The Time for Avatars

> "Avatar: A graphical representation of a person in a chat room. The word comes from Hindu mythology in which spirits come down and inhabit bodies." -- from *The Sacred Hall of Computer and Internet Terms and Acronyms*, http://www.pchell.com/acronyms/

Introduction: Information or Communication?

We are now entangled inextricably in devices of all kinds: video recorders, televisions, phones, digital computers. So complex and at times baffling is our entanglement with the network of devices that the humanistic observer cannot help but ask: Where is the human in all this? Does the network of information systems serve human beings? Or does it overwhelm them? Can communication systems grow to a point where they actually dwarf the content of the systems? To echo one cynical commentator (Andy Rooney on CBS TV's "60 Minutes"): Is the vast system of wires and video hookups justified by the actual content of what is being transmitted through these systems? Or are we producing "technology for the sake of technology"?

The place of the human has in the past decade begun to assert itself. Communication networks are clearly as much about email and shopping as they are about database manipulation. The human being is, nevertheless, a late arrival in the general theory of information systems.

For decades, information systems have been evolving largely along the lines set by the logicians and philosophers whose intellectual assumptions made computers possible. Seventeenth-century rationalists like Leibniz, who built the proto-computer, established a system of binary information that, they hoped, would unify empirical scientific efforts. Knowledge could then advance more rapidly, they theorized, on a trans-national level with less wasted replication. Scientific findings could be coordinated through written correspondence and through the establishment of scientific societies and official academies of science. In some important ways, the legacy of pan-rationalists like Leibniz still endures in what we call today the Internet. Inasmuch as we take the Internet to be a vast repository of information for globalizing human knowledge, we continue the trajectory of the rationalist philosophers who laid the framework of computing at the beginning of the Modern era.[1]

Recent developments in networked computing raise the possibility of a contrary trajectory. The contrary trajectory moves toward computing as a communication platform as much as an information system. And from the perspective of the counter trajectory, we face several questions. Could the flourishing of MUDs, MOOs, chat rooms, and Instant Messaging be a distinctly human interruption of the silent library that houses potentially all human knowledge? Might the rapid speed of information be stopped in its tracks by a distinct alternative to the

[1]More comments about Leibniz's seminal contribution to computing can be found in my books *The Metaphysics of Virtual Reality* (Oxford U. Press, 1993) and *Electric Language* (Yale U. Press, 1999, 1987), (look under "Leibniz" in the indices). The author's translation of Heidegger's book on Leibniz (*The Metaphysical Foundations of Logic*) also contains a "Translator's Introduction" which highlights the rationalist trajectory. The "Translator's Introduction" can be found under "Books" at the author's website at

systematic concept of the Internet? Is not a telepresent space taking shape that defies the hierarchy for cataloging the system of information? And rather than conceiving all human communication as material for the global Internet, what would happen if we took seriously the emerging communication space as a distinct, even counter movement to the collection, storing, and sorting of human symbols? Could the two distinct trajectories merge on a higher level that would enrich both?

The following argument pursues the thought experiment by conceiving communication space as a parallel and even contrary trail in information space. By "communication space" I mean a literally aesthetic phenomenon experienced by the human senses rather than intuited by a divinity's all-at-once abstract knowledge as emulated by scientific systems. Once perceptions turn to a realm tangential but not identical to the simultaneity of information systems, we can discern the outlines of a distinctive communication space-time. When actually using communication space, we hardly ever consider how radically different its assumptions are when placed alongside information space. The reflections that follow seek to point out the contrasting contours of the space-time opened by purely communicative networking. While obvious to millions of inhabitants of communicative space, the peculiar contrast to informational space-time often goes unarticulated. When its special nature goes unnoticed or remains only peripheral, the aesthetics of communicative space-time remains undeveloped and some of its valuable potentials are lost.

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http://www.mheim.com. See also a full-length study by Martin Davis, *The Universal Computer: The Road*

To sharpen the contrast, we take the most radical and distinctive entity in the eruption of communicative space time: the avatar. The graphic avatar belongs, of course, to virtual worlds, but virtual worlds appear, as worlds, only when humans don avatars to enter and navigate the worlds. Together in-world, graphic avatars recognize other avatars and even build common projects using virtual models. But before addressing the details of the peculiar nature of the avatar in communication space, we begin looking at the contrasting temporal feel of information systems. We begin with the high speed of informational time and contrast it with the expanding social space of communicative events. Placed in contrast, information space compresses while communicative space de-compresses.

Compression and the Need for Decompression

Compression is pressure applied to content transmitted at high speeds. Much as oppression is the frequent result of organized authority, so too speed pressure bears down on the quality of events in their transmission. Networks accelerate communications, which in turn accelerate lifestyles in their accommodation to high-speed networking. Several positive gains result for lifestyle as it undergoes compression. Compression brings power in conglomeration, lifting the drag of material mass, and rendering content with great transparency. From another point of view, however, compression acts as a kind of suppression, repression, or even oppression. Networked lifestyle fits activities into smaller time slots, with a premium placed on cramming more results into fewer hours. Both psychologically and culturally, compression increases with the spread of time across global

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from Leibniz to Turing (New York: W.W. Norton & Co., 2000).

networks, with every event carrying more information in smaller packets of psychological space-time. Popular culture registers these changes in its fast-paced, tightly edited visual style, its clipped news, its shorthand thinking. On the information level, compression results from email, list servers, newsgroups, and web surfing that reduce the experiential drag of time zones, geographical separation, and the labor-intense delivery of heavier material like paper.

While earlier cultures struggled with the dialect of oppression / freedom under organized authority, contemporary culture confronts trade-offs with the compression that characterizes a culture of information. With the experience of cognitive acceleration comes the need for a counter pole to compression, which is an opposite expansion. Compression calls forth a counter balance to preserve the integrity of the experience that ultimately grounds the accelerated quality of life. As organized knowledge benefits from network speeds, the knower behind knowledge remains grounded in a human body. Granted some science-fiction writers and promoters of robot science, such as Hans Moravec, do indeed view the human body as a “carbon-based” system that might someday be “uploaded” to a silicon-based system, actual human beings subsist on the “humus” of earthly life, and the embodiment of cognitive subjects belongs to the human condition giving humans a poetic linguistics and a wealth of physical gestures. As long as humanity is actually the case, we betray ourselves with self-deprecatory daydreams if we feed on pure speculation. Daydreams of a non-existent future offer delusory solace in the face of actual pressures and felt compression.

Counter measures for compression come in both somatic and cybernetic forms. While electronic data transmission accelerates cognitive processes, the earth-based processes of material bodies must likewise adjust their primal patterns to the new tempo. Temporal patterns that restore energy and heal ruptures induced by high speeds do not change at the pace of cultural evolution. Diurnal sleep, nutrition, digestion, and breathing support the pace of cognitive networking. The nervous somatic system continually absorbs daily thoughts through dreaming sleep, reflective pauses, creative time-outs, and relaxed vacations. Mental awareness continues to coordinate the movements of earth-bound primary bodies. The stress of high-speed data compression brings the felt need for de-compression, for expanding the sense of time. Time threatens to become an exhausting single-track tunnel rather than an open meadow that evokes playful spontaneity and free interaction. Compression calls for its counterpart of deep decompression.

Decompression appears in two directions, one on the plane of physical cultivation, the other on the plane of cybernetics. One is what I call Tai Chi decompression, the other is the arrival of the avatar.

Arrival of the Avatar

> “Avatar (pronounced AV-uh-tar): A word adopted by computer users to denote the digital manifestation that humans take on when entering virtual worlds. The word is Sanskrit for the earthly incarnation a god takes on Earth. Vishnu, the Hindu god responsible for maintaining the existence of

> the universe, has 10 important avatars, including Krishna, the philosopher king, and Varaha, the boar who rescues the planet after it is inundated by the oceans. The 10th avatar of Vishnu, Kalki, will arrive in the future to destroy the world with fire and begin a new age of purity on the planet." (from T*he Glossary of Internet Terms* at PCNS, a division of MoveWare, http://www.pcns.net/internetterms.html.

When it arrives, the avatar's presence demolishes the 2001 Internet universe. What we now know as "the web," a vast hyperlinked system of two-dimensional images and texts, is absorbed into an interactive, self-presentational avatar space with three, four, or more dimensions. To appear, the avatar requires at least a three-dimensional simulated space where it navigates and establishes social co-presence with other avatars. Such avatar space has been struggling to be born over the past decade in such online multi-user virtual communities as ActiveWorlds, Blaxxun Community, and Adobe Atmosphere[2]. The avatar has not yet manifested its full power but has flourished on the margins in the hands of hobbyists and avant-garde artists. Hovering on the verge, avatars are powerful presences that could transform the Net into a true cyberspace, into an online multi-user virtual reality (OMVR).

Avatar space goes beyond the older medium of linked documents, images, streaming audio and video. OMVR cyberspace has been struggling to be born ever since it was first conceived in the early 1980s when the term "cyberspace"

first brought up the notion of cybernetic depth, but the 1990s mainstream web has littered cyberspace with flat two-dimensional mosaics of texts and images that ignite popular fancy through the Mosaic (Netscape) browser and its later epigones. If the avatar does indeed arrive, that incarnation of real-time human presence will scorch the assumptions of the two dimensional asynchronous universe where the book culture still lingers with its single-author paradigm.

The principle of the avatar arises in principle from the networked cursor. The cursor on the user's screen opens a mouse hole in the power grid. Through the moving cursor we see revealed the mind of a human subject who is navigating information. The appearance of a tiny cursor movement into networked environments - as soon as it becomes visible on all the client computers on the network - causes a unique flicker in the power grid of computer systems that are vast storehouses of information. The mouse moves, the cursor crosses the screen, and with that movement the human subject is revealed who would otherwise be concealed by the screen. Though tiny in relation to the larger terrain of the computer screen, the cursor points to the mouse that roars. The mouse bespeaks an alternate notion of computer space where information mixes with human subjectivity. The cursor is the seed of the avatar, the potential of cyberspace to mix information with real-time communication.

Screen terrain is actually a grid surface. The grid displays picture elements or pixels that simulate analog realities like desktops, folders, and other iconic

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[2] See these software platforms at their respective websites: www.activeworlds.com, www.blaxxun.com, and www.adobe.com. Each platform - from the Renderware of ActiveWorlds to the VRML of Blaxxun, and the

references,. Staring at the grid is the human subject, often experienced as an encapsulated, isolated ego defined by the narrow rationality made famous by the philosopher Rene Descartes whose “cogito ergo sum” describes a solitary thinking awareness looking outwards at everything as a separate “outside” reality. How does the world look to the detached Cartesian ego? Since this ego feels itself to be a monad - an independent and self-subsistent unit - the surrounding world appears at a distance through a control grid that allows the ego to monitor incoming events with precision and calculation. The grid overlays every experience like a computer monitor that allows the eye to filter every digitized event by placing it on coordinate axes of width, height, and depth (X, Y, Z axes). Cartesian coordinate space traps every possible perception of movement across the terrain of measured awareness. Measurement and precision enable control so the eye can maintain a monitoring distance. Precision and control are won through renouncing participation. The Cartesian ego is not fundamentally a participant in the world it observes. By fixating on the screen that separates it from everything other than itself, the ego is trapped by its own need for watching and surveillance. The ego is trapped by the power grid as a reflection of its own isolated craving for control.

Through networking, the cursor begins to reveal the activity of the human subject inside the power grid. The cursor is the first glimmer of the avatar that breaks the entrapping grid. Several stages precede the avatar morphology, from the smiley face in emails, the shared program with a real-time white board, and the nickname

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3D Anarchy developed by Adobe Atmosphere – has its own background in computing history.

handle in a chat room. As it eventually moves into the screen space inside the virtual world, the graphic avatar comes to value participation above power and self-transformation above control. The avatar is the fully conscious manifestation of the networked cursor. Stepping out into the computer grid, the avatar attains moments of self-realization as the user chooses shape, clothes, and modulated voice. The avatar is not a separate icon of human presence, not merely a graphic to track a real-time user. The avatar exists in a context or world. The world is a graphical place where avatars move, act, and interact with one another. The avatar exists with other avatars, or at least with the anticipation of potentially interacting with other avatars. Through their co-presence, avatars achieve the experience of immersion, of being more deeply inside the graphical world.

In avatar worlds, the distant Cartesian ego acknowledges itself to be inside a space of spontaneous real-time encounters. The encounter space peels back the wall of control that protects the grid of power. As the cursor grows into an avatar, cyberspace ceases to be flat information waiting to be accessed. By its entry, the avatar seeks recognition by others who have also momentarily escaped the grid. Avatar space adds multiple subjects to cyberspace. These subjects constitute a neighborhood of virtual identities through intersubjectivity, through mutual recognition. This recognition is not primary face-to-face recognition, however. The avatar screens out primary properties in favor of a chosen fantasy identity. Avatar space liberates the fancied identities of real egos. As they shed Cartesian trappings, these egos are invited to re-create themselves and be transformed through fantasy.

Avatar Communities are Not Broadcast Audiences

> "An avatar is a being of some sort that is a graphical representation of you, the user in, for example, a multi-user world. In such a multi-user world typically there are many avatars. Each avatar is the virtual representation of the human controlling that avatar. The avatar does not have to be human and may be any graphical nature of any type." *The About.com Guide*, http://3dgraphics.about.com/compute/3dgraphics/library/glossary/

The avatar may sometimes look like Mr. Potato Head, but the avatar is no couch potato. The passive role of broadcast audiences is reformed by avatar space. The passive broadcast audience was a product of very specific historical developments. The modern audience did not become a group of listeners by gathering around the intimate voices of storytellers or oral poets. Television and radio are actually systems for propagating information to mass audiences that can be polled statistically and that remain faceless (hence the term "mass" audience). The audience became a social class ("silent majority") and an object of propaganda as content was propagated by marketing agencies and / or by politicians. The mass audience grew in the 20th century but originally sprang from a 19th-century notion of audiences. The television and radio audience was an historical child of a reform in operatic theater. The formation of the audience came as a result of reforms in theatrical architecture initiated by the opera-drama composer Richard Wagner (1813-1883).

The Wagnerian "theater of the future" influenced theater design throughout 19th and 20th centuries. Before Wagner, the operatic theater was a loose, open song hall where audiences enjoyed socializing, snacking, and applauding their favorite singers. When encouraged by applause, divas would launch forth to sing another popular tune, drinking song, or romantic song that may have nothing to do with the drama on stage. Compared with operatic theater after Wagner, the concert hall was chaotic – what we might today call participatory or even interactive. Wagner changed the nature of audience involvement when in the late 1870s he built a single-purpose opera hall in Bayreuth, Germany, which was soon emulated in subsequent theater architecture throughout the world. Wagner was concerned with dramatic musical narrative, with music that was tightly wedded to narrative action; he opposed the unfocused grand operatic spectacles popular in Europe.

To shape a new kind of attentive audience, Wagner built a new kind of theater. In collaboration with the architect Gottfried Semper, Wagner worked out architectural plans for a Festival Playhouse from 1855 to 1867.[3] This famous Bayreuth Festival Playhouse would exert profound influence on theater style which then shifted from the horseshoe-shaped, multi-tiered, balconied opera house to the Roman-style odeum or amphitheater with a second proscenium and a sunken orchestral pit that allowed the audience greater intimacy with the drama onstage. The laws of perspective created an illusion of great depth with a space or "mystic gulf" separating the "real world" of the spectators from the "imaginary world" of the stage. The gulf and the perspective created a focused audience who were then

[3] See Frederic Spotts, *Bayreuth: A History of the Wagner Festival* (New Haven, 1994, p. 38ff)

drawn in as silent, staring witnesses to a psychically moving event. This new focused concentration became a vital part of the Bayreuth Theater and later influenced the aesthetics of opera houses like the Burg Theater in Vienna, the opera house in Dresden, and theaters in Prague, Altenburg, Stettin and the Royal Albert Hall in England. Its outlines were seen in countless other theaters from New York to Odessa, and the amphitheater in the Prince Regent's Theater in Munich. The Wagnerian operatic drama created a new kind of theater that shaped a new kind of audience.

The Wagnerian opera house distanced the audience from the world by enticing them into a dream-like vision hypnotically unfolding before them. The audience members become focused individuals who do not interact with one another socially, but who live for a time only in imagination influenced by stirring music, dramatic staging, and poetic language. This dreamy audience eventually becomes the passive consumer audience, hypnotized by propaganda and commercial culture. The Wagnerian audience is the forerunner of the impersonal mass audience that inherits television, radio, and cinema.

The avatar breaks the spell of passive video. Avatars socialize with avatars in real-time. Users create fantasy identities that are projected and actively engaged by other avatars. The user both accepts and asserts identity as the scene changes with every movement of the avatar’s point of view. The memory function of virtual worlds – “building” in ActiveWorlds, furnishing an “apartment” in Blaxxun’s CyberTown, or creating your own “Portal” in Adobe Atmosphere – gives self-created identity a cumulative shape. Unlike the broadcast audience, the avatar

is both artist and audience. The challenge for virtual worlds designers is, How to evoke the artistic engagement of users at a level appropriate for their level of skills and their capacity for freedom.

One aspect of the emerging avatar appears in the widespread phenomenon of Instant Messaging (IM). Messaging belongs to the multi-tasking skills of the next generation. Youth today are typically performing several tasks simultaneously on the personal computer: search the web, burn a CD-ROM, watch TV, talk on the phone, and chat with a friend using Instant Messaging. The typical multi-tasking routine shows complex psychological juggling where a traditional audience mentality co-exists simultaneously with the pre-Wagnerian audience mentality that insists on socializing. The interactive component varies in the mixture, sometimes taking the foreground, sometimes receding to quiet whispers. The Cartesian ego behind the screen dissolves into chat with friends while watching TV while exploring new music available on the web. The experience is not linear like narrative drama nor does it exclude narrative drama. The avatar defines the over-arching model of the experience because the avatar inhabits shared worlds built on multiple identities and constructed of thoroughly fungible digital content. By breaking the spell of broadcasting, the avatar recovers human freedom, revives spontaneity in the face of linear programming, and seeks to inhabit the telepresent world in a creative way.

CyberForum@ArtCenter

Experiments with non-linear - that is, not narrative or broadcast based - fantasy chat began at Art Center College of Design (Pasadena, California) in January 2000. The CyberForum@ArtCenter started its experimental series in hopes of discovering and then amplifying the inherent principles of avatar chat in virtual worlds. Art Center students designed virtual worlds that were visually tailored for each Forum event, and theory students supported the events by hosting authors and artists who had written about virtual worlds or who had created avatars as art forms. For each event, participants arrived online from several continents to participate. Since its inception, CyberForum sought to channel the events into short time spans of an hour each and then to extend and preserve those events in log files and discussion boards. To date, more than twenty events have been logged by the Forum.[4] Instead of the unfocused, informal chat worlds used by hobbyists and gamers, the Forum adopted the compressed event format of academic lectures but placed these lecture inside fantasy avatar environments that are each fashioned to fit their particular topic. A spirit of relaxed fun was injected into the serious topics addressed by each of the authors or artists who were central to each event.

A typical example of the relaxed fantasy lecture is the “Plankton Float” which took place on two occasions during the Summer 2000 series of CyberForum. The general theme of the Summer series was “The Avatar and the Global Brain.” The

[4] Log files with screen shots from the CyberForum are archived online at: www.mheim.com/cyberforum.

theme centered on current theories that describe the Internet as an evolutionary mechanism for gradually shaping a global consciousness. Two Forum speakers for the series came from the group *Principia Cybernetica*. The *Principia Cybernetica Program* (PCP),[5] based in Brussels and Los Alamos (New Mexico), frames theories loosely described as "global brain" theories. The theory sees networked information systems as driven by an internal evolution that is self-correcting and self-generating (autopoetic). Especially hyperlinked systems, such as the Internet, are considered self-evolving because of a continual self-selection: frequently used hyperlinks become more embedded and come to replace less useful links which gradually disappear. In this way, the system as a whole is 'self-aware' and increases in intelligence, according to PCP If we imagine the Internet as a global nervous system, the brain of advanced society grows collectively smarter. Such automatic evolution leads some PCP theorists to make analogies that sometimes cast individual humans as passive victims. If individuals are off the grid for one reason or another, PCP theory demotes them to an awkward position. One phrase used in a PCP paper describes humans reluctant or unable to get wired to the Internet as "plankton" for consumption by the evolutionary behemoth, suggesting that reluctant individuals with their private aberrant thoughts are irrelevant. It was this image of helpless plankton that inspired design students to create avatars that resemble plankton and to devise a "ritual" for the Forum that would enact the human plight so mercilessly described by the PCP group.

[5] For more information about PCP, visit: http://pespmc1.vub.ac.be).

The Summer Forum invited Francis Heylighen and Cliff Joslyn, co-founders of PCP, to speak at separate events. Both events introduced an avatar ritual dubbed the “Plankton Float.” For the Plankton Float, participants don avatars shaped like awkward plankton and descend into a dark ocean-like pocket of cyberspace to perform ritual movements that exercise the limited functionality of the stubby plankton avatars while floating amidst a few animated bubbles. With their stubby arms and legs, the plankton can hardly do more than float vertically or swim horizontally. The plankton-like avatars appear passive and helpless in the belly of cyberspace while they bob up and down slowly past one another, remaining within a small enough area to be visible as an ensemble. The Float ritual required the participants to navigate cyberspace vertically in a smooth, varied vertical line within eyesight of one another while at the same time chatting and discussing the issues of PCP theory. Once the bobbing started and the plankton achieved smooth synchronization, the group began talking about the de-humanization implied by the plankton metaphor of evolutionary survival. The speakers from PCP realized some unfortunate aspects of their metaphor and promised never to forget the Plankton Float. [*Figure 1*] The Forum demonstrated the value of participatory avatar rituals for engaging users and bringing them to a realization through playful avatar activity. The immersive engagement with avatars opens an inroad into the deeper recesses of the psyche and creates powerful memories through visual imprinting.

Another example of avatar ritual is the “Avatrapment” event. This fantasy ritual occurred during the VLearn 2000 / Avatars 2000 conference held in ActiveWorlds on October 14-15, 2000. Avatrapment features a cage-like wire-frame that traps avatars in an infinitely unfolding lattice. The Forum topic on that occasion pointed to the danger of being trapped in avatar worlds that do not connect to real-world structures. The ritual placed forty participating avatars into the wire-frame cage. As a participant pursues an exit, the cage suddenly pops up a new form to surround the avatar. The cage design uses warps and visibility limits to achieve its effects. Avatars bounce back and forth, creating a constantly shifting kaleidoscopic image. [*Figure 2*] Each networked computer monitor shows different moment-by-moment perspectives on the scene. The ritual provided a group activity that was both fun to do and keyed to the concept. Again, the topic and the ritual together elicited amused discussion among the participants, and the idea of entrapment harmonized with the visual experience.

From Cybernetic to Tai Chi Decompression

> “Computers contribute to the process of divorcing our bodies from our minds and spirit, making life for many people a completely cerebral event. The human body is a precious thing, something more than disembodied bytes of information in a databank. Just as humans constantly compared their bodies to machines during the Industrial Revolution, so people today misidentify their bodies with computers in the information revolution. An extreme example of misidentification is cybersex on the Internet, where a

> live, vibrant, physical, emotional, and psychic experience turns into a dead simulation that teaches us that we are not human beings with living spirits but are merely disembodied images." – B.K. Frantzis[6]

The avatar arrives just in time to offset the tendency to become a giant database, a warehouse of third-person information that is compressed, stored, and exploited. Our sciences are uploading genetic information from millions of years of human, plant, and animal evolution, constructing powerful biological data banks. The rich genetic information in these biological data banks is being used by researchers to remake the natural world. The uploading process of this technology, which is the compression of nature into data blocks, has been made possible by twenty-first century computers and telecommunications. The computer is increasingly used to decipher, manage, and organize vast genetic information that is the raw resource of an emerging biotech economy. How do we upload our human identity? Does our identity, as biological beings, "fit" into the database? Are we about to become another compressed data block? What part of us escapes data entry?

The answer proposed here is that there is a part of us that remains in need of decompression and that in resisting compression we have an ally in the avatar. Through avatars, humans emerge not in Luddite opposition to technology but in new aesthetic phenomena. The avatar is a cybernetic art work that appears inside the network systems and that affirms the human psyche in the belly of the

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[6] From *The Water Method of Taoist Meditation: Relaxing into Your Being* (Fairfax, California: Clarity Press, 1998), p. 19.

technological behemoth. Through avatar worlds, the network becomes a platform for individual expression and for social interaction, a communication system where human presence is affirmed by first-person chat and by fantastical gestures. The spontaneous structuring of shared time – synchronous real time –functions as cybernetic decompression. The avatar reverses the everyday compression required by an increasingly computerized society. The avatar decompresses through computer creativity, through sociality inside the cybernetic system itself.

In reflecting finite human gestures, the avatar reminds us of the ineluctable component of our bodies. Not human bodies externally defined as anatomical organisms, but bodies as experiential nodes of embodiment, as somatic entities. After all, the avatar projects into cyberspace – albeit metaphorically and fantastically – the human physiology that locates us in three-dimensional physical space. The immersive aspect of the avatar's graphic navigation comes from its origin in somatic experiences like walking, jumping, moving through familiar physical spaces, and gesturing to other people with limbs and facial expressions. The avatar mirrors – not necessarily photo-realistically – the human body. The internal experience of being a body provides the impulse to gesture and to enter cyberspace as avatar.

While the avatar offers cybernetic decompression, there is also need for another kind of decompression, one that engages the primary somatic body. As the quotation from B.K. Frantzis at the beginning of this section indicates, we tend to misidentify ourselves if we rely on computer culture. Physical exercise can play a role in decompression, but in achievement-centered culture, nearly any externally

measurable activity, like sports, can be clocked and subjected to stress. Sports and recreational exercises can serve compression as well as decompression. The pivotal point is whether or not a specific external activity expands or contracts felt somatic life. Does an activity expand awareness of time? Does it reveal a fuller sense of being present?

One benchmark for somatic decompression is Tai Chi. To many people in the world, Tai Chi is the supreme sport for expanding internal time consciousness.[7] By experimenting with movement at varying speeds, the Tai Chi player re-educates the body to pulsate internal energy as fluctuations of time. The Tai Chi player seeks to reflect the larger cosmic rhythms of sun and moon, day and night, the systole and diastole of the universe. Tai Chi movement re-connects the human mind and body with the heartbeat of cosmic energy, with the life breath that induces its rhythms in us. Cosmic rhythms predate the "universal machine."

Avatars on the screen do indeed "beam" our selves down from a higher standpoint into the logic machine. The "higher" life from which the projection comes is not merely the life of mind or pure consciousness. Conscious mind detects only a small portion of life as it streams through human beings. The embodied psyche stretches upwards to the heavens and sinks roots deep in the earth. Retrieving the Tai Chi body, we reveal our physical selves to have been all along avatars of the

[7] See for instance zoologist Bob Klein's *Movements of Magic: The Spirit of Tai Chi Chuan* (North Hollywood: Newcastle Publishing, 1984); Robert Chuckrow, *The Tai Chi Book: Refining and Enjoying a Lifetime of Practice* (Boston, Massachusetts: YMAA Publication Center, 1998; and Catherine Despeux, *T'ai-ki k'iuan: technique de longue vie, technique de combat* (Paris: Editions Guy Trédaniel, 1989).

cosmos. Under the sun and moon, our dance reminds us that compressing time is only one phase in a continuous pulsation that never ends.