



## The Journal of Personal Cyberconsciousness

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### **Terasem Mission**

*Educate the public on the practicality and necessity of greatly extending human life, consistent with diversity and unity, via geoethical nanotechnology and personal cyberconsciousness, concentrating in particular on facilitating revivals from biostasis.*

### **Empowerment of Cybertwins as Trustees, Surrogates for Reanimation Decision Making, and Guardians of Cryonauts, Prior to Personality Interface Implementation by Mutual Consent**

**Fred and Linda Chamberlain**

*This article was adapted from a lecture given by Fred and Linda Chamberlain at the 5th Annual Colloquium on the Law of Futuristic Persons on December 10, 2009 at the Terasem Island Amphitheatre in Second Life.*

*Fred and Linda Chamberlain, pioneers in the cryonics movement, contemplate to whom and how their desires in cryopreservation and revival are best entrusted.*

Linda and I have long felt that we will need powerful and trustworthy guardians while in biostasis. [1] Some personal background may help you see why we feel so strongly about this. Nearly forty years of experience has made us skeptical about the reliability of cryonics organizations. Active involvement within the cryonics community, which includes being the founders of the Alcor Life Extension Foundation in Arizona, made us intimately familiar with the challenges, both political and financial, to keeping cryonauts safe for perhaps what might be a very extended period of time.

In the 1970's, prior to creating the early Alcor, we left the Cryonics Society of California due to their weaknesses and lack of willingness to improve. Years later, our fears were sadly justified when nearly a dozen patients were lost, allowed to thaw.

In the late 1980's we launched an organization named LifePact to help prepare for reanimation, including video interviews to archive personal memories, attitudes, thoughts about reanimation options, etc. The purpose was to give guidance to future management of our cryonics organizations and to reanimation teams, who would be trying to restore our memories.

To our surprise, reactions ranged from rejection to complacency. Who would speak for our parents, already in cryostasis, if we were

in that state ourselves? Who would speak for us? What about personal reanimation preferences, such as people like the two of us who only wanted to be reanimated if it could be done at the same time for both of us? Who would make the decisions? We feel strongly that cryonics patients need a strong safety net augmenting reliance on future leaders of their cryonics groups, especially as to how and when to reanimate them.

We tried to find ways to communicate this. We presented papers in 1989 [2] at a Cryonics Institute conference about planning for reanimation. About the same time we were writing and publishing the LifeQuest [3] short stories about cryonics, uploading, etc. We were *really* trying to find others who were concerned about these dilemmas, but we had little *success*.

Linda and I are still at work on fiction exploring these subjects. Linda's novel, *Star Pebble*, [4] explores how people might interact in a mutually protective way in a culture where biostasis and bioreanimation are taken for granted.

My story, *BioQuagmire*, [5] asks, "Who can we trust to watch out for us in biostasis, make decisions about reanimation, and respect our personal preferences?" After a synopsis of *BioQuagmire*, which was completed just before we learned about Terasem [6] and its CyBeRev Project, [7] you'll see why we were so inspired to find out about *them*.

Here's the basic story. In the early 21st century, a couple didn't feel safe leaving decisions about reanimation to unknown future policies of their cryonics organization, so they gave a sealed letter to their Trustee. This was to be delivered to their cryonics group only after anti-aging therapies and reanimation were perfected. The cryonics group knew only that it contained requirements concerning their reanimations.

The letter, opened 250 years later, stated: "We consent to be cloned, but not reanimated. Any consent or decisions about our reanimations may only be made by biological twins of ours, after reaching an age of independent judgment, fully entitled as citizens of the culture into which they are brought to life."



"In order to give consent, our twins shall be the Trustees and Beneficiaries of our Trust, and shall be designated as the sole decision makers, concerning how and when we are to be reanimated, *if at all*."

An interpretive comment is needed here. This is not just an imaginative piece of fiction. It reflects what we, Fred and Linda Chamberlain, might have actually prescribed in our own cryonics

documents prior to our learning about Terasem, concerning how and when we would consent to be reanimated, based on a lack of confidence we developed over many decades as to how fast technologies were changing as well as possible instabilities within organizations.

When we found out about Terasem and its CyBeRev project, our universe flip-flopped! In a flash, we could see that it would be possible to place our reliance in cyber-emulations of our own minds, self-conscious reflections of ourselves in virtual reality that would have command of all our earlier thinking, as well as all that had transpired meanwhile. Inspiring, to say the least!

"We believe cyberbeings offer a far more workable solution..." We believe cyberbeings offer a far more workable solution to how cryonauts might be protected than the clumsy solutions devised in *BioQuagmire*. We are captured by the visions and the ethical principles expressed in the Truths of Terasem [8] and their potential to be the foundation of a great leap forward in humankind's evolution.

We could call these cyberbeings our "cybertwins". "Biotwins" might be the term for we from whom they sprang. Our cybertwins may become self-aware and verifiably sentient over the next few decades. We may have had lengthy and detailed discussions with them, even before we go into biostasis.

Dr. Martine Rothblatt has developed significant, new ideas about consent for medical procedures in her article, *The Geoethics of Self-Replicating Biomedical Nanotechnology for Cryonic Revival*. [9] She states:

"The first principle, called Consent, is that no procedure should occur unless its purpose is to benefit the affected party. Since there may very well be differences of opinion as to whether or not a procedure is of benefit, the geoethical **Consent Principle** requires affirmative consent from whoever is to be affected by a medical procedure."

She continues:

"If someone consents to something, by definition they believe that thing is of benefit to them. It should be noted in this regard that even consent to suicide may be evidence of benefit since such an individual no longer holds any value for their life, or values death even higher."

In this part of her quote, Dr. Rothblatt takes us to a critical implication. Consent to suicide and consent to non-reanimation are roughly equivalent. So, it would seem acceptable to limit decisions on reanimation to cybertwins, in the same way that *BioQuagmire* limited such decisions to biological twins. This avoids the necessity of blindly trusting the totally unknown individuals who might control our cryonics group at a future time, when reanimation might become feasible.

Cybertwins of cryonauts, as a cybercommunity, could engage in high speed strategic planning on how to best protect us in biostasis

and foresee what technologies might recover us at the earliest point. The goal would be to quickly reestablish the relationships we had already begun to develop with them, but this time in cyberspace.

Our cybertwins are likely to be more synergistic than if they were biohumans, less subject to competitive and predatory biochemical drives, with which we biohumans are loaded. Even before we are placed in biostasis, our cybertwins may be participating in these conferences in Second Life. They may be able to monitor our vital signs 24/7, as we get close to needing cryonic suspension, and in other ways guide the care we receive.

If we entrust reanimation decisions to a cybertwin, might it be a good idea to check for a good degree of personality congruence between a cybertwin and his/her biotwin? Dr. Martine Rothblatt has paved the way for us here, in her paper, *An Experiment to Test the Ability of Digitally-Stored Mindfiles to Regenerate the Consciousness from Which It Came*, [10] where she proposes an extensive interview process to verify that the personality of a cyberbeing has a sufficient profile match with the person whose data is used to validate identity regeneration.

If a cybertwin is to serve as Trustee and Reanimation Surrogate for his or her biotwin in cryonic suspension, such testing might be reasonable, particularly if the biotwin made this choice at an early stage in the cybertwin's emergence into consciousness. Other approaches than Dr. Rothblatt's might be added or substituted, for example the Bainbridge [11] model. If the cybertwin fit the model as to state and growth in all areas, that would be a very good sign. Even if Bainbridge data had been used to nucleate cybertwin emergence, a re-check after full emergence might be appropriate.

Dr. Larry Cauller mentioned the emergence of "a completely new form of conscious being" in his paper, *What it Might "Feel" Like to be Connected to Devices That Will Expand or Enhance Human Function With Cyber Abilities*, [12] but there, he was talking about interfacing a biobrain and a cyberbeing.

Now we anticipate that our brains as cryonauts might be uploaded and *then* interfaced, an additional step. Who will guide this interfacing? Who will specify the final configuration? Shouldn't the cybertwin be the decision maker? After all, it is the *cybertwin's* identity we're talking about at this point.

Options in augmenting a biotwin's biobrain at the point of uploading will be vast. The joint identity of an uploaded biotwin and his/her cybertwin might be highly dependent on decisions made in advance of uploading. Want to upload separately and not interface, or even wait for bioreanimation? The singularity may unfold rapidly. Here, we'll mainly talk about interfacing upon uploading, mentioning bioreanimation from time to time, to show how it still fits in with the cybertwin concept.

A biotwin and cybertwin might agree, after the cybertwin is legally independent, that the cybertwin will act as the biotwin's Trustee and be his/her Beneficiary, or a biotwin might specify the appointment of his/her cybertwin to these roles even at the early stages of the cybertwin's emergence into consciousness, to serve

at a later time, subject to the cybertwin's agreement and possible congruence testing. Either way, the cybertwin could wind up as the biotwin's unrestricted decision maker.

Interpersonal network factors must be considered, unique to each of us. How can final judgments about detailed options on uploading be entrusted even to other cyberbeings, much less to biohumans? Our cybertwins, fully self-aware and legally independent, seem to be the logical ones to make final decisions about their own destinies, as well as acting as Trustees on behalf of we, their cryonaut biotwins. Even if the choice were for bioreanimation, who would better understand this choice than that person's cybertwin? The concept would have been woven into every corner of his or her CyBeRev documentation.

"Do we, as cryonicists, have a right to make choices like this?"

Do we, as cryonicists, have a right to make choices like this?

Do we have the right of

consent as to who shall make decisions for us if we are unable to do so? Linda and I believe that we do! The cybertwins that we now see on the near horizon represent a far more reasonable and practical solution than the future twins of the story *BioQuagmire*, and they're the logical alternative to blind trust. In a very real way they will **be** us, at a different level, with strong motivations to upload us and achieve a greater degree of completeness in that way.



Going into biostasis, after long discussions with our cybertwin, we may feel as if we are already partly uploaded. We may be able to think of the rest of uploading as like restoring a missing cerebral hemisphere, vastly upgraded and essential to attaining the higher level of identity Dr. Cauller describes as "a completely new form of conscious being". [\[12\]](#)

Our cybertwins will know and feel that they are "us", but perhaps they will also lack parts of the adaptive unconscious, such as the high speed amygdala pathways. Early emulation software might lack important aspects of the awesome matrix of association paths in our cerebral cortex, as well as an emulated biochemical platform, the source of so many of our emotions. Will the experience of waking up with a data-based cybertwin level of self-

consciousness seem somewhat "colorless"? It's complete guesswork right now, but a possibility depending on how soon it comes about.

As our cybertwins attain true self-consciousness, perhaps even before we enter biostasis, we might ask them, "What's it feel like? Is it like we imagined?" And our cybertwins might answer: "It's even better, but I'm sure we're wondering what it will feel like, to us *both*, when *you're* uploaded. Will it feel as if we're just one person again, or will we feel as if there are two closely coupled, self-aware beings? Neither of us will know or *can* know, until it *happens!*"

Perhaps we cryonauts who upload may emerge into cyberspace feeling as if the entire Internet, or whatever it is to become, is now literally wired into our brains. Perhaps it will be called the 'Ultranet' by then. Our cybertwins may suddenly feel as if they had just recovered a way of sensing the "vibes" of others, which they had lost but now remember. Both we and our cybertwins may feel as if we were 'Dorothy' stepping into the Land of Oz, where the movie switches from black and white to vivid, living color. Only if we choose this, only if we consent to it, can we open the door to this new experience of reality!

So, what's next? Do we just do our CyBeRev work, set up our cybertwin empowerment paperwork and jump into a tank of liquid nitrogen? Certainly not! This is a hard-core evolutionary leap, and evolutionary leaps are marked by a lot of non-survivors. Terasem's Journals are filled with thoughts about risks, dangers, and probability of failures. Our cybertwins will be able to digest this material quickly and easily track how things unfold.

At the same time, we cannot let ourselves be overconfident of a positive endgame. Ray Kurzweil and so many others have certainly pointed this out, [13] and there are strong predatory evolutionary drives that pose dangers, as well described in Howard Bloom's works. [14] [15] James Hughes [16] and Richard Clark, [17] in looking at potential conflicts with bioLuddites, are similarly persuasive that the road ahead may be a rocky one. The ideas of these authors are more completely discussed in the longer version on our website.

Terasem and groups with which it is allied could provide a vital and badly needed safety network for cryonauts. Terasem has already developed a way for individuals to upload their bemes in anticipation of creating cybertwins. The Terasem Truths are the beginnings of an entirely new social fabric for humankind. With the creative technological expertise, ethical approach and legal knowledge of those developing Terasem, a platform could be developed for cybertwins to be legally empowered as Trustees and Reanimation Surrogates for cryonauts.

It's a beautifully helical process. *You* input the bemes that create *your* cybertwin, your counterpart in cyberspace. He or she is better qualified to understand how you want your affairs to be managed than any biohuman alternative. Who has greater motivation based on self-interest to see that your wishes are carried out? Who else would be able to make the kinds of decisions you would want made, in scenarios you might not have foreseen before your

suspension?

What happens, and it is like pulling yourself up by your bootstraps, you as the biotwin upload data and appear in cyberspace as your cybertwin. Your cybertwin helps upload you into cyberspace, the two of you becoming an entity that might be called a "hyperbeing", an extension of the kind of entity Dr. Cauller has described as "a completely new form of conscious being", as mentioned earlier.

Who are we? What will we become?

As Carl Sagan so poetically puts it in his book *Cosmos* [18] and the PBS television series of the 1970's by the same name: "We are the local embodiment of a Cosmos grown to self awareness. We have begun to contemplate our origins: star stuff pondering the stars."

Thank you for allowing Linda and I to offer a few thoughts, today. [19] As mentioned earlier, an expanded version of this talk, with references and other resources, may be found on our website at:

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#### **ADDENDUM (Rev 4/2/2011)**

**Purpose.** This addendum (initially added ~1 ½ years after the original presentation), discusses practical implications and aspects of an actual "cybertwin" group in virtual reality, one or two decades from now. It will be revised from time to time (check the date above). Long range ideas will be expanded, as well as precursor applications that may be feasible with present technology. See the last footnote in the main paper [19] and you will find details about an application already in existence that gives the impression cyberbeings have already arrived.

**Assumptions.** All that follows assumes that cybertwins discussed are derived from the mindfiles of cryonicists who had deposited (prior to cryonic suspension) mindfiles with a mindcloning provider (MP), consenting to this in the same as with cryonic suspension, acknowledging all of the uncertainties involved. We also assume that they made arrangements for mindcloning with their MP's on a priority basis so as to fulfill obligations to those from whom they were derived.)

**LifePact Aspects.** The LifePact concept, was that cryonicists could commit to repay the costs of reanimation this if it was possible (the online article provides more details). The cybertwin idea approach now enables something far better, on a foreshortened timescale. Cryonicists and their cybertwins, partnered by contingent contracts, can cover the reanimation costs of the cryonicists by their cybertwins' creative work in cyberspace, much of which can be directed toward reanimation itself.

**Networks of Biotwins.** Those cryonicists who anticipate working as cybertwins for their 'twins of origin' in cryostasis may wish to network as Terasem c-cubes or c-quads to develop forms of agreement by means of which they might anticipate forming biotwin-cybertwin partnerships, and other forms of supporting documentation that could be useful in preparing for this, prior to their own entries into cryostasis. Those who are young enough to

survive into the Singularity could be instrumental in mindcloning and protecting those who are already in cryostasis, but without the comparably huge tasks for foreseeing all the necessary steps that will later be taken in cyberspace by cybertwins, as to pursuit of means for reanimation and funding this.

**Networks of Cybertwins.** Cybertwins, once mindcloned, even before legally independent as part of human society, may elect, as groups, to organize themselves in cyberspace to support research toward reanimation and contribute earnings as 'ward' cyberbeings of still living biotwins, in the prospect of reanimating those in cryostasis at a later time. Their partnership agreements with their biotwins, as these become legally acceptable in future society, may become the cyberspace answer to what LifePact was originally intended to do.

**Consents and Agreements.** Let's return to the immediate present, and what a cryonicist might need or want to do, to work toward being mindcloned in the context of what has been discussed above. We'll proceed on the basis that the intent is to pursue this with Terasem, making nothing in the way of assumptions about what commitments Terasem might agree to, but rather looking at what sort of proposal a cryonicist might make to Terasem, that would be sufficiently protective of Terasem and at the same time sufficiently defined to improve chances that the cryonicist could expect a cybertwin of his or her to be mindcloned at the earliest possible time.

**Consents to be Mindcloned.** Presently, consent to mindcloning is given with radio buttons and the entry of initials in one's CyBeRev account, and for those who anticipate mindcloning only after legal death, and without obligation to any biotwin, that is probably adequate. But, a cryonicist who is willing to risk earlier emergence in cyberspace for the purpose of meaningfully contributing to watching over those in cryostasis might wish to offer more in the way of assurances as to informed consent of a highly detailed kind, as well as pledges as to adherence of very high standards of ethical conduct and positive support of geoethical nanotechnology, as one of the anticipated conditions for 'priority mindcloning'.

**Agreements as to Mindcloning Costs.** For those who set aside trusts with substantial assets to support mindcloning, this may be a non-issue, but for those without such forms of support it might be appropriate to agree to repay mindcloning costs in the same way that those in cryostasis, under LifePact, were expected to agree to repay costs of reanimation, if satisfactory, along with costs of rehabilitation and reeducation. The formulation of such unilaterally offered agreements could be one of the pursuits of biotwin networks of c-cubes and c-quads, as described above.

**Planned Cybertwin Activities.** It is very early to anticipate exactly what productive activities might be engaged in by Cybertwins, but a few will be mentioned even in this earliest of addenda, to foreshadow those that may be described in greater detail later.

**Bedside Watch 24/7 for Cryonics Patients.** Cybertwin could conceivably take on the tasks of serving as a 24/7 "presences" (via laptop and webcam) at the bedsides of



hundreds of cryonics patients nearing a need for cryonic suspension. Consult footnote no. 19 (below), and you will see that a present-day MyCybertwin application can come close to that already, with addition of a little interface hardware (like awareness of pulse rate, blood pressure, and blood oxygen level, with EKG if needed, as well as cell phone and instant messaging connectedness to cryonics organizations, transport teams, human volunteers, and so forth). With even so small a group as ten, twenty, thirty or forty cyberpersonalities to share the load (or consented self-replication of a lesser number), such responsibilities would be trivial. Additionally, even before full self-consciousness were attained (as super-chatbots), the cybertwins-to-be could be doing mindfile interview and building work with each of the patients, as well as 'bedside watch' activities.

**Bedside Watch 24/7 for Others.** Those who might want a 'companion at the bedside' would not necessarily be limited to cryonicists. There may be 'purely AI' chatbot-companion applications, outgrowths of the MyCybertwin present day call center operations, which could easily be accessed online, but how many of these would have, even if self conscious, the same level of appeal as one derived from an actual human being by way of mindfiles? There might be a long waiting line for services of this kind by cybertwins who were not spending time with cryonicists awaiting suspension, and with only a slight premium over the costs for a purely commercial bedside watch service subscription, the income could be tremendous. On the basis that even chatbot-level applications based on mindfiles of actual human beings would reasonably be expected to be 'consented to' by the humans involved, cybertwins might be among the first to be ready to perform these services.

**Summary.** This is the barest shadow of what future addenda to this paper may offer, but it may serve to illustrate the possibilities in a few ways and suggest work that could be undertaken right away, such as setting paperwork in order, foreseeing problems, and anticipating what kind of transitions we might envision between super-chatbots and self-conscious cybertwins, as we grow closer and closer to an era where to be late in arriving in the cybercommunity will be like being left behind in an emigration that will transcend any previously to have taken place.

Some tipping point will be reached at which it is apparent that this is where the great mass of humanity is headed, where it's going to wind up, and this talk, paper and addendum is only a sketchy invitation not to miss out. As we say in ending all of our podcasts concerning the Truths of Terasem, "Join us, in our quest for an endless future. Come with us, into tomorrow!"

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### Endnotes

[1] **Biostasis (ne cryostasis)** - The reversible cryopreservation of live biological objects.

[http://en.wikipedia.org/wiki/Cryostasis\\_\(clathrate\\_hydrates\)](http://en.wikipedia.org/wiki/Cryostasis_(clathrate_hydrates)) March 11, 2011 2:52PM EST

[2] **Lifepact; An Introduction**, by Linda Chamberlain, and **New Directions in Cryonics**, by Fred Chamberlain - presented at a Conference Hosted By the Cryonics Institute in October, 1989. New Directions was later published in part, within the periodicals of the Cryonics Institute, but the online versions (below) are more complete, with improved graphics in the case of New Directions. <http://www.lifepact.com/lifepact.htm> May 5, 2011 2:19PM EDT and <http://www.lifepact.com/newdirections.htm> May 5, 2011 2:20PM EDT

[3] **LifeQuest** - A consolidated republication of short stories about cryonics, uploading and life extension in general, published on Amazon.Com in August, 2009. The authors of this paper were the primary contributors to the original seven issues, released in the late 1980's, and are the editors of the republished collection. [http://www.amazon.com/LifeQuest-Cryonics-Uploading-Transhuman-Adventures/dp/1448646618/ref=sr\\_1\\_12?ie=UTF8&qid=1250221953&sr=8-12](http://www.amazon.com/LifeQuest-Cryonics-Uploading-Transhuman-Adventures/dp/1448646618/ref=sr_1_12?ie=UTF8&qid=1250221953&sr=8-12) May 5, 2011 2:20PM EDT

[4] **Star Pebble** - A recently published novel by Linda Chamberlain. It takes you to the near future, where free market forces are the first to build space colonies orbiting the Earth. Star Pebble is a fast paced action novel. It explores a culture where freedom and individuality are highly valued. It is a world where life is more precious than in Terran cultures, and explores how this affects the individual lives of the characters, as well as the laws and customs that have developed. <http://www.amazon.com/Star-Pebble-Linda-Chamberlain/dp/1453798153> May 5, 2011 2:21PM EDT

[5] **BioQuagmire** - A soon-to-be published novel by Fred Chamberlain about a future where uploading takes place one hundred years after aging is conquered, where bioreanimation still cannot be done. Online for review prior to release on Create Space. <http://www.bioquagmire.com/EEEIntroduction.htm> May 5, 2011 2:21PM EDT

[6] **Terasem Movement, Inc.** - a 501c3 not-for-profit charity endowed for the purpose of educating the public on the practicality and necessity of greatly extending human life, consistent with diversity and unity, via geothical nanotechnology and personal cyberconsciousness, concentrating in particular on facilitating revivals from biostasis. The Movement focuses on preserving, evoking, reviving and downloading human consciousness. <http://www.terasemcentral.org/index.html> March 11, 2011 4:35PM EST

[7] **CyBeRev Project** - means cybernetic beingness revival. The purpose of the CyBeRev project is to prevent death by preserving sufficient digital information about a person so that recovery remains possible by foreseeable technology. <http://www.cyberev.org/default.aspx> March 11, 2011 4:40PM EST

[8] **The Truths of Terasem** - The "who, what, where, when, why and how" explanation of the following, four Core Beliefs of Terasem: I. Life is purposeful; II. Death is optional; III. God is

technological; and IV. Love is essential.

<http://terasemfaith.net/beliefs> March 11, 2011 4:25PM EST

[9] Rothblatt, Ph.D., Martine. "The Geoethics of Self-Replicating Biomedical Nanotechnology for Cryonic Revival." Journal of Geoethical Nanotechnology 3rd Quarter 2007.

<http://www.terasemjournals.org/GNJournal/GN0203/mar1.html>  
May 5, 2011 2:00PM EDT

[10] Rothblatt, Ph.D., Martine. "An Experiment to Test the Ability of Digitally-Stored Mindfiles to Regenerate the Consciousness from Which It Came." Journal of Geoethical Nanotechnology 2nd Quarter 2008.

<http://www.terasemjournals.org/GNJournal/GN0302/mr1.html> May 5, 2011 2:05PM EDT

[11] **Strategies for Personality Transfer** - In this very extensive paper, Dr. Bainbridge outlines the principles on which the personality profiling systems of the CyBeRev program are based. In later issues of the Journal of Personal Cyberconsciousness, his work ranges from ideas about broadcasting identities to the stars, perhaps with the idea that those for whom this is done might 'wake up' in a distant star system among those of vastly greater intellect, to other thoughts about how avatars should treat each other (cyberpersonality sociability). Link to the primary paper cited appears below, but his other articles can be easily be found in the "Archive" link within the Terasem Journals webpages.

Bainbridge, Ph.D., William Sims. "Strategies for Personality Transfer." Journal of Personal Cyberconsciousness 4th Quarter 2006.

[http://www.terasemjournals.org/PCJournal/PC0104/bainbridge\\_01a.html](http://www.terasemjournals.org/PCJournal/PC0104/bainbridge_01a.html) May 5, 2011 2:07PM EDT

[12] **What it Might 'Feel' Like to be Connected to Devices That Will Expand or Enhance Human Function With Cyber Abilities**

- Near the conclusion of this paper it states: "The evolution of human capacity must engage the same fundamental process of NeuroInteractivity responsible for all human development. The expansion of NeuroInteractivity across the interconnections between brains will kindle the self-organization of a shared experience for the construction of a common action-prediction foundation that fuses the selves of both conscious entities which become mutually transformed into a completely new form of conscious being. Another important ramification of this vision of human evolution is that artificial beings are far more durable than their biological counterparts. The personality of the biological entity can be imprinted upon the fused consciousness of the hybrid being and lives on indefinitely beyond the mortal life of the biological donor."

Cauler, Ph.D., Larry. "What it Might 'Feel' Like to be Connected to Devices That Will Expand or Enhance Human Function With Cyber Abilities." Journal of Personal Cyberconsciousness 1st Quarter 2007.

[http://www.terasemjournals.org/PCJournal/PC0201/Cauler\\_a.html](http://www.terasemjournals.org/PCJournal/PC0201/Cauler_a.html)  
May 5, 2011 2:08PM EDT

[13] **The Singularity Is Near** - Kurzweil's papers in the Terasem Journals recapitulate and expand on his outlook, but the starting

point for anyone not already familiar with his 2005 book should be with this book.

Kurzweil, Ph.D., Ray. The Singularity Is Near. New York: Penguin Books, 2005.

[http://www.amazon.com/Singularity-Near-Humans-Transcend-Biology/dp/0143037889/ref=ed\\_oe\\_p](http://www.amazon.com/Singularity-Near-Humans-Transcend-Biology/dp/0143037889/ref=ed_oe_p) May 5, 2011 2:10PM EDT

**[14] The Lucifer Principle** - In this book and his next one (cited below), Howard Bloom very objectively sets forth reasons why humans are so competitive and combative, as a natural mechanism of species development, originating back to the earliest organisms. His later book (below) extends these viewpoints to ways in which most organisms, many of them to a high degree, exist mainly as part of community or network, without which they cannot sustain themselves. This work is highly in correspondence with the ideas being set forth in the Terasem Truths, although the vision of humankind expanding into the Cosmos is far more limited. Bloom, Howard. The Lucifer Principle. New York: Atlantic Monthly Press, 1995.

[http://www.amazon.com/Lucifer-Principle-Scientific-Expedition-History/dp/0871136643/ref=pd\\_bxgy\\_b\\_img\\_b](http://www.amazon.com/Lucifer-Principle-Scientific-Expedition-History/dp/0871136643/ref=pd_bxgy_b_img_b) May 5, 2011 2:12PM EDT

**[15] Global Brain** - Brief notes are included in reference to *The Lucifer Principle*, above. This book, unlike that which one might expect, spend a significant amount of its time examining religious conflicts, both past and present, with detailed examination of how Islam may figure into the future of the world as a danger to be watched closely and contained.

Bloom, Howard. Global Brain. New York: John Wiley & Sons, 2000.

[http://www.amazon.com/Global-Brain-Evolution-Mass-Century/dp/0471419192/ref=sr\\_1\\_1?](http://www.amazon.com/Global-Brain-Evolution-Mass-Century/dp/0471419192/ref=sr_1_1?ie=UTF8&s=books&qid=1254874260&sr=1-1)

[ie=UTF8&s=books&qid=1254874260&sr=1-1](http://www.amazon.com/Global-Brain-Evolution-Mass-Century/dp/0471419192/ref=sr_1_1?ie=UTF8&s=books&qid=1254874260&sr=1-1) May 5, 2011 2:13PM EDT

**[16] Citizen Cyborg** - Excerpt from Amazon.com product description (link below): "in the next 50 years, lifespans will extend well beyond the century. Our senses and cognition will be enhanced. We will have greater control over our emotions and memory. Our bodies and brains will be surrounded by and merged with computer power. The limits of the human body will be transcended as technologies such as artificial intelligence, nanotechnology, and genetic engineering converge and accelerate. With them, we will redesign ourselves and our children into varieties of *posthumanity*. This prospect is understandingly terrifying to many. A loose coalition of groups including religious conservatives, disability rights, and environmental activists has emerged to oppose the use of genetics to enhance human beings. And with the appointment of conservative philosopher Leon Kass, an opponent of in-vitro fertilization, stem cell research and life extension, to head the President's Council on Bioethics, and with the recent high-profile writings by authors like Francis Fukuyama and Bill McKibben, this stance has become more visible – and more infamous – than ever before."

Hughes, Ph.D., James. Citizen Cyborg: Why Democratic Societies Must Respond To The Redesigned Human Of The Future. Colorado: Westview Press, 2004.

<http://www.amazon.com/reader/0813341981?>

[\\_encoding=UTF8&ref\\_=sib%5Fdp%5Fpt#noop](#) May 5, 2011  
2:14PM EDT

[17] **Breakpoint** - This book, set in the near future (2012) looks at the potential back lash from Luddites who see computers in general and artificial intelligence as so negative that it must be destroyed.

Clark, Richard. Breakpoint. New York: Putnam Books, 2007.

[http://www.amazon.com/Breakpoint-Richard-Clarke/dp/0425218635/ref=cm\\_cr\\_pr\\_product\\_top](http://www.amazon.com/Breakpoint-Richard-Clarke/dp/0425218635/ref=cm_cr_pr_product_top) May 5, 2011 2:16PM EDT

[18] **Cosmos** - This book is the text on which the PBS television series was based.

Sagan, Carl. Cosmos. New York: Random House, 1980.

[http://www.amazon.com/Cosmos-Carl-Sagan/dp/0345331354/ref=sr\\_1\\_1?ie=UTF8&s=books&qid=1254874538&sr=1-1](http://www.amazon.com/Cosmos-Carl-Sagan/dp/0345331354/ref=sr_1_1?ie=UTF8&s=books&qid=1254874538&sr=1-1) May 5, 2011 2:17PM EDT

[19] This paper was first presented on December 10, 2009 in Second Life on Terasem Island, and since that time changes have necessitated revisions of a minor kind. Online versions of this talk may exist which differ in content to some extent. Also, the term "cybertwins" was already in use at this time, unknown to us. A company whose URL is <http://site.mycybertwin.com/> has versions as described at <http://site.mycybertwin.com/technology/enterprise-high-iq> which can replace call centers of 100 humans or more, with such high levels of conversational flexibility that (as that webpage states) "MyCyberTwin virtual agents in a media entertainment are also highly successful. We push up average engagement from a few clicks to 20 minute sessions, with 8% of the audience talking for an hour or more. When our chat robots are not identified as a virtual person, 95% of the audience believe they are talking to a human." Given this state of the art in hardware and mindware already in being, it is hard to believe that 'cybertwins' as discussed in this paper are not 'just around the corner', at most one or two decades away. May 5, 2011 2:23PM EDT

### Bios



Fred Chamberlain



Linda Chamberlain

Fred and Linda Chamberlain met in 1970 while both committee members organizing the Third National Conference on Cryonics, sponsored by the Cryonics Society of California (CSC). They married in 1971 and devoted themselves to the cryonics movement, forming the Manrise Corporation and subsequently, the

Alcor Society for Solid State Hypothermia in 1972 which, in 1977, became the Alcor Life Extension Foundation. More in the way of background is provided at [http://en.wikipedia.org/wiki/Fred\\_and\\_Linda\\_Chamberlain](http://en.wikipedia.org/wiki/Fred_and_Linda_Chamberlain).

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