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**Beyond Cyborg Metapathography
in Michael Chorost's
Rebuilt to World Wide Mind:
Introducing "morphos"
as a rhetorical concept in cyborgography**

*Más allá de la metapatografía ciborg en
Reconstruido y Mente de Mundo Amplio
de Michael Chorost:
la propuesta de "morphos" como concepto retórico
de la ciborgología (estudios ciborg)*

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ABSTRACT

This essay introduces the rhetorical concept of "morphos", a dimension of ethos, in the context of cyborg self-transformation and cyborg storytelling. Focusing on the cyborg storytelling of Michael Chorost, a cochlear implant user and futurist, this essay applies "morphos" to develop an argument about the changing capabilities and changing stories of living cyborg authors. Using rhetorical concepts to illuminate his self-transformation and

narrative constructions, this essay analyzes Chorost's two books: *Rebuilt: How Becoming Part Computer Made Me More Human*; and, *World Wide Mind: The Coming Integration of Humanity, Machines, and the Internet*. Chorost's first book, *Rebuilt*, is an autobiographical account of his journey from deafness to cochlear implant hearing and his quest for community. He completes his journey of self-transformation using Haraway's *Cyborg Manifesto* and Caidin's *Cyborg* as narrative tools. *Rebuilt* can be defined as a cyborg metapathography, identifying rhetorical features of Chorost's cyborg storytelling. Chorost's second book, *World Wide Mind*, is both autobiographical and theoretical. This rhetorical shift in the context of his changing physical, perceptual, and cognitive capabilities, and his changing ethos, is significant because it opens the way for a new hybrid language combining the spoken/written and digital code.

KEYWORDS

Cyborg personhood, cyborg rhetoric, ethos, hybrid bodily praxis, self-transformation.

RESUMEN

Este ensayo propone el concepto retórico de la "morphos" (cambio), una dimensión de la "ethos" (una palabra Griega que significa "característica" y es usada para describir los ideales y las creencias que caracterizan una comunidad, nación o ideología), en el contexto de la auto-transformación y la narrativa ciborg. A partir de la narración ciborg de Michael Chorost, un usuario y futurista del implante coclear, este ensayo utiliza el concepto de "morphos" para desarrollar una discusión acerca de las capacidades y narraciones cambiantes de autores ciborg actuales. A partir del uso de conceptos retóricos que ilustran la auto-transformación y construcciones narrativas, este ensayo analiza dos libros de Chorost: *Reconstruido. Cómo convertirme en componente de ordenador me hizo más humano*, y *Mente de Mundo Amplio. La Integración Próxima de Humanidad, Máquinas e Internet*. El primer libro de Chorost, *Reconstruido*, es un relato autobiográfico de su viaje desde la sordera hasta su implante coclear y su búsqueda por comunidad. Chorost completa su viaje de auto-transformación utilizando el *Manifiesto Ciborg* de Donna Haraway y el *Ciborg* de Caidin como herramientas narrativas. *Reconstruido* se puede definir como un metapatografía ciborg, al identificar las características

retóricas de la narración ciborg de Chorost. El segundo libro, *Mente de Mundo Amplío* es a la vez autobiográfico y teórico. Este cambio de retórica en el contexto de sus cambiantes capacidades físicas, perceptivas y cognitivas, y de su espíritu cambiante, es importante porque abre paso a un nuevo lenguaje híbrido que combina la palabra hablada/escrita y el código digital.

PALABRAS CLAVE

Auto-transformación, praxis corporal híbrida, personalidad ciborg, retórica ciborg, ethos.

SUMMARY

Cyborgography in Michael Chorost's *Rebuilt & World Wide Mind*

Chorost's Rhetorical Self-Construction as an "actual" Human Cyborg in *Rebuilt*

Athletes of perception': *Rebuilt* as Cyborg Metapathography

Rebuilt as Cyborg Story & Chorost the Cyborg Storyteller

From *Rebuilt* to *World Wide Mind*:

Introducing morphos as a rhetorical concept in cyborgography

Bibliography

Cyborgography in Michael Chorost's *Rebuilt* & *World Wide Mind*

Michael Chorost, cochlear implant cyborg, in his 2005 autobiographical text *Rebuilt: How Becoming Part Computer Made Me More Human*, introduces readers to a dynamic new kind of life narrative. On one level, it is a straightforward narrative about his transformation from deafness to cochlear implant hearing; but on another level it is also a narrative act that reconstructs his human non-cyborg life from birth, to his authoritative “cyborg” present and community-seeking future.

In *World Wide Mind: The Coming Integration of Humanity, Machines, and the Internet*, published in 2011, as a cyborg authority continuing on his quest for community, Chorost constructs an elaborate thought experiment about a possible future for humanity. His intellectual quest to improve human communication through prosthetic technology parallels his narrative of interpersonal connections, intimacy, and love.

World Wide Mind and *Rebuilt* present different arguments by the same author. Though both books share certain structural features, the author has “upgraded” his bionic capabilities and changed his rhetoric. In *Rebuilt*, Chorost constructs a narrative about his physical experience of deafness and cochlear implant hearing. His intellectual quest for human community and cyborg personhood parallels his narrative of bodily self-transformation. He constructs a story of his changing hybrid (‘actual cyborg’) body to construct an argument about his changing hybrid (‘more human’) mind. In *World Wide Mind*, Chorost constructs an argument about a hypothetical, worldwide mind—and a new hybrid human communication capacity he calls ‘telepathy’—based on ‘a radical modification of the [human] body’ (Chorost, 2011: 138). He uses the terms ‘transpersonal mind’ and ‘telepathy’ as ways to conceptualize the inner stories of future cyborgs—as both communication and community (Chorost, 2011: 202).

In this essay, I consider Chorost’s cyborg storytelling as a changing rhetoric from *Rebuilt* to *World Wide Mind*. I define Chorost’s *Rebuilt* narrative: I argue that Chorost’s autoethnographic account of non-cyborg to cyborg transformation and re-telling of “cyborg imagery” is a cyborg metapathography. I create the term *cyborg metapathography* to distinguish Chorost’s cyborg patient rhetoric from non-cyborg patient rhetoric. I introduce my concept of *morphos* to explore Chorost’s changing physical cyborg capabilities, ethos construction, and rhetorical

shift from the self-transformational *Rebuilt* to the much larger scope and social implications of *World Wide Mind*.

Humans who become cyborgs must reconstruct their perceptions, physical actions, and self-descriptive language based on an alternative, hybrid embodiment. This hybrid embodiment is dependent upon technological innovation. Technological innovations occur at a rate that can challenge humans to fluidly alter their perceptions, actions, and language to systemic change. The human cyborg faces unique rhetorical challenges.

The term “cyborg” is now over 50 years old. It began as a contraction: *cybernetic organism* shortened to *cyborg*, a lexical transformation via abbreviation. It has a rich cultural history as a 20th-century term, used for multiple and variable theoretical explorations in language. As the concept has gradually transformed to a physical reality, the definition of “cyborg” has transformed from a theoretical construct into a practical noun, used for self-description and self-identity.

Whatever definition is applied, the population of cyborgs has dramatically increased since the term was coined by Clynes and Kline in 1960. These hybrid humans have a different life experience, which in turn engenders different perceptual, physical, and rhetorical skills. The word, like the hybrid person/machine it might identify, is transforming in response to changing textual environments. People who use the term “cyborg” in the 21st century have different physical realities and different supporting arguments. Some cyborgs, like Michael Chorost—the focus of this essay—depend upon technology to *perceive* reality, and therefore to *describe* reality. This unique situation can produce new knowledge derived from a reconfigured hybrid embodiment. This recursive relationship between perception and description highlights the cyborg’s unique narrative challenge: a dynamic relationship between a changing physical (sensorimotor) experience, and the exigencies of self-perception and identity.

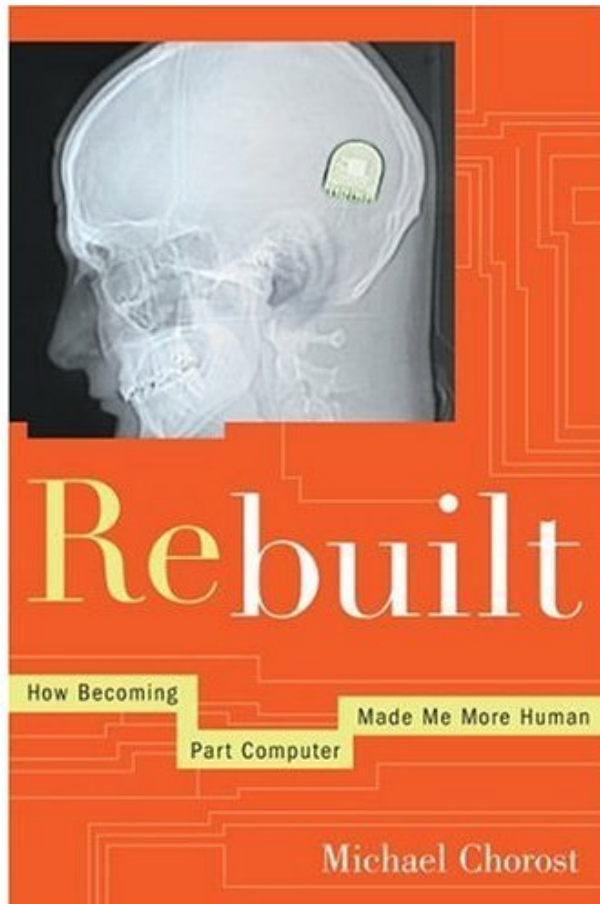


Figure 1: Cover of Michael Chorost's *Rebuilt*

Chorost constructs a cyborg “rhetoric through conversion” narrative in *Rebuilt* by making key rhetorical moves in a dialogue with Donna Haraway’s *Cyborg Manifesto*. I begin here by analyzing Chorost’s redefinition of cyborg identity. I then focus on his cyborgian narrative mode, arguing that through his personal cyborg rhetoric, Chorost provides us with a vision of patient rhetoric that utilizes storytelling as a technique for asserting that his perspective is objective and authoritative. I complete my analysis using Hayles’ concept of old/new in cyborg stories and Segal’s “body is a machine” and Hawkins’ “body as machine” metaphors to further illuminate unique features in Chorost’s story of cyborg subjectivity. I conclude by introducing

morphos as a new rhetorical concept in *cyborgography*, defined here as *cyborg storytelling*. Specifically, I extend my *morphos* concept to Chorost's latest book, *World Wide Mind*.

Chorost's Rhetorical

Self-Construction as an "actual" Human Cyborg in Rebuilt

Chorost uses the transformative potential of the cyborg as a powerful cultural icon to reconstruct his personal ethos in *Rebuilt*. He defines himself as an "actual" human cyborg by simultaneously addressing three rhetorical constructions of the cyborg figure: the technological, biomedical construction; the fictional, literary construction; and the theoretical, sociopolitical construction. He gains valuable insight by analyzing instances from each rhetorical construct, but he focuses on two examples: Caidin's *Cyborg* (a science-fiction literary construction) and Haraway's *Cyborg Manifesto* (a theoretical, sociopolitical construction). He relates to Caidin's readable narrative style and medically transformed cyborg character, but struggles to comprehend Haraway's complex theoretical prose and feminist construction of the cyborg.

As a child, Chorost suffered severe hearing loss as the result of Rubella during his mother's pregnancy. His hearing loss was diagnosed very late, when he was 3 ½ years old. He was fitted with hearing aids and began an accelerated literacy program with his parents as educators. Until the time he was about 18, he had some hearing sense in both ears. As he entered maturity, Chorost lost the hearing in his right ear; at this time he also began his formal education as a serious writer. He matured with the complications of being almost deaf. He had to wear the largest most powerful hearing aids in order to function, but he heard actions in the world that gave him a sense of being. This sense of being, of feeling enveloped by the vitality of sound, no matter how faint or accurate, was lost traumatically when Chorost became totally deaf in 2001. The silence he experienced was painful, because when one loses hearing, the brain attempts to restore functionality through a kind of auditory hallucination. When he became deaf, losing the remaining receptor hair cells within his cochlea, Chorost chose cochlear implant surgery to regain a hearing sense.

Chorost draws on Caidin's narrative as a conceptual tool for reconciling his new cyborg construct. Caidin's character, Steve Austin, was dramatically rebuilt from a near fatally injured

pilot to a superhuman cyborg. Chorost explains: 'Now I needed a story not of survival, but of transformation' (Chorost, 2005: 20). Like the novel's protagonist (Steve Austin, aka the "Six Million Dollar Man"), he faced clinical challenges and 'collaborated with [clinicians] in the project of rebuilding himself' (Chorost, 2005: 20). But he also faced the rhetorical challenge of self-construction through narrative. He had to construct a personal story of 'painful transformation and [the] gradual acceptance of his new body' (Chorost, 2005: 20). Steve Austin's fictional transformation from human to cyborg illuminates Chorost's journey as he begins a dialogue with Haraway.

Chorost experiences many quests on his journey of physical and narrative self-reconstruction. He wishes to heal and transform, become a better reader, gain self-understanding and knowledge, and change his identity. His self-transformation represents a new opportunity to complete these and other quests: 'In acquiring the body of my teenage dreams, I would have the chance to become the adult I wanted to be.. To become a cyborg. In real life. On my own terms, in my own way' (Chorost, 2005: 21-2).

One of Chorost's quests is to resolve the "left over" frustration of his "agon" with Donna Haraway's *Cyborg Manifesto*—a text he was unable to comprehend during his time as a PhD candidate at Duke University. He engages in an extended dialogue with Haraway to gain self-understanding and knowledge, to construct his new cyborg identity. The dialogue develops over the course of three chapters: Chapters 3 ('Between Two Worlds'), 7 ('Upgrading'), and 9 ('A Kinship with the Machines').

Chorost's *first rhetorical move* is to lay out his complex, agonistic relationship to Haraway's cyborg construct. He begins by *acknowledging Haraway as the preeminent authority on cyborg theory*. Haraway uses the cyborg as a metaphorical construct to support a theoretical discussion about marginalized discourse and the politics and rhetoric of techno-science. But Chorost has become a physical example of Haraway's metaphorical figure. Though he constructs himself as a narrative 'assemblage of multiple and conflicting perspectives,' he selects specific features of Haraway's metaphorical figure to augment his self-reconstruction (Chorost, 2005: 42). The salient concept for Chorost is *computer penetration*. He says that '[b]eing a cyborg makes a man hermaphroditic, male and female in the same body, because the computer *penetrates*' (Chorost, 2005: 115). This concept is rich. The cyborg prosthesis complicates gender, and as Haraway has pointed out, identity. This

marks the beginning of his dialogue with her as an expert resource on (his and others') cyborg personhood.

At the same time, Chorost admits a failure to fully comprehend Haraway's argument. He is both 'captivated and mystified' by her essay (Chorost, 2005: 148). This mystification soon escalates to frustration and disagreement. Haraway's dense theoretical style clashes with his preferred "clarity" of lived experience. Chorost first read Haraway's "Manifesto" as a non-cyborg. He was unable to understand Haraway at the time, but her "Garden of Eden" metaphor had a huge personal impact: 'The sheer wistfulness of that statement about Eden had resonated deeply with me, although I could barely understand what it meant. I thought of Eden as that place where perception revealed the truth about reality, where one could speak the language that gave everything its true name. From that Eden, I was now in exile' (Chorost, 2005: 148).

He mentions that 'I had been exiled from Duke because I had not been able to talk or write like this [i.e., like Haraway]' (Chorost, 2005: 149), and also implies that he was in exile from both the Deaf community (because he hadn't learned to sign), and the hearing community (because his hearing was severely impaired). He learned how to read and write late in his childhood as a result of his late diagnosis of deafness. His motivations as a cyborg author are linked to an unusual relationship with perception and language.

Haraway's Eden becomes a touchstone for Chorost's transformation: 'Haraway's essay fascinated me because it seemed to say, in its sheer opaque poetry, that there was something good about being a cyborg, about being cast out of Eden' (Chorost, 2005: 148).

Chorost's quest is to determine (and argue from a new, authoritative position) that this 'something good' is actually a re-interpretation and analysis of Haraway's story about the goodness of 'being cast out of' the Garden of Eden (Chorost, 2005: 148). Yet he continues to struggle with dual constructions of the cyborg—Haraway's metaphorical construction and his practical construction: 'Wrote Haraway, 'Cyborg imagery can suggest a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves.' I liked the idea of finding my way out of 'mazes of dualisms.' But the essay had resisted my efforts to understand it' (Chorost, 2005: 148).

He has analyzed Haraway's writing for concepts he can identify with, and begins to question her claims:

Let me get this straight—Steve Austin was supposed to have ‘no truck with pre-oedipal symbiosis’?...Haraway’s characterization of the cyborg seemed alien to my experience...After all, with the singular exception of my implant, I was very definitely made of mud and had often dreamed, fearfully, of returning to dust; I was by no means untied from all dependency, indeed precisely the opposite was true; and if I could be the awful apocalyptic telos of anything, I hoped somebody would let me know. It sounded like fun

(Chorost, 2005: 148-9).

He disagrees with Haraway’s suggestion that a cyborg is ‘untied from all dependency’ (Chorost, 2005: 149). He reads her metaphorical cyborg freedom against his new dependency on cochlear implant (CI) technology. He then re-reads Haraway’s essay “shortly after activation” to test her *theory* of cyborg subjectivity against his own *lived* cyborg subjectivity and praxis. Chorost uses Haraway’s theory as an intellectual and narrative tool for rebuilding his self.

Chorost’s *second rhetorical move involves “penetrating” Haraway’s theory to develop a new understanding of cyborg personhood*. As he continues his narrative quest for a deeper understanding of Haraway’s cyborg, he mentions that he had failed to answer the question ‘What is representation?’ during his oral exams at Duke (Chorost, 2005: 149). Motivated to finally answer this question, he complicates his narrative quest in search of redemption. The search for meaning in Haraway’s cyborg becomes his answer: ‘And so Haraway’s essay felt like a letter written directly to me (I was an actual cyborg now, for goodness’ sake), but in a language I had failed to learn. I found myself rebelling, once again, at the density of its jargon, its uncompromising difficulty’ (Chorost, 2005: 150).

This self-transformation through narrative is a problem of knowledge, literary skill, and language, complicated by his hybrid body. As a self-declared “actual cyborg,” Chorost establishes a new ethos, finally penetrating *Manifesto* by finding a deeper meaning in Haraway’s Garden as a place for cyborg self-discovery. Comparing Haraway’s cyborg theory to Hume’s philosophy of human nature, he now believes Haraway’s assertion that

. . . the cyborg is forced by its own body into permanent skepticism about the perception of reality. [This] makes the cyborg a figure of hope, Haraway argues, because it is inherently immune to the lie of Eden. Viewing the universe from multiple perspectives makes it more able to resist ideologies that claim that their way of viewing reality is the only one...Cyborgs are even more fallen than most. But that is cause for hope rather than despair, because giving up the search for the Garden liberates us to build gardens—no caps, plural

(Chorost, 2005: 151).

He continues, returning to his new hybrid body in search of answers: ‘That’s all very theoretical, even if you buy it: okay, multiple perspectives are better. How exactly, could I use that knowledge to build gardens—that is, a world I could be happy with despite its incompleteness? My new body gave me a clue. Haraway’s cultural theory also works on a purely perceptual level’ (Chorost, 2005: 151).

Skepticism and multiplicity help Chorost live in his new body. This becomes clearer in his next rhetorical move.

When he defines himself as ‘an actual cyborg, for goodness’ sake,’ this *third rhetorical move reconstructs Chorost’s identity and establishes his metapathography as a cyborg conversion narrative* (Chorost, 2005: 150). Smith and Watson, in *Reading Autobiography*, give the following definition of conversion narrative:

This narrative mode is structured around a radical transformation from a faulty “before” self to an enlightened “after” self. The typical pattern involves a fall into a troubled and sensorily confused “dark night of the soul,” followed by a moment of revelation, a life and death struggle, a process of reeducation, and a journey to a “new Jerusalem” or site of membership in an enlightened community of like believers

(Smith & Watson, 2002: 192).

This definition accurately describes the pattern of Chorost’s conversion narrative: his “fall” was into the sensory confusion of deafness; his “revelation” was the possibility of hearing

through C.I. surgery; his struggles as a patient included challenges with self-transformation and clinical communication; his “process of reeducation” included self-training to develop a new hybrid bodily praxis, new readings of Haraway and his research leading to the writing of *Rebuilt*; his “journey” of self-transformation is both the search for and the creation of “an enlightened community.” He constructs his “enlightened ‘after’ self” through his dialogue with Haraway, a pivotal sequence in his transformation from non-cyborg to cyborg.

Chorost has transformed from deaf human writer to hearing cyborg storyteller, using his extended dialogue with Haraway to reconstruct his identity. This reconstruction is illuminated by Stone’s claim that the pathographer can create new sets of values: ‘Through writing and revising the stories of their lives and illness, many of the participants were able to reconstruct their illness experiences according to new sets of values, in ways that helped them not only to cope, but to derive healing power’ (Stone, 1997: 214).

Through this process, Chorost has acquired many new values: he values rich discourse in a community of storytellers, performers, and listeners; he values stories as knowledge and tools of self-transformation; he values ethos construction as a challenge of human performance and narrative; he values multiple perspectives as a challenge of changing technology and embodied boundaries.

His story of transformation has *healing power*. His rhetorical reconstruction as a cyborg is a means of rebuilding self and identity after a lifetime of exile from the human experience of hearing, rebuilding himself physically through bionic CI technology, and emotionally through narrative life writing.

Balancing Caidin and Haraway, Chorost builds on his new cyborg identity: ‘As a cyborg with a programmable ear I have acquired new senses of freedom, both auditory and political’ (Chorost, 2005: 152). He uses the notion of “programmability” with multiple connotations, as a self-descriptive term that refers to digital, computerized, and physical re-programmability: ‘The computer invaded the sacred domain of my body, yet to my own astonishment we learned to work together as a total system, mutually changing each other in the process’ (Chorost, 2005: 156).

Through his own narrative self-reconstruction, Chorost repurposes Haraway’s concept of master narratives as a pivotal aspect of his own cyborgian reality:

The bits and pieces of academic jargon Haraway uses—"pre-oedipal symbiosis, unalienated labour," and so forth—all refer caustically to master narratives, that is, various theories of a single unitary Truth through which all reality can be described. 'Single vision produces worse illusions than double vision or many-headed monsters,' Haraway writes.

An immense amount of destruction has been caused by people with a single vision and master narratives

(Chorost, 2005: 152-3).

Citing Haraway's claim about "[s]ingle vision...", Chorost clarifies a problem that he has encountered as a fledgling cyborg. His cochlear-implant driven, multiple, and sometimes confounding perceptions of reality are clearly part of the process of establishing a cyborg truth: 'To have single vision is to be a monster...The hybridity of the cyborg, its profane fusion of the human and the mechanical, symbolizes a politics that does not try to impose a single unidimensional view of Truth on the world. The one intolerable perspective is the belief that there is only one perspective' (Chorost, 2005: 152-3).

The multiplicity of perspectives common to the cyborg is good, not evil. Chorost has juxtaposed Haraway's perspective with his own narrative interpretation to validate an ethical position as a cyborg with multiple perspectives. As a cyborg storyteller, he confronts dualism through his "actual cyborg" bodily praxis and newly-constructed personhood, finally arriving at a central aspect of his new identity: he has 'new senses of freedom, both auditory and political' (Chorost, 2005: 152). This is an autoethnographic update on cyborg personhood.

By self-proclaiming himself an "actual cyborg" and transformed patient, Chorost is undermining the narrative of clinical medicine as a unitary solution for health. He promotes 'an ethos of human performance' as a way of addressing a lack of clinical patient training (Chorost, 2005: 172). As a transformed patient-author, he is encouraging metapathography as a means of deriving truth not just for a patient, but for anyone who share similar embodied constructs and challenges: 'Time to abandon Eden, then. Master narratives are human constructions of a reality that has no human dimension' (Chorost, 2005: 154).

A human with natural hearing typically hears one version of the world, not multiple versions like Chorost, a hearing-enhanced cyborg. For Chorost, the cyborg's multiple versions of reality yield 'at least three alternatives':

One can go mad (some do: in 1889 Nietzsche was found sobbing on a horse's neck, and spent the remainder of his life officially insane); [o]ne can withdraw from the search for knowledge into the false safety of dogma; [o]r one can choose to see the multivalence of the universe as an invitation to explore and play...To live sanely in a cyborg body, one has to learn how to make choices

(Chorost, 2005: 155).

Circling back to Haraway,

By now I had learned to give up my quest for a unitary identity. In speaking of the cyborg as "an ultimate self untied at last from all dependency," that is precisely what Haraway is resisting rather than holding up for approval. In place of The Terminator's nightmare world, where cyborgs are confused with robots, she offers a positive vision of cyborgs as profoundly human, profoundly connected to the world

(Chorost, 2005: 155)

Chorost has constructed a new model of cyborg personhood through a critique of Haraway's cyborg theory. He is not a metaphorical figure facing techno-science in a possible socialist feminist future; he is a transformed hybrid human with a new, self-constructed, cyborg personhood. (As a white male, Chorost is not Haraway's ideal reader).

“Athletes of perception”: Rebuilt as Cyborg Metapathography

Arguing that he is an “actual cyborg,” Chorost next develops a rhetoric of the cyborg patient, revising Haraway’s theoretical model of cyborg personhood and claiming authority in the process. His cyborg metapathography is an autoethnographic account of human-to-cyborg transformation and a retelling of Harawayian “cyborg imagery” that moves his narrative from a metapathographic mode to a cyborgian mode. Chorost uses the cyborg figure to shift his transformation from human author to cyborg author.

This story of self-transformation is a metapathography of multiple stories. The stories that “run” Chorost’s new body are derived from diverse discourse communities, with multiple terms that refer to bodies and bodily boundaries. His core thesis, as an “actual cyborg” storyteller, is that, ‘My bionic hearing made me neither omniscient nor dehumanized: it made me more human, because I was constantly aware that my perception of the universe was provisional, the result of human decisions that would be revised time and again’ (Chorost, 2005: 157). Transgressing boundaries of mortal human flesh, searching for truth as both a cyborg and a human, Chorost informs both humans and future cyborg-humans using cyborg metapathography to go beyond the biological, neuro-normal human to redefine himself, “cyborg,” and “human.”

To arrive at his thesis, Chorost encompasses four areas of anthropology: physical (his patient experience), linguistic (his hearing and literary experience), social (his experience in multiple communities), and cultural (his authorship and new identity). This traversal uses terms from key discourses: Medicine, Cochlear Implant, the d/Deaf, Education, Science, Information Technology, Philosophy, Literature, Writing. His use of discourse-specific terms is important to his rhetoric. He recounts his life, describing his transformation experience while reframing specific discourses from a transformed perspective as cyborg metapathographer. The repurposed terms relate to his new hybrid bodily praxis, but his perception (and identification) and narrative self-reconstruction is challenged by constantly-shifting boundaries.

Many of these boundaries are technological. Chorost describes the period from before he went completely deaf in July of 2001 through activation of his CI (October 2001) to his Hi-Res software upgrade (June 2002). He uses audiologists’ technical terms and those in the

cochlear implant discourse community to identify events; but for Chorost these terms also represent time periods, specific narratives, and the description of his hybrid bodily praxis. The sequence of events are:

1. partial hearing with hearing aids,
2. deafness,
3. mapping and calibration of maximum stimulation levels (M-levels) using Continuous Interleaved Sampling (CIS) digital software,
4. CI activation,
5. second mapping and calibration using CIS software,
6. third mapping and calibration of new Simultaneous Analog Stimulation (SAS) software,
7. fourth mapping and calibration with an upgrade to high-rate stimulation (Hi-Res) software (Chorost, 2005: 102).

Chorost uses these terms in the context of his changing perceptual acuity: 'I haven't been activated yet, though. I'm just being calibrated' (Chorost, 2005: 51) and 'I was about to be upgraded' (Chorost, 2005: 102) and 'But did I like Hi-Res? I wasn't at all sure. It was so different, as if someone had randomly reset all the color dials on my TV. Chartreuse sky, aquamarine skin. A Yellow Submarine world' (Chorost, 2005: 112). Prior to his activation he writes: 'How much bandwidth can a human being lose and still remain connected to his fellows? For me, the answer would be: nearly all of it' (Chorost, 2005: 43).

The term bandwidth is used in specific discourse communities, though in most cases only those with hearing aids or CI's use the term in the context of individual perception. As mentioned above, Chorost knows the name of the software he is running in order to hear, and he's aware of his M-levels.

He refers to the components of his CI as parts of himself, located in specific areas of his body, and controlled in specific ways to achieve specific results. The effect is identical to organic body parts, but using very different control systems.

Chorost uses the term "electrodes" a total of 34 times. In Chapter 1 he uses the term to construct a triad that constitutes a cyborg: 'I was going to become a cyborg: *silicon. electrodes. Code*' (Chorost, 2005: 14). He refers to his "headpiece" 55 times, making numerous salient references in chapter 7, 'The Computer Reprograms Me.' Several references describe the hu-

morous challenge of wearing his magnetic headpiece and detachable processor during the dance of love-making. One headpiece invocation emphasizes Chorost's awareness of his CI and new body: 'When would I forget the computer buzzing away in my head, experiencing it as a part of my body as normal as my heart or my liver? I was Mike plus something new and strange. I was constantly aware of the headpiece magnetically clinging to my skull' (Chorost, 2005: 80). Another reference demonstrates how Chorost's body boundaries and body images are influenced by impromptu social situations, in an incident where manual labor prevents him from reattaching his headpiece:

So I went over to a kid who looked about eight and bent down to bring my head level with his. 'Hey, kid,' I said. 'See this thing hanging from my neck?' He looked at the dangling headpiece and nodded. 'My hands are too wet. Just pick it up, okay, and stick it on the back of my head?'...And I pointed to where the headpiece went. He looked confused, but it was a simple enough request. He mashed it on the back of my head as if he thought it was made of Velcro. The first time he was off by an inch or so, but the second time it settled right into place. I straightened up and smiled at him. 'Thanks, kid'...He's probably going to remember this for the rest of his life. Mommy, a strange man made me stick something on his head

(Chorost, 2005: 92).

On discovering that his skull bone has grown around his CI: 'So it's truly part of me now. My hearing tests prove that my little computer and I have adapted beautifully to each other, making us a cybernetic organism' (Chorost, 2005: 187).

When describing his processor affectionately, Chorost reveals a new body image and new ways of describing himself. As a new cyborg, he uses the computer term *platform* to describe other bodies. He is suggesting that bodies, as platforms, can "run" (in Chorost's example, "hear") better with 'new software and faster processors' (Chorost, 2005: 108).

'Mike 2.0', the final chapter of *Rebuilt*, announces Chorost's release as a new operating system. He qualifies his new cyborg personhood: 'There are compensations for being expelled from the Garden. No single story controls my reality, but I am liberated to make up *stories*' (Chorost, 2005: 186). The cyborg storyteller has written his story of physical and authorial

self-transformation that both synthesizes stories, and promotes new stories of cyborg self-transformation, using cyborg metapathography.

This cyborg transformation is an arc towards transhumanism: '*And now I am becoming something else: not inhuman, not posthuman, but differently human*' (Chorost, 2005: 33, emphasis in original). The term *transhuman* can be used to define Chorost's "*differently human*" cyborg personhood. Nick Bostrom defines transhumanists as people who 'promote the view that human enhancement technologies should be made widely available' (Bostrom, 2005: 202). Chorost does not consider himself posthuman; he is transhuman. He is a transformed human, part-machine, exploring and proposing new human and cyborg capabilities:

If technology can indeed enlarge human capabilities, people will need intensive training to use those capabilities. They will need to become athletes of perception, downhill skiers of cognition, craftsmen of communication...Put Dune and I, Cyborg together, and you begin to get a vision of a world where technology is used humanely to make better human beings

(Chorost, 2005: 180).

Here, Chorost's metaphors portray the future cyborg as a new kind of rhetor: a rhetor whose perception is powerful and coordinated, athletic; a rhetor whose cognition is accelerated, agile, and finely-tuned to the environment; a rhetor whose communication is crafted, or skillfully made through the careful use of rhetorical tools. These rhetorical skills are acquired through training in bodily arts: a cyborg rhetor could be trained to synthesize fine athletic skills with fine rhetorical skills.

In constructing a future cyborg-rhetor, Chorost recasts himself in the process as cyborg-storyteller and community-leader, establishing his personal place on humanity's evolutionary timeline. As a cyborg-storyteller, he writes about and for future cyborgs. He uses the term *Homo faber* to describe another version of himself, a future 'self-creating human...who achieves a deeper connection to the world with technology' (Chorost, 2005: 181).

As cyborg-storyteller, Chorost directs readers' attention using key terms. Rhetorical scholar Kenneth Burke explains that 'any nomenclature necessarily directs [readers' or listeners'] attention into some channels rather than others' and calls this directing of our attention

“terministic screens” (Burke, 1966: 45). Chorost’s terministic screen, completed with the term *Homo faber*, contains terms that identify a new community based on a hybrid bodily praxis: ‘athletes of perception’ (Chorost, 2005: 180) who develop ‘an ethos of human performance’ (Chorost, 2005: 172) and ‘achieve a deeper connection to the world through technology’ (Chorost, 2005: 181). In order to appeal to targeted discourse communities, he goes beyond earlier self-descriptions by employing special terms. As cyborg meta-pathographer, Chorost not only reconstructs his ethos for a new community; he invokes the community by constructing it in narrative.

Take Chorost’s challenge to the claims of Steve Mann (well known wearable computer inventor, artist, and activist) to cyborg personhood. While critical of Mann’s embrace of the a cyborg identity, he admires part of Mann’s vision of a cyborg future: ‘...in focusing on self-construction and individual choice, Mann is asking the right questions and exploring possible answers with admirable thoroughness. My cochlear implant gave me the opportunity to reconstruct myself’ (Chorost, 2005: 182).

One of Chorost’s reconstitutive skills is leveraging technology to increase his communication and cognitive capabilities. His cyborg metapathography demonstrates how he has increased his communication and cognitive capacities, his skills and knowledge. Pre-transformation, Chorost was unable to answer the doctoral exam question “What is representation?” Post-transformation, he answers the question: ‘Representation is the act of creating an interpretation of an otherwise unknowable reality’ (Chorost, 2005: 156). He uses the term “representation” four times to describe his new perceptual capacity, but his project of self-reconstruction is a rhetorical act of representation through narrative. Without his transformation, cyborg personhood was ‘an otherwise unknowable reality’ (Chorost, 2005: 156). *Rebuilt* is a literary act of representation (and self-representation) and knowledge creation.

Using metaphor, Chorost transfers knowledge from the physical source domain to bring new meaning into and create knowledge within the literary target domain. But his chosen literary target for self-transformation—the cyborg—is both a metaphor and a physical hybrid of machine and organism. Chorost’s valuable skill is the athletic and intellectual leveraging of morphological freedom wherein increasingly sophisticated prosthetic technology and improved cognition are harnessed through narrative rhetoric.

Two core concepts illuminate unique features in Chorost's story of cyborg subjectivity: N. Katherine Hayles' concept of old/new in cyborg stories, and Segal's (and Hawkins') "body as machine" metaphor. N. Katherine Hayles in *The Life Cycle of Cyborgs* makes an interesting point about cyborg subjectivities as narrative constructions. Her interpretation of cyborg stories in the science fiction genre is germane to Chorost's cyborg conversion story: 'Standing at the threshold separating the human from the posthuman, the cyborg looks to the past as well as the future. It is precisely this double nature that allows cyborg stories to be imbricated within cultural narratives while still wrenching them in a new direction' (Hayles, 1995: 322). She continues: 'The cyborg is both a product of this [i.e., past/future, new displacing old] process and a signifier for the process itself...The stories that produce and are produced by cyborg subjectivities are, like the cyborg itself, amalgams of old and new' (Hayles, 1995: 323). Hayles relates the cyborg's "new modes of subjectivity" and stories to culture: 'How does a culture understand and process new modes of subjectivity? Primarily through the stories it tells, or more precisely, through narratives that count as stories in a given context' (Hayles, 1995: 322).

Hayles highlights the rhetorical situation for the cyborg storyteller. Chorost's "given context" is constantly changing, but his "new mode of subjectivity" offers new contexts for new narratives. He repurposes Hayles' old/new concept, using his new bodily praxis to create new contexts and descriptions of his future cyborg subjectivity.

She reads the text of one cyborg story, *Limbo*, as a metaphorical cyborg body that transforms itself through its narrative constructions. She refers to *Limbo* as 'frustrating and brilliant' because of 'its ability to represent and comment upon its own limitations' (Hayles, 1995: 326-327). She writes that *Limbo* 'reaches toward a new kind of subjectivity [through a process of] transformations in the textual body that re-enact and re-present the dynamic governing representations within the text' (Hayles, 1995: 327). The *Limbo* story (authored by a male with a male protagonist) 'splits in half' and 'fragments', as a female character 'tries to heal the split narrative' (Hayles, 1995: 327).

Chorost alternates his story of being figuratively "split in half" by sensory challenges and his new CI, with "fragments" involving different females. He wants female companionship, and provides glimpses of his love life as a relief for his readers. He seeks healing through physical contact with women, but his body is sometimes alienating or confusing. Chorost both

heals himself in exile through sexual exploration with women, and finds new ways that gender and sex are complicated by his hybrid body.

Segal's point about medical rhetoric of the body, specifically "the body is a machine" metaphor, also complicates the cyborg storytelling act. In her discussion about 'the body is a machine' as a 'dominant metaphor of biomedicine[,]’ Segal points out that we use both mechanical and computer metaphors to describe bodies as machines (Segal, 2005: 121): '[o]ne way of tracking the sway of body metaphors would be to examine diagrams of pathophysiological processes over time and note which diagrams betray a mechanistic imagination and which a cybernetic one' (Segal, 2005: 180, endnote 13).

Chorost doesn't "examine diagrams of [his or others'] pathophysiological processes over time[,]” but his story "diagrams" his pathophysiological transformation using the cyborg metaphor. This metaphor complicates his metapathographic act. Chorost's body is part-machine. His rhetoric of the hybrid body reveals other metaphors that "sway" towards a specific description of the cyborgian, transhuman. Chorost faces a rhetorical challenge as patient-author whose body is already clinically viewed as a machine: he uses the cyborg metaphor to transform, but he also partly transforms into a medical metaphor of the body.

Hawkins also argues, like Segal, that the 'the human body as a machine' metaphor is a dominant kind of 'mythic thinking' in modern medicine (Hawkins, 1993: 22). She writes: 'The mechanistic metaphor so central to Western medicine has little place for the subjective components of body function. How patients feel, their understanding of what is happening to them, and the sense of how their illness may alter their lives are peripheral to a mechanistic model' (Hawkins, 1993: 22). Chorost, however, is a self-constructed "mechanistic model" whose "subjective components of body function" are bound up in his own hybrid, part-machine body. His cyborg self-construction and story of self-transformation, overwrite the biomedical rhetoric used to describe the body figuratively by transforming the "body is a machine" metaphor into fact. Chorost's morphology of the human body becomes a problem of the morphology of language about the body.

Addressing this problem in his thesis, Chorost argues that he has become "more human." Because the cyborg's rhetorical construction has previously been fictional, metaphorical, or theoretical, Chorost creates an exemplar in *Rebuilt*. His self-identification as cyborg is a meta-rhetorical act that uses the power of self-transformation and the power of the cyborg figure to

comment on the rhetoric of both. His cyborg metapathography disrupts medical “mythic thinking” about the non-cyborg body as a machine by literally making the body a machine. It restores meaning to Clynnes and Klines’ original cyborg, and revises Haraway’s cyborg metaphor, creating a new model of cyborg personhood as uniquely human and real. Chorost’s cyborg metapathography is a rhetorical act driven by “an ethos of human performance” that promotes human healing, self-education, identity conversion, and community through a rhetoric of self-transformation.

From Rebuilt to World Wide Mind: Introducing morphos

Chorost completes his quest for community by joining the CI community. However, he is not simply a member; rather, he is a leader, an orator. He tells the audience his story of transformation and finally realizes that he has found his community. He becomes a cyborg rhetor, an authority in a community he helped to construct, but he understands himself as an individual ‘community of at least two’ (Chorost, 2005: 156). His cyborg metapathography is a strategy that employs a ‘dialectic of constitutions’ (Burke, 1969: 323)—‘one [constitution] built by my genes, the other [constitution built] by a corporation’ (Chorost, 2005: 156). *Rebuilt* is a constitutive act that changes Chorost’s identity and his community by using his creation of a cyborg metapathography.

Cyborg metapathography is a kind of cyborgography, or cyborg storytelling. New rhetorical tools are needed to conceptualize cyborgography as transhuman rhetoric of the hybrid body. To conceptualize a 21st century transhuman rhetoric of rapidly-reconfigurable “wired” and enhanced data-dependent bodies, I propose the concept of *morphos* as a rhetorical counterpart to ethos. As dialectic is the counterpart of rhetoric, morphos is the counterpart of ethos. Ethos is the rhetorical construction of credibility and authority. Morphos is the dialectic between body and prosthetic technology and the exercise of morphological freedom to explore embodiment and human performance. Morphos is the ability to *transform* one’s *hexis and metis-kairos*, not just the ability to increase one’s metis. Metis is the ability to transform, like a chameleon, or a caterpillar/butterfly, or a bee colony. Hexis is bodily condition. Metis is bodily intelligence. M. A. Wright states that ‘when men change their hexis they change their thinking’ (Wright, 1981: 235, qtd. in Hawhee, 2004: 58). Metis-kairos is the use of bodily intelligence

in agonistic encounters. Debra Hawhee explains: 'at the heart of both *metis* and *kairos* is the notion of bodily transformation—the capacity to respond and transform in different situations' (Hawhee, 2004: 86). Morphos is *repeatedly harnessing* technological upgrades to reconfigure oneself and improve performance. I propose morphos as a dialectical relationship between bodily reconstruction and ethos reconstruction. The bodily reconstruction increases one's physical and sensory agency through technological enhancements. The ethos reconstruction increases one's agency through a rhetoric of self-transformation, a rhetoric of identity, and a rhetoric of the hybrid body. In other words, one's strategic use of bodily re-construction for increased human performance can be a rhetorical act that reimagines ethos, the standing one claims to speak/write with authority.

I argue that if we change our bodies, we change the language we use to describe our bodies; we change how we can tell stories about our bodies and we change the stories we tell about our bodies. Bodily modification, reconfiguration, and enhancement are becoming more common. Performance-minded cyborg rhetors are constructing rhetoric that is short-term, body- and goal-specific. As these individuals design their own prostheses, they develop new wired, body-specific, technology-specific communities and rhetoric (see Kuniholm, *openprosthetics.org*).

In 2008, Chorost underwent surgery for a second cochlear implant (for his right ear). With two cochlear implants, he now has bilateral CI hearing. This upgrade is another example of *morphos*: Chorost has again transformed his hexis and his metis-kairos, improving his performance. He has increased his physical and sensory agency. Furthermore, his improved hybrid hearing deepens his perception of humanity and the world. His upgraded cyborg capabilities change his rhetorical capabilities. He continues to explore new boundaries. He is a cyborg who is repeatedly seeking ways to harness his technological upgrades, constantly re-configuring himself and his rhetoric to act upon the world.

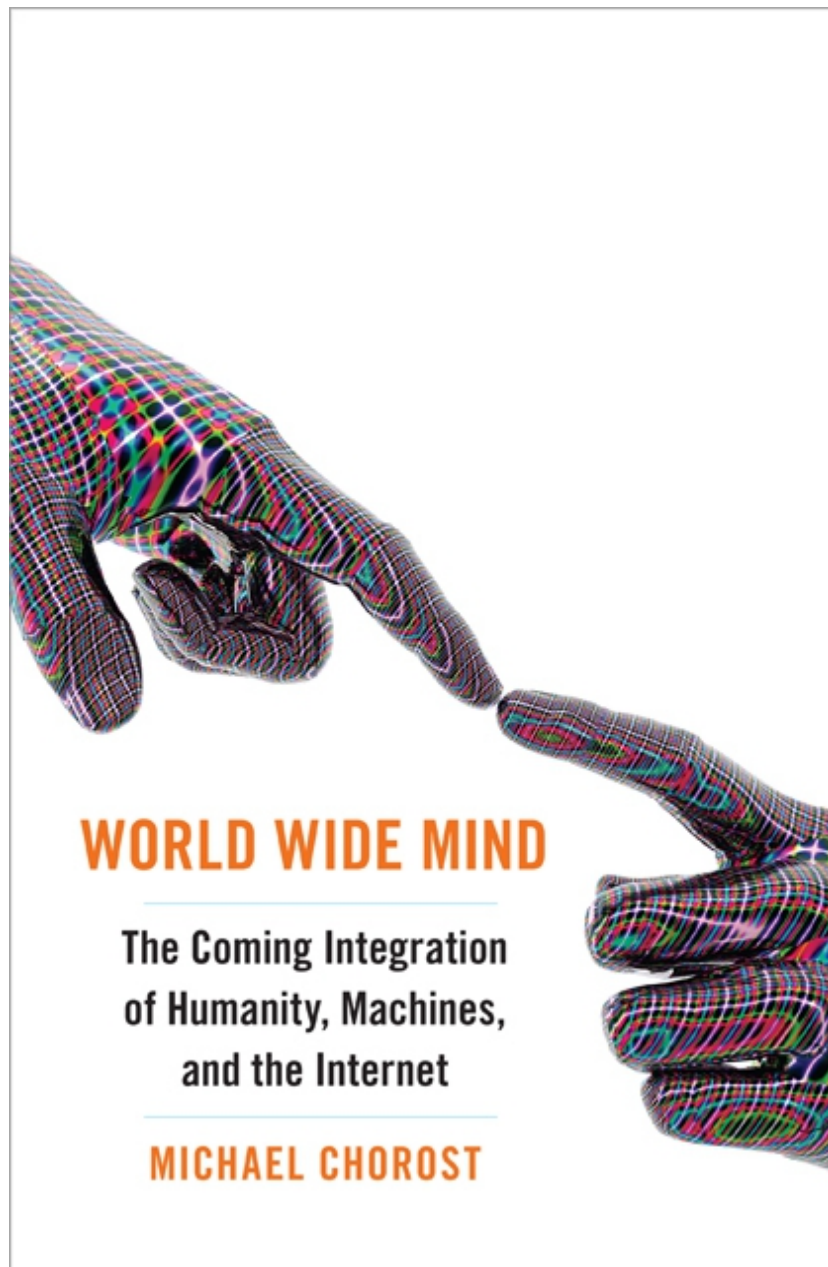


Figure 2: Cover of Michael Chorost's *World Wide Mind*

Chorost published a new book in 2011 titled *World Wide Mind: The Coming Integration of Humanity, Machines, and the Internet* (WWM). Between 2005/2006 (when *Rebuilt* was published) and 2011, he developed a transhuman rhetoric through presentations, articles, online writing and media. He learned American Sign Language, moved, and got married. He continued his self-transformation as rhetor, developing a new ethos. He gained new knowledge and new audiences, increasing his perceived authority and capabilities as a cyborg storyteller.

As Chorost's rhetoric develops over time, he gains the attention of others by making himself both an example and an authority of the powers of self-transformation. With each new upgrade, he gains perceptual knowledge and performance. In his latest book, *World Wide Mind*, he uses these to present a new argument for cyborg personhood, or, more broadly, human evolution. He has increased the conceptual reach, the circumference, of his rhetoric to include human evolution. He has changed himself through *morphos*—a means of continually expanding his boundaries.

Chorost uses *morphos*, i.e., further upgrades exercised through morphological freedom, to become part of a larger community; but he now seeks a larger audience in addition to further upgrades. He is no longer trying to persuade the world that he is a cyborg. He no longer needs to; he completed his physical and rhetorical self-transformation as a cyborg in *Rebuilt*. He no longer needs to use the term cyborg as self-description; it's a given.

Only once does Chorost refer to himself as a cyborg in *WWM*. In his chapter on 'The Most Intimate Interface' and human touch, he discusses 'The Erotics of the iPhone' (Chorost, 2011: 70):

[M]y cochlear implants...had to be in contact with me, touching me intimately in order to work. And like the iPhone, they sent electromagnetic energy into me." After using numerical facts to describe his cochlear implant interface, he describes himself with his iPhone: "So there I was, a cyborg diddling a vibrating electronic creature on my lap, with electricity pouring into my head and my fingers

(Chorost, 2011: 72).

He acknowledges his cyborg identity, but he emphasizes the relationship between humans and machines in the context of intimacy and touch.

The subtleties of cyborg personhood are intensely private and personal, intensely human; but these intensities are interface-dependent. Chorost must develop and re-develop rhetoric to explore and explain these changing interfaces and intensities. Because his *WWM* thesis is human-centered, even humanitarian, his rhetoric centers upon human qualities that can be improved through cybernetic solutions.

As a rhetor whose cyborg personhood is more transparent, Chorost can further his argument for man-machine integration through *morphos* to harness both new upgrades and new arguments. These new arguments can promote further upgrades using an upgraded lexicon that is grounded in improved or enhanced hybrid performance. As the cyborg continues to rapidly harness technology to increase their performance through *morphos*, their rhetoric of the body and identity undergo rapid change. These rapid changes in rhetoric expand human boundaries of consciousness and performance, shifting ethos for transhuman rhetors. *Morphos* shifts ethos for rhetors who are manifesting a new stage of cyborg consciousness.

Chorost's new rhetoric is not "non-cyborg" rhetoric; it is the next phase of cyborg rhetoric, the evolution of cyborg rhetoric. For the cyborg, going to the next rhetorical phase in search of authority marks the acquisition of specialty knowledge. This acquisition is driven by increased bodily performance through *morphos*.

It is a condition of the 21st century cyborg's hybrid embodiment (*hexis*) to *morph*, to change identity, to reinvent, to gain new powers, to upgrade. This upgrading is reflected in Chorost's new book *WWM*: he has new community affiliations, new knowledge, new technology, and must use new language to identify his ongoing changes. This use of *morphos*—rapidly reconfiguring one's *hexis* and *metis-kairos* (physical, sensory, and cognitive capabilities)—is a condition of cyborg personhood, cyborg ethos. Use of *morphos* is reflected in a cyborg's narratives over time.

Rhetoric becomes more dynamic in the hands of the cyborg because he/she has new capabilities that are undergoing continual improvement. With each upgrade, a set of terms, a new set of parameters and increased perception, skill, or capabilities requires new language of self-description and identity—or explanation and argument. Cyborgs transition from one community of upgraders to another—an agency reflected in their changing prosthetic technology and bodily knowledge (*metis-kairos*). Their rhetoric moves, changes, shifting their ethos as they gain authority and capabilities.

Chorost isn't rejecting the term "cyborg." Just like we are humans, we don't walk around and chat with people using the term "human" to describe ourselves all the time; Chorost doesn't need to use the term "cyborg" to describe himself now. Burke's concept of circumference is useful for explaining this relationship between rapidly changing performance, boundaries, and the language deployed by Chorost in a new quest to increase performance and his audience. Chorost's constitutive skills (or, boundary-changing performance) influence what Burke calls 'circumferential logic' (qtd. in Anderson, 2007: 44). This logic applies to the smaller or larger areas of interest and meaning one addresses using specific reductive terms. In Chorost's rhetoric it is used to define his constitutive acts, identity, and thesis. In *Rebuilt*, he addressed the problem of hearing loss or "hearing" gain through CI technology. In *WWM*, he addresses the problem of "mind" and "consciousness", proposing solutions through new (and future) technology.

His new approach is used to gain community capabilities. He's moved from perceptual and physical challenges that influence community and humanness, to more cognitive and social challenges that influence global humanness (human consciousness and human evolution). He's constructing a much larger conceptual space (or, circumference) using narrative and new terms—always new, always projecting into the future—to influence a much larger audience.

Using his knowledge gained from morphos—a capacity and use of self-transformation and embodied technology that is unique to the rapidly-reconfigurable cyborg—Chorost develops his new argument in *WWM*. Readers read to expand their mind and increase their knowledge. This simple fact is what undergirds Chorost's thesis in *World Wide Mind*: readers include internet users and internet users are already familiar with the prosthetic aspect of computing. Embodied computing is Chorost's special insight. In order to capture a new, internet-using audience, to persuade them of coming changes in human evolution, he uses his insight—gained from morphos—to construct a new cyborg rhetoric.

In *Rebuilt*, Chorost is not able to capture a vast audience because everyone hasn't lost hearing (enough to consider a CI) or isn't convinced they need to be more human or need technology to be more human. His transhumanist rhetoric is grounded in the benefits of physical change—self-transformation—through technology. Chorost has dropped the confusing and loaded term "cyborg" in favor of using culturally-embedded terms that identify everyone's (well, people who have computers and cell phones, etc.) quest for improved, or at least techno-

logically-mediated, communication. He grounds his new thesis in the zeitgeist (as he did in the first book, but using a smaller rhetorical circumference) and internet-enhanced consciousness. He's arguing for a mind-blowing (literally, changing the parameters of mind) paradigm shift in consciousness through cyborg technology, cyborg embodiment, self-transformation, but he's making this argument as a person who has already benefitted from changing the parameters of his mind. He's a cyborg, so he can produce a cyborg argument without diluting and weighing down his argument with such a loaded and problematical term.

Now a cultural symbol, Chorost represents the future in both body and mind. His new transhuman rhetoric argues for a new cyborg consciousness without the autobiographical first-person narrative problem of self-identification; he's already done all the work of conversion using this narrative. Now he's moving out into the larger world, stronger, enhanced, wired, with a new consciousness dependent upon bionic technology. While most of us are separate from our computers, he and his computer (his cochlear implants) are one. He is arguing for expanded consciousness through cyborg embodiment, but he's carefully performing his rhetorical surgery on future cyborgs by using more common scenarios. He seeks consubstantiality with his reader, so he adopts a different rhetorical approach. His argument in *World Wide Mind* is far more radical than the argument in *Rebuilt*. He proposes a scenario in which we are able to read each others' minds through collectively-implanted internet connectivity. This radically new argument is made possible through morphos.

Morphos is a rhetorical dimension of ethos because it shifts ethical and rhetorical boundaries as a result of physical, perceptual, cognitive capabilities. Morphos—as a dimension created in the culture of upgrade-antsy millennials—could be considered undesirable by other cultures and generations. It could be seen as an evolutionary threat for those who find transhumanism and human enhancement repulsive and ethically questionable.

In *World Wide Mind*, Chorost addresses an audience receptive to new views of human enhancement. He addresses a different audience than in *Rebuilt*. In *WWM*, he is not faced with the challenge of rebuilding his character; he has already rebuilt it, with considerable influence, within a community of cyborgs or cyborg-fanatics. Because he has become the authority for a community of cyborgs—partly by using his cyborg metapathography to achieve this authority—he no longer needs to persuade readers that he is now a cyborg. He is moving beyond self-description or self-transformation rhetoric. In *WWM*, he uses group-description and group-

transformation rhetoric to persuade readers that self-transformation technologies can enhance human communication, human communities. Now that he has redefined "cyborg" for the 21st century consciousness, he is driven to use his newly-acquired skills—and morphos, the rhetorical benefits of continually exercising morphological freedom—to influence different audiences, different groups, different communities.

In constructing his arguments in both *Rebuilt* and *WWM*, Chorost uses a dualistic approach. He constructs a personal narrative in *Rebuilt* that focuses on his patienthood and humanity—exploring his human sensory and sensual perceptions. He also constructs a personal narrative that focuses on his cyborg personhood—exploring his hybrid perceptions. It is interesting and revealing that he continues this dualistic approach in *WWM*, further exploring his deep humanity (through intimacy, interpersonal communication, and touch) and cyborg possibilities as dialectic.

Further research in cognitive neuroscience could focus on the implications of neuroplasticity as ever-changing sensory capabilities and the hybrid construction and function of cyborg stories. Chorost influenced the ASL, d/Deaf, and C.I. communities in *Rebuilt*. He influenced other communities. As any ethnographer would be cautious to apply terms to define a community under study, that ethnographer would apply those terms according to his/her relationship to that community—ethnic and ethical, social and rhetorical. What complicates Chorost's situation as an ethnographer is that he has changed himself and his relationship to others (he is a cyborg; others are not cyborgs). With his cyborgian metis-hexis, he is a different kind of potential ethnographer than before his self-transformation: now he can study humanity and human evolution as a problem of self-transformation and self-enhancement; he constructs rhetoric about human capabilities—both available and projected—to propose new solutions. When morphos is multiplied—as a dimension of group ethos—it stimulates group transformation and community: self-transformation becomes self-transformations. In other words, when morphos is used to establish group ethos based on specific bodily capabilities, group rhetoric about shared bodily capabilities can influence other groups to create a different potential for human evolution. When everyone uses a cell phone or ubiquitous technology, communication between individuals and groups changes; the evolution of groups and ideas changes. When everyone is a cyborg in Chorost's *Rebuilt* definition of the term—whether named or unnamed—group-transformation and idea-transformation accelerates.

In *WWM*, Chorost's avoidance of the term cyborg is a remarkable and rhetorical act because he's rallying now for a future population of cyborgs. As *the* steersman, he steers his audience away from the connotations of "cyborgs" as a group of potential membership, and towards connotations of "world-wide" and a group of humans with interconnected consciousness. He wants a cyborg community that improves *human* community. He wants people to be more interconnected because he sees this as an improved version of humanity. Rather than confine himself and his future community to the label "cyborg(s)," Chorost uses his rapidly-reconfigurable capabilities to construct an argument with fewer limitations and greater circumference—an argument for 'transpersonal' humans with new capabilities (Chorost, 2011: 202).

Chorost's thesis in *WWM* is about increasing the size of a community—cyborgs, inexorably—and the influence of that community by changing bodies and capabilities through neuroprosthetic technology. The term "cyborg" nearly disappears in his *WWM* rhetoric because he is no longer focused on singular, first-person (and patient) transformations. Chorost is bionically clever. He uses his cyborg personhood and morphos to present a more desirable, more sophisticated relationship between man and machine. He is designing humanity of the future by designing and morphing himself and his knowledge. Because he is now interested in third-person plural transformations, as a leader and authority, he must design and use rhetoric appropriate for groups and potential communities. He has moved from the rhetorical challenge of addressing *existing* communities (ASL, d/Deaf, and C.I. users), to *future* communities. As a futurist, he is designing a humanity that is beyond his own time by proposing an inner architecture of human potential. Chorost is now an autoethnographer-cum-neonative-ethnographer who studies future communities based on technologies, rapidly-reconfigurable bodies, and capabilities. He can make this study into an argument through morphos.

As he gains new physical, perceptual, and cognitive capabilities as a cyborg, Chorost extends his rhetorical "reach" through morphos. His cyborg self-identity is no longer the rhetorical motivation. His new motivation is group-identity and ethos within a larger context. He redefined humanity to include cyborgs; now he needs to redefine humanity *as a cyborg*. His latest rhetorical challenge is very different, because he represents a different demographic, a different ethnographic cohort, a growing population within humanity that is changing human evolution. Chorost is a futurist and self-transformed humanist who avoids the self-descriptive and group-descriptive term "cyborg(s)" to construct his new ethical position. He deploys the

"world-wide-mind" metaphor to construct rhetoric about "transpersonal" human capabilities based on a radical conceptual model of neuroprosthetics. As an author and member of a growing cohort, Chorost increases his authority, developing an argument that could increase the population of his community; but he constructs this new argument not as a deaf cyborg with bionic hearing. Rather, he constructs a futurist ethos as a human with increased capabilities seeking increased capabilities. He envisions a future humanity that can communicate more deeply, more intimately, using new kinds of neuroprosthetic technology—a communication he calls 'collective telepathy' (Chorost, 2011: 167). The proposed technology would create mind-reading cyborgs (though Chorost refrains from using this term): newly-transformed individuals who become part of a unique community with enhanced cognitive, cybernetic capabilities.

Communities share resources and narratives through praxis. Future communities, as Chorost carefully proposes in *WWM*, could develop technologically-enhanced cognitive powers to share digital resources and narratives for collective benefit. By proposing a new bodily praxis that could create agency for both the individual and the collective, Chorost uses *WWM* to explore the future of both cyborg personhood and cyborgs. In his new argument, group ethos is more important than group name. Once a group is created through technology that yields profound new interpersonal communication capabilities, that group can give itself a name and identity. Humans who transform their body and mind through prosthetic technology can upgrade and change their capabilities, their group identity. This capacity for change is important for the cyborg. The human cyborg is a change-agent who extends capabilities to design futures. Morphos, as a dimension of cyborg ethos, redefines boundaries of the physical self, creating the need for boundary-changing rhetoric that corresponds to new capabilities, to meet new challenges.

Chorost's self-transformation and rhetoric of transformation reveal new frontiers in human and language morphology. As human cyborgs reconstruct, extend, and further extend their capabilities through prosthetic technology, one of the most important implications of this pattern of transformation and increased performance is that *human cyborgs can develop a new language driven by and for hybrid capabilities*. As humans create language for the explicit purpose of communicating amongst members of their technology- and knowledge-driven community, their nascent language, based on hybrid bodily praxes and knowledge, will construct a new community ethos.

This nascent language (glimpsed in Chorost's rhetoric) could synthesize computational languages (such as digital computer code) and available spoken/written languages, to form a hybrid language. When self-transformation, group-transformation, and the ethos of so-called cyborg humans advances to a point where communication and community, and the drive for improved human performance, results in language that is unique to a specific technology and hybrid bodily praxis, then so-called cyborgs will change human communication. The change has begun; morphos makes this change possible.

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