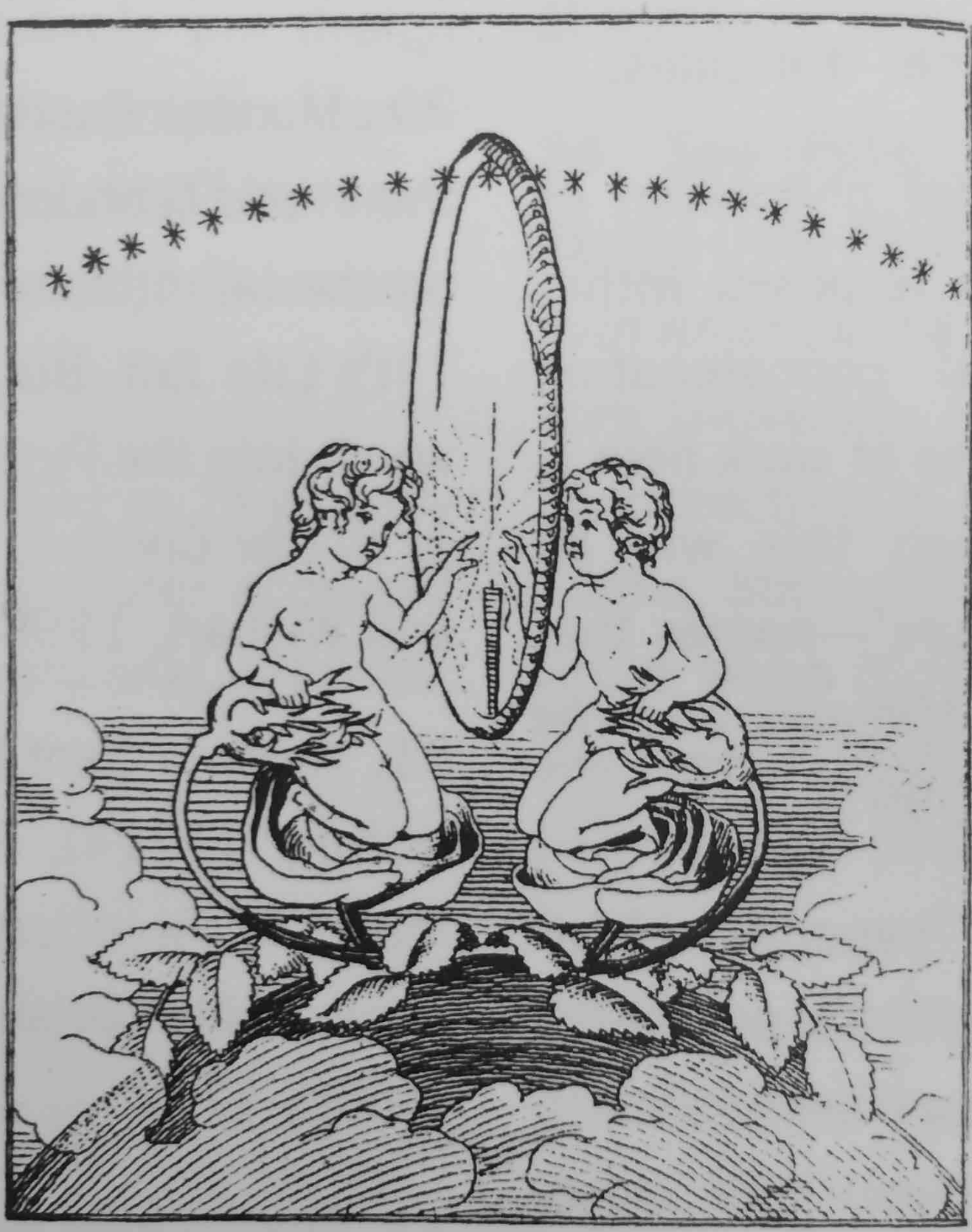

The Medieval Return of Cyberspace

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THROUGH THE MEDIUM of the computer a loophole has been found in the materialist metaphysics that has dominated Western culture for the past three centuries. All around us cyberspace explodes into being with the exponential force of its own big bang, in the process ripping to shreds the pious hope that reality could be reduced to the motion of matter through space and time. For better or worse, this new digital domain represents a profound challenge to major philosophical and psychological trends that so deeply characterize the "age of science."

Precisely because cyberspace is not made up of atoms or particles, but is ontologically rooted in the ephemera of bits and bytes, it is not subject to the laws of physics and is not bound by the limitations of those laws. In a quite literal sense, cyberspace is outside the physical complex of matter-space-time that since the late seventeenth century has increasingly been held as not just the basis of reality, but as the totality of the real. Who could have

foreseen that the electronic gates of the silicon chip would become a metaphysical gateway, punching a porthole in the bedrock of materialism? The digital doors labeled ".com," ".net," and ".edu" represent more than just a new means of communication, they are urgently needed escape hatches from an epistemic tyranny that has foisted upon us the feeble fabulation that we are nothing but material bodies. In the potentially infinite web of the Internet, the "soul" has once again found a space that it might call its own.

"I have experienced soul-data through silicon," declared Kevin Kelly, executive editor of *Wired*, in a 1995 forum in *Harper's Magazine*. "You might be surprised at the amount of soul-data we'll have in this new space."[1] Kelly is by no means alone in suggesting that cyberspace will be a realm for the soul. "Our fascination with computers is more erotic than sensual, more deeply spiritual than utilitarian," writes cyber-philosopher Michael Heim. "In our love affair" with these machines, he says, "we are searching for a home for the mind and heart."[2] It is just the mind, the heart, the soul—in short the human psyche—that has been banished from the picture of reality that Western physics has articulated over the past three hundred years. Rooted in the Cartesian divide between the *res extensa* and the *res cogitans*, reality has increasingly been construed as the physical world alone, with the spiritual and psychic domain increasingly seen as a secondary and semireal byproduct of the true reality that is matter in motion.

Now, in one epistemic flourish, cyberspace explodes this materialist fantasy and builds for the psyche a technological theater of its own. A space where the "self" can experiment and play, cyberspace is an immaterial domain where psyche, if not entirely divorced from body, is nonetheless decoupled from the rigid regulations of the laws of physics. Clearly, this inner space is a different facet of the real to the exterior space described by physicists' laws, but with fifty million people already accessing it on a regular basis, cyberspace is an indisputable part of late-twentieth-century reality, at least in the developed world. Ironically, physics itself has built this arena. The silicon chips, the optic fibers, the cathode ray tubes, and liquid crystal display screens, even the electric power, are all byproducts of this most mathematical of

sciences. In the very success of physics thus lies the seeds of a metaphysical revolution.

And let there be no mistake, there is a revolution in process—for anything that promotes the reality of psyche is indeed a challenge to contemporary scientific epistemology. It is a complete misnomer to call the modern scientific world picture dualistic; it is monistic, admitting the reality only of the physical. In the classic dichotomy of body and soul, modern science has excised the latter entirely from its vision of the real and reduced existence to the motion of material particles through space and time, all components now being defined in rigorous mathematical terms. With this stark mathematico-materialism (or more strictly mathematico-physicalism, since even particles ultimately become just ripples in the fabric of spacetime), soul is no longer another level of reality, as the medievals believed, but a chimera of the imagination—Gilbert Ryle's "ghost in the machine."[3] Metaphysically speaking, spirit-psyche-soul has not merely been pushed out of the scientific cosmos, in the minds of many contemporary scientists it has been totally annihilated.[4] Descartes and Newton—both deeply religious men—would have been appalled at this theological anesthetizing of the world system, but a rampant materialist monism is the end result of the philosophy they bequeathed.

Nothing epitomizes this monism more than the current mania for "explaining" each and every aspect of psyche, including its spiritual manifestations, by recourse to physicalist theories of neurochemical transmitters and/or genetic determinism. Nothing escapes the net of this physicalist dogma, wherein the religious visions of mystics are reduced to migraines and epileptic fits; altruism becomes the mathematically inevitable outcome of the machinations of "selfish genes"; and love becomes a disturbance in our neurochemical soup.

As history reveals, one of the chief inspirations for this hubristic monism was Rene Descartes, though God forbid, that was never his intent. "I think therefore I am," Descartes declared, rooting being not in body, but in the immateriality of mind.[5] Indeed, he called his famous aphorism "the first principle" of his philosophy. Yet whatever Descartes' personal beliefs—and we

must never forget that the French philosopher was a devout Catholic who wanted nothing less than a science that would support his faith—his dualistic metaphysics ultimately served as a stepping stone to precisely the kind of materialism he abhorred.

Searching for a rigorous grounding for his mechanistic conception of nature, Descartes divided reality into two distinct halves: the *res extensa*—the extended realm of matter in motion—and the *res cogitans*—the realm of thoughts, feelings, and emotions. Body and mind-psyche-soul were separated by his metaphysics into two utterly disconnected domains, but for Descartes both were indisputably true parts of the real. However, it was only the *res extensa* that he saw as amenable to mathematical treatment and that was to be described by the new physics. The major purpose of Descartes' radical dualism was in fact to delineate precisely what it was that mathematically-based science could describe. In an age suffused with hermetic magic and all manner of arcane number mysticisms, expounded by such occult practitioners as Giordano Bruno and Robert Fludd, Descartes and his fellow mechanists were determined to define both their science and their world picture in strictly nonmagical terms. Above all, they wanted a physical world devoid of occult forces. Such a world, Descartes believed, must consist only of inert matter moving mechanically according to strict mathematical laws. It is this world—the extended realm, or *res extensa*—that would be the subject of the new science. All the rest, the whole messy but indubitably real complex of thoughts, feelings, and emotions would be left to moralists and theologians.

Yet if Descartes himself held a genuinely dualistic worldview and insisted on the reality of the *res cogitans*, it wasn't long before champions of the new science began to hack away at this domain. The trend was set by the English philosopher Thomas Hobbes, who even in Descartes' lifetime declared that phenomena of mind were merely secondary byproducts of the primary reality that is matter in motion. For Hobbes, reality was not dualistic: it consisted only of the *res extensa*. "Mind will be nothing but the motions of certain parts of an organic body," he wrote, in what soon became a call to arms to the growing legions of materialists.[6] By the mid-eighteenth century, the French

philosopher Julien de la Mettrie could openly declare in "The Man-Machine" that "the soul is, then, an empty symbol." Like Hobbes, La Mettrie believed mind was just a byproduct of atomic motion: "Given the least principle of movement, animate bodies will possess all they need in order to move, sense, think."[7] By the end of the eighteenth century, materialistic monism was in full swing. Growing steadily ever since, by the end of the twentieth it has almost become a heresy in scientific circles to express any other view.

To what we can only imagine would be Descartes' horror, the machine has been stripped entirely of its ghosts. Sucked dry of spirit, body now stands "pure" and alone, a strictly molecular mechanism, boot-strapping itself into existence through the "emergent" properties of an autocatalytic chemical set. I catalyze therefore I am. Philosopher of science Edwin Burtt has summed up this situation aptly. In his "Metaphysical Foundations of Modern Science" Burtt writes that with the triumph of mechanism,

> The natural world was portrayed as a vast self-contained mathematical machine, consisting of motions of matter in space and time, and man with his purposes, feelings and secondary qualities was shoved apart as an unimportant spectator and semi-real effect of the great mathematical drama outside.[8]

For the first time in history, humanity has produced a purely physicalist world picture, one in which mind-psyche-soul has no place at all.

It was not always so. Where modern scientific cosmology articulates only the domain of body, the medieval cosmology that preceded it articulated domains of body and soul—both participating in a grand metaphysical hierarchy in which everything was connected to God. This older world picture was truly dualistic, with the physical and spiritual orders mirroring one another; the physical universe serving as a metaphor for the underlying universe of spirit. In a complete inversion of the materialist worldview, the medievals regarded the spiritual cosmos, the "space" of soul, as the true or primary reality, with the physical cosmos, the space of body, serving as the

allegory of this ultimate domain. Within this philosophical framework, according to medievalist Jeffrey Burton Russell, "physics [and indeed all natural science] is an inferior truth pointing to the greater truth, which is theological, moral, and even divine." The primary concern of medieval philosophy (and also of medieval art) was the ultimate reality of the moral and spiritual cosmos, which was "God's utterance or song." [9]

Medieval cosmology literally located both body and soul; there was a place in the world for each. Physically, humanity stood at the center of a nested set of concentric spheres collectively carrying the celestial bodies: the sun, moon, planets, and stars. Spiritually, we also stood at the center, poised midway between the angels and animals, for in the medieval system man was the only creature possessing both a material body (a property we share with animals) and an intellective soul (that we share with the angelic orders: the angels, archangels, cherubim, seraphim, and so on.) With one foot each in the material and the spiritual domains, we were, so to speak, the linchpin of the whole system. When medievals spoke of mankind being at the center of the world, they referred not so much to our astronomical position as to our place at the center of the spiritual hierarchy.

There was another sense in which mankind was central, for we were poised between the two spiritual poles of heaven and hell. Born with free will, each person through his own actions held the fate of his soul in his hands. Depending on one's choices in life, after death the soul could go either way: to the eternal bliss of the heavenly Empyrean, or to everlasting torment in the bowels of hell. Life in the body was simply a first stage in the much longer journey of the soul, and the primary purpose of the medieval world picture was to articulate the landscape of this spiritual journey. It is this terrain that is described so beautifully in Dante's *Divine Comedy*, the ultimate map of soul-space.

For Dante and his contemporaries in the early fourteenth century, the idea of a world picture that encompassed only the body would have been unthinkable. Yet four centuries later La Mettrie, Denis Diderot, and other Enlightenment *philosophes* were rejecting the very idea of a soul. No longer poised between heaven and hell, for them the earth had become a

chunk of rock revolving without purpose in a Euclidian void. No longer the linchpins of a great spiritual hierarchy, humans had become atomic machines. The older and genuinely dualistic cosmology had been stripped down to just one half of the body-soul dimorphism; soul had literally been painted out of the picture.

It is against this historical background that we must consider the advent and appeal of cyberspace. I suggest that human sanity requires a cosmology of psyche as well as soma. Just as we need to know where our bodies are, so we need to know where our "souls" are—at the very least, we need to know about the modern secular equivalent, Freud's desanctified soul, the "self." Indeed, I would go so far as to say that the need for a cosmology of psyche or self is the more primary human drive. It's all very well to know where one stands in physical space, but can that purely geometrical triangulation really satisfy the question, Where am I? No matter what we are doing, there is an indelible sense of an "I" behind the action, a "self" that demands and needs a cosmological home no less than the material atoms of our bodies.

I want to make clear that I am not arguing here for metaphysical dualism. It is not my intention to claim that the psyche-soul is a separate entity distinct from body, one that lives on after death, for example. I simply wish to insist that while we are alive the "I" of our experience is a genuine part of reality and any world picture that encompasses only the body must necessarily be incomplete. It is one of the great pathologies of the modern West that we have such an incomplete picture, and no matter how often materialists like Daniel Dennett and Gilbert Ryle bludgeon us with the idea that we are nothing but atoms and genes, it is patently obvious that we are not! "I think therefore I am," Descartes declared, and whether we modify "think," to "feel," or "suffer" (many versions have been tried), what remains is the indissoluble "I"—and deal with it we must.

The utter failure of modern science to incorporate psyche into its world picture is one of the primary reason so many people are excited about cyberspace. Sensing that something of central importance has been occluded from the scientists' picture, people are looking elsewhere in the hope of locating this crucial missing element. Precisely because it is (in some sense) beyond

the body, cyberspace beckons as a potential home for the psyche—and even, as Kelly suggests, as a haven for the soul. It is just this excluded but irrefutable "I" that cyberspace seems to provide a home for.

In a very powerful way, then, cyberspace subverts three hundred years of Western epistemic history, repudiating the tyranny of materialism and once again suggesting the possibility of a genuinely dualistic vision of reality. The body may be sitting in the chair, fingers tapping at the keyboard, but unleashed into the quasi-infinite ocean of the Internet, the location of the self can no longer be fixed purely in physical space. Just where the self is in cyberspace is a question yet to be answered, but clearly it cannot be pinned down to a mathematical location in Euclidian, or even relativistic space. Through the portal of the modem we tunnel through spacetime (more profoundly than any quantum particle), reappearing by no possible physical law in another "world," another "place," a parallel universe outside physicists' command. Strange though it may seem for a quintessentially twentieth-century technology, cyberspace brings the historical wheel full circle and returns us to an almost medieval position, to a two-tiered reality in which psyche and soma each have their own space of action.

Perhaps the most blatant signal of this reemerging dualism is the dream, increasingly expressed by cyber-champions, that one day the psyche will be "freed" from the bondage of the body and downloaded into digital immortality in cyberspace. Chief among the proselytizers of this techno-utopianism is robotics expert Hans Moravec. In his hyperkinetic *Mind Children*, Moravec writes ecstatically about the possibility of not only downloading current minds into computers but of recreating the entire history of our planet in a computer simulation, thereby making it possible to "resurrect all past inhabitants of the earth."[10] Everyone who has ever lived would be resurrected in cyberspace, "freed" forever from the black hole of physical death into the eternal wellspring of a universal computer network. The "Book of Revelation" promised the joys of eternity to 144,000 virtuosi, but through the power of silicon Moravec extends that invitation to us all.

Here, contemporary dreams of cyberspace parallel the age-old Platonic desire to escape from the "cloddishness" of the body into a "transcendent" realm of disembodied perfection—the realm of soul. Western culture carries this seed deep within it, inherited both from the Greeks and from Judeo-Christianity. The reemergence of a desire for soulful transcendence through the medium of cyberspace should hardly surprise us, for as historian David Noble has shown, religious ideologies have informed the development of technology in the West since the late Middle Ages. Says Noble, when "Artificial Intelligence advocates wax eloquent about the possibilities of machine-based immortality and resurrection, and their disciples, the architects of virtual reality and cyberspace, exalt in their experience of Godlike omnipresence and disembodied perfection"[11] they are not doing anything "new or odd"; on the contrary, we must see this as a "continuation of a thousand year old Western tradition in which the advance of the useful arts was inspired by and grounded upon religious expectation."[12]

In particular, Noble notes that in the Christian world technology has long been seen as a force for hastening the advent of a new Jerusalem. In his book *The Religion of Technology*, Noble traces the interweaving of the technical arts with the millenarian spirit and notes that from the twelfth century technology "became at the same time eschatology,"[13] a tool for hastening the promised time of perfection. And is not a time of "perfection" also what cybergurus promise? Like the new Jerusalem heralded in the "Book of Revelation," cyberspace too is hailed as a place where freedom and equity will reign. In the bit-stream, we are told, inequities of race and color, age and gender will melt away, cleansing us of the sins of the body and rendering us as beings of the ether. Disembodied and dematerialized, we are released into a packet-switched paradise of digitally-induced democracy with infinite personal expression.

One thing certain is that when the new Jerusalem arrives its citizens will not be lonely: communion and community are key promises of Christian eschatology. Here too cyberspace fits the bill. Already teeming with

millions of potential friends, and growing exponentially, cyberspace is not just a place for the individual soul, but a collective space where souls can commune with others. By the end of the decade it is estimated that a billion people will be on the World Wide Web. The communal nature of cyberspace is undoubtedly one of its greatest appeals, as its commentators stress again and again. In the midst of intense alienation and "spiritual isolation," says Heim, "the computer network appears as a godsend in providing forms for people to gather in surprising personal proximity."[14] Similarly, Avital Ronell has written that "virtual reality, artificial reality, dataspace or cyberspace are inscriptions of a desire whose principle symptom can be seen as the absence of community."[15] The Internet, we are told, will fill this absence, spinning silicon threads of soulful connection across the globe.

Once the net is realized visually, through the power of virtual reality, the sense of cyberspace as a real, connective space will grow even stronger. "What I'm hoping the virtual reality technology will do," says cyberguru Jaron Lanier, "is sensitize people to these subjective or experiential aspects of life and help them notice what a marvelous, mystical thing it is to communicate with another person."[16] According to Lanier, "this technology has the promise of transcending the body,"[17] thereby providing "a way for people to get ecstatic and be with another person."[18] Liberated from the baggage of a biasing body, elevated into the connective flow of the digital stream, the cybernaut becomes, in Lanier's vision, a kind of technological angel.

While I do not agree with Lanier and others who suggest that the psyche can be detached from the body—in cyberspace or anywhere else—the hankering for a place free from the tyranny of physical scrutiny is more than understandable. Who wouldn't want a respite from a culture characterized by Stair-Masters, "Buns of Steel," and the ubiquitous beautiful people of music videos? Who but Madonna and Arnold Schwartznegger would not long for an escape from this obsessive fixation on the physical? The appeal of a space beyond the "demons" of fat, farts, acne, wrinkles, skin color, gender, and age is self-evident. Even if we cannot transcend the body, neither should we have to feel ruled or intimidated by it.

Moving from the personal to the cosmological, who that has contemplated the vast quietude of outer space, is not beginning to tire of that endless, and as yet lifeless, void? What has modern cosmology given us if not a deep sense of cosmic loneliness? No wonder NASA and other space agencies are struggling for mission funding. No wonder that in the face of this vast external emptiness, people should feel drawn to an inner space that already teems with life. Not just human life, but through the magic of MUDs (multi-user domains) quasi-human and even super-human beings as well. Witches, warlocks, and demons; talking dogs, intelligent mushrooms, and human-fish hybrids are all to be found in the myriad mazes of MUD worlds. While life on Mars remains a chimera, "life" in cyberspace is positively bursting forth in all directions—a silicon facilitated Cambrian explosion of genus and species limited only by the human imagination.

But then soul-space has *always* had a far more diverse population than physical space. Look at "The Divine Comedy," where heaven abounds with all the ranks of angels, and hell is positively teeming with fascinating monsters. Think of Minos, the demonic guardian of the second circle who judges the souls of sinners

> And whips his tail around himself as many
> Times as the circles the sinner must go down.[19]

Or Geryon, that extraordinary patchwork of human, serpent, and mammal who ferries Dante and Virgil down the chasm to the Malebolge. As Hieronymus Bosch understood, the population of soul-space is almost infinitely varied and mutable. From the dazzling six-winged "thrones" who guard the seat of God, to the six-bat-winged, three-faced horror of Satan himself—encased in ice at the center of hell—soul-space has always teamed with life on a cosmic scale.

In the age of science this fabulous diversity of living form was diverted from soul-space into outer space through the medium of science fiction; and indeed from the beginning the scientific vision of cosmological space

has itself been fueled by a belief that out there we would find friends among the stars. But the futility of that hope, made all too palpable by the failure of the SETI project and by visits of NASA probes to lifeless Venus and Mars, mocks our aspirations to cosmic companionship and renders us an isolated island in a sea of emptiness. Even if there are some who claim abduction by aliens, and others willing to die to realize their true extraterrestrial selves (pace the Heaven's Gate affair), for most people the dream of extraterrestrial friendship seems to be fading fast. No wonder then that many are turning elsewhere for cosmic connection—to psychic channelers, mystical religions, indigenous animisms—and to cyberspace. Who but the most hard-nosed materialist can bear the loneliness modern cosmology thrusts upon us? Clearly not the vast numbers of Americans who tune in each week to the X-Files and sign up in droves at $3.99 a minute for telephone readings from the Psychic Channel.

It is within this materialist angst and loneliness that I believe we can locate a good deal of the appeal of cyberspace. By making a collective space where the self can experiment and play with others, cyberspace creates a parallel world that in a very real sense is a new cosmos of psyche. Tunneling out of the physical world, we enter, via the optic fibers of the Internet, a vast psychosocial playground where the self can select from a seemingly infinite array of chat rooms, data collections, discussion forums, fantasy games, and virtual "worlds." When the Internet is rendered into three-dimensional pictorial form—realizing William Gibson's prescient vision—who will dispute that cyberspace will have become a true parallel world?

Just what kind of world cyberspace ends up being is yet to be determined. Will it be, as many of its champions hope, a haven of freedom, connection, power, and love—a technological Paradiso? Or will it, like the Inferno, be a place where the human psyche festers and rots? It is no coincidence that the medievals placed hell inside the earth, within the domain of human influence, or that their heaven was beyond the stars, metaphorically opening up to the infinite space beyond human ego and control. As Dante knew full well, heaven is reached only by letting go of ego and control. Hell, on the other hand, is always a place we humans make for ourselves. Like hell,

cyberspace is an innerspace of man's own making, a domain that might just as easily be filled by xenophobic, misogynist, and racist hatred, than by any drives towards liberty, democracy, and equity. Ultimately, as the *Divine Comedy* teaches, the landscape of soul-space is a reflection of our collective psychic state. Silicon does not change that equation, it simply gives us a new field on which to play out the drama.

Through the medium of cyberspace we have an unprecedented opportunity to reflect our psychological dreams and demons. Whether or not we like what we see, only time will tell. Perhaps, in the long run, cyberspace will be both Paradiso and Inferno, a landscape of psyche that at once reflects the human potential for good and evil. Whatever its ultimate realization, one thing certain is that the age of materialist monism is over. For better or worse, with cyberspace we are returning to a dualistic expression of the real.