfill its function to save humanity from itself.

In fact, how we deal with our present media technologies may be a better indication of our future. And so far, it isn't looking good. How can we expect techno-utopian transcendence of human nature through H+ communications technologies when our present communications are so fraught with fear and conflict? Simply put: if we don't increase our empathy now, we won't get to experience those nifty transhuman visions. Humanity may not be around at all to have them.

Central to my doubts is the growth of "personal media." The transformative power of a single novel was possible because of a lack of media choices in previous centuries. When *Uncle Tom's Cabin* was published, an entire nation read it because the media pickings were far slimmer and it was a catchy, thought provoking, controversial read that many people thought was integral to their participation as educated citizens. What is the motivation to read a work like this now, when we have television's mega-channel universe, iPods, the Internet, gaming, movies and an Amazonian selection of printed material to choose from, most of which do not challenge our beliefs of what our, or any other society, is really like?

Futurist Paul Saffo is also concerned by the growth of "personal media" and their ability to destroy empathy.

> Individuals can select from a vast cyber-sea of media and utterly saturate their information space exclusively with information sources that reinforce existing world views. Each of us can create our own personal media walled garden that surrounds us with comforting, confirming information, and utterly shuts out anything that conflicts with our world view.
>
> This is social dynamite, for shared knowledge and information is the glue that holds civil society together. It is the stuff that caused people to change their opinions and to empathize with others. (Saffo 2005)

He notes a study by Lada Adamic and Natalie Glance, whose research has found that there is almost no overlap between the blogs read by liberals and conservatives. Even more frightening, this personal media trend has spread to fiction as well. This is documented by both Juan Enriquez (Saffo 2005) and Vladis Krebs separately, who have found that there is a similar divide in what liberals and conservatives read in both fiction and non-fiction *(*The *Left Behind* Series by conservatives vs. *The Da Vinci Code* by liberals, for instance) (Krebs 2003).

Young people in this first decade of the 21st Century have only known a world dominated by personal media. They already use multi-media technology extensively for connection, living on My Space or the Facebook, IMing and texting, and by and large, they don't encounter "the other." They usually encounter more of themselves, looking for people with similar points of view and taste: "OMG, does anybody else out there think will.i.am is HOT?" Worse, many use it as a venue to commodify their narcissism with self-advertisements. Each screen asks the viewer to not only "Look at me. Want me. Love me," but to, "Buy me," by making them an official "Friend." Emotional prostitution does not increase empathy. If anything, it increases their reliance on their peer group values and not on alternative values that might challenge their belief systems and open them up to a world they have yet to experience. The more they connect, the less they learn and their blogs and chatrooms demonstrate an increased narcissism beyond

the normally high level associated with their age group in their search for individuation. They search for validation in self-reflection, and, in the hall of mirrors that can be the Internet, only their mirrored peers reflect back at them.

As this behavior is habitualized and institutionalized, the narcissism will grow, because, unless one is secure with one's self and situation to be forced into discomfort, forced into a strange new world where one must make peace with differences and learn to empathize with "the other," why would anyone? This is why we need storytelling. You don't need to come into physical or electronic contact outside your ideological comfort zone. The book, stage or screen keeps the characters at a distance, allowing the reader/audience/viewer to relax into the experience and open their mind. No real person is waiting on the other side of the digital connection to flame them, cyber-stalk them or humiliate them. With storytelling, we can experience the thrill of "the other," yet remain safe.

Video games are another popular multimedia technology that has not reached its full maturity as either a technology or an art form. Long thought of as simply shoot 'em ups or virtual construction sets, video games can be far more than that.

Until recently, most video games did not create empathy, because while a very basic "storytelling" is involved, the depth of roleplaying is so shallow, it doesn't create deep psychological involvement in characterization. You might be playing Duke Nukem, but you aren't concerned with the King of Carnage's inner state or his effect on others or what might happen to him (beyond his kicking ass and taking names) because his only purpose is his individual survival. When a role's entire *raison d'être* is reduced to hit or be hit, kill or be killed, gain the goodies/points/status or lose the goodies/points/status, the game is capable of decreasing empathy and can even be used as a desensitization device, as is the online recruitment engine *America's Army*, created by the US Military, or actual training video games, designed to hone real soldier's reflexes and survival skills.

Simplistic, violent video games can even be considered "anti-empathy" technology. Nicholas L. Carnagey, Brad J. Bushman and Craig A. Anderson (2006) have done several studies on the effects of violent video games on empathy. In a particularly fascinating experiment, they divided participants into two groups: those who had just played a violent video game and those who played a non-violent video game. Each player was isolated in a game room. After they finished the game, the player was exposed to a recorded "drama" outside their closed door, where two actors (one playing an aggressor and one playing a victim) had recorded a violent interaction on CD. At the end of the drama (which was designed to convince the game player that a real victim was really getting hurt), the victim cried for help. Those who played the violent video games were more reluctant to help the violence victim, taking an average of 65.6 seconds before they would get up and see if they could help, as opposed to an average of 16.2 seconds by the players of the non-violent games (Carnagey et. al. 2006). Video game companies love to cry foul over researchers' accusations of negative effects of violent video games, but then they turn around and use its potential dangers as advertising: "'Psychologists say inside every 18- to 35-year-old male, there lies a potential psychotic killer,' states an ad for the Philips games *Nihilist* and *Battle Slayer*. 'Can he come out to play?'" (Davis 2004).

But video games are coming of age. "Serious games" is a term used to describe a new genre of interactive games that deals with real world problems in all their complexity. Games like *PeaceMaker*, where players must assume the role of either the Israeli Prime Minister or the Palestinian President; or *Darfur is Dying*, where players must escape the Janjaweed while finding supplies to save themselves and their village place players in compelling, difficult situations where their choices and outcomes can greatly affect how the player ultimately feels about the real world conflict and its participants. When one of Peacemaker's creators, Asi Burak, had real Israelis and Palestinians switch roles and play the game, "they developed a more nuanced sense of why the other side acted as it did. In Qatar, several people told him that 'they kind

of understood more the pressures the Israeli Prime Minister has'" (Thompson 2006). The very act of presenting complex questions and real-life issues within a game has raised video gaming from entertainment to art, with a positive effect on empathy.

But do these games have a permanent effect on empathy? It's too early to say, since serious gaming is too recent a development, with no experimental data to show for it. But they already inspire "an unusual kind of debate: an argument about how rule changes can affect society" (Thompson 2006). This is precisely the kind of debate the transhuman future will depend upon, as the rules we have lived by for centuries change all around us.

Other information technologies have provided a glimpse into the possibilities of online empathy with the proliferation of successful Internet sites that encourage global understanding. Russell Rukin, a professional artist and developer of H+ websites believes,

> Some blogs are Life Theater and some bloggers consciously or unconsciously have a sense of structure that mirrors the novel in the way they pick and choose which elements of their lives they reveal. Many blogs are rapidly updated newscasts giving first hand information wells in areas such as chaotically evolving war zones, in which the only other information feed preys on the citizens and denies them a voice… [Perhaps] our brains were not wired to be connected to the Net, to bridge temporal and spatial barriers, to empathize with others around the world via these blogs and e-mails, but they do empathize this way. (Rukin 2006)

If our *Homo sapiens* brain was designed to be touched only by our tribe and not by Dickens' orphans, then it was not meant to be touched by the American G.I. stuck in Iraq, admitting on his blog that he doesn't know why he's there or why his country is forcing him and his fellow soldiers to hurt the Iraqi people – or be hurt by them. Nor was it designed to connect to the Iraqi who writes that he's seen his country go from bad to worse, lost loved ones, feels utter hopelessness for the future and in his rage, only wants to act out violently. Both just want to be united in a safe place with those they love. And we relate to them as our mirror neurons fire and burn a highway of empathy along our cortex for them and others like them. However, we must always be aware that the emotional response we get from our empathy is from our own evolutionarily (both culturally and genetically) derived values. We could just as easily evolve beyond these values, if we haven't already. That could make them untrue in the new scenarios of the future and invalidate empathy (Allbright 2006).

Virtual reality, which has been used for desensitization, both for phobias in a clinical setting and for violence when used by the military, is now used to create empathetic scenarios by reproducing the differing perceptions of other people, due to illness and physical or psychological trauma, through storytelling. In 1992, former psychotherapist and artist Rita Addison had an accident which left her brain damaged, neurologically and visually impaired, and unable to work. Medical professionals wrote her, and many others like her, off as untreatable because they could not understand what was going on inside their patient's skulls and with no quantifiable indication of trauma, considered their therapies completed. In 1994, teamed with MIT's David Zeltzer and University of Illinois/Chicago's Marcus Thiebaux, she created her VR CAVE installation, *Detour: Brain Deconstruction Ahead* as a response to the failure of the medical community to understand brain trauma patients. It allowed viewers to experience the autobiographical "story" of her accident and see its effects on her perceptually distorted world. With her story contained within her work of art, she was finally able to reach those professionals who before were unable or unwilling to understand her disability because they considered her a "layperson" and therefore unable to accurately quantify her own experience (Addison 1995).

VR illness simulators now help both professional and lay caregivers understand just how it feels to suffer from heart disease (AstraZeneca's Heart FX Pod), macular degeneration (Virtual Reality in Medicine

Lab, University of Illinois/Chicago) and stroke (Addison and Umea University). These programs appear to have increased the quality of care given by creating empathy in caregivers for their patients' experiences (Aldous 2006).

Dr. Albert "Skip" Rizzo and his team at the University of Southern California are taking virtual therapy to the next level, to create virtual reality programs to help the sufferers of many types of psychiatric disorders gain better control of their bodies and minds, including Iraq war veterans overcoming Post Traumatic Stress Disorder (Rizzo 2006 [1]). Now he wants to help create empathy in the family and friends of these soldiers *before* they return from combat, because as families welcome home their traumatized loved ones, they will immediately have to deal with the laundry list of social and behavioral difficulties these vets face. He plans to do this by integrating virtual reality with an Automated Story Generation (ASG) system and an Intelligent Tutoring System (ITS), two artificial intelligence systems his team have created that will generate realistic stories of challenging real-life scenarios, using acquired story elements from previous veterans' families as input. It will be through these story elements collected from the past that he will be able to construct an interactive, virtual environment that will put the new families in the shoes of their returning loved ones, to be better able to help them through the disorienting return to non-combative life and minimize the overall trauma to their families (Rizzo 2006 [2]).

The work of Burak, Addison, Rizzo and others like them is an exciting glimpse into the future of storytelling and technology working together to create empathy. But even if story-driven VR, gaming, etc. becomes the norm, how do we increase empathy in an increasingly segmented society? And what is the effect on empathy if our technological access is implemented unevenly, because of philosophical, social or economic impediments?

If, as Paul Saffo (2005) thinks, the phenomenon of personal media means that we no longer read and share stories as a culture and as Jane Smiley (2005) worries, "the novel has died for us," will we have empathy for those we are not connected to by our Wi-Fi? Can we feel as much for the hi-tech have-nots if we don't hear their stories? I believe we cannot. For example, American opinion about the war in Iraq changed dramatically once U.S. citizens started hearing the soldiers' and civilians' blogged stories, on both sides of the conflict, and realized that the US government sanctioned media stories which they had been told previously were, at best, misleading and, at worst, false – namely, that US soldiers were, to a person, in support of their efforts and the Iraqis were nothing but thrilled to be released from Saddam's totalitarian iron grip, no matter what the cost. Now, of course, we know otherwise, but more importantly, we feel for them – all because of their stories. But if we hadn't read the blogs or unsanctioned interviews, and we still lived in our previous state of ignorance, our opinions would not have changed so dramatically, if at all.

Similarly, if the cognitive, emotional and longevity enhancements that transhumanists wish for come to pass, but there are enhancement haves and have-nots divided by bio-technological evolution, is it possible for the unenhanced and the enhanced to understand each other? And will our attraction to personal media discourage us to seek out those life stories that differ so much from our own, so that we might even doubt we share humanity in common? Is empathy possible then?

Much has been surmised in H+ writings about the difficulties that may arise between the Enhanced and the Naturals. Since access to technology will never replace the role of storytelling to create empathy to bridge the Natural/Enhanced gap, technology's content must possess the same seductive-yet-safe qualities of the novel to engage "the other" if we have any hope of gaining perspectives to understand one another. Otherwise, if we can't communicate effectively with each other as we exist in differing states of humanity, with different agendas and aspirations, at best, we will be forced to experience the patronizing toleration of the Enhanced, no longer able to appreciate what being "just human" is like on one hand, and the fear, frustration and jealousy of the Naturals, regardless of whether they desire enhancement or not, on

the other. At worst, we are co-evolving enemies and we know enough about evolution to know what that means. We must do everything in our power to prevent the worst case scenario.

Therefore, the only hope is for all of us to tell stories. Lots and lots of stories. Both our own stories and the stories of others. Both true and fictional stories. But most importantly, like the best storytellers, we must make these stories universal in their appeal. And make them from our heart. Then we must spread these stories as pervasively as possible in the multicultural sphere, using as many forms of media as possible, in the hopes of catching those who don't share the same views unawares, so when they read or see or VR that story, they might say to themselves, "You and I may not be alike, but now I understand you. And I think you'd understand me, too, if I told you my story."

So what's the killer app for empathy technology that we can use here and now and not in some H+ future, to help tell these stories and get us to the tomorrow we hope we have? If gaming and virtual reality are the emerging art forms of the 21st Century, could a combination of empathy-building games like *Peacemaker* and Rizzo's VR/AI story generation systems be the first steps in creating an empathy-generating story engine that could be played as a game? Could one be created that didn't focus on one story in particular, but in stories and conflicts in general, one that could deconstruct and reconstruct the universal aspects of story structure to create multiple, if not infinite experiences of 'the other' that humanity needs in order to survive and thrive? Maybe by inputting your personal background and traits, the program creates a compelling hero and story as unlike you as possible. Or maybe it's a multi-player online game with procedural generation, like Will Wright's upcoming game, *Spore*, but in this game, you either create a "you" as unlike you as possible or create a "you" that is like you, but you are forced to trade avatars with other players, playing the unfamiliar "life" within the story, so you inhabit the shoes of "the other."

Regardless of how it's accomplished, its most important quality is that it must be entertaining enough to create the seductive-yet-safe qualities for players to want to both engage and lose themselves in the story. What I have in mind is a sophisticated, nuanced game aimed squarely at the collective unconscious of potential players everywhere, helping them understand the point of view of people as unlike themselves as possible. In this way, empathy and technology don't have to become opposing concepts.

Big ideas, I know. But you have to start somewhere.

During the 2006 Academy Awards broadcast, Paul Haggis, the writer/producer/director of *Crash* (a movie about the need for social empathy in 21st Century Los Angeles) quoted Bertolt Brecht to remind us that, "Art is not a mirror held up to reality, but a hammer with which to shape it." Brecht's quote has become my rallying cry regarding all things H+, because the challenge to transhumanity will be how to use Brecht's hammer to shape transhuman ideas and the technology behind those ideas, never forgetting that the world is a very large and diverse place and H+ ideas on the surface may contradict another culture's deeply held values as they struggle to communicate. By using art in its many guises, but most importantly in the guise of storytelling, I can only hope that Brecht's hammer will be as effective in the future for creating empathy, guiding humanity into a positive trans- and even posthuman era.

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