

Virtual Geographies: The New Worlds of Cyberspace

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□—This article embarks on an exploration of what recent technical and popular discourses have called “the new world of cyberspace.” Employing a cultural studies approach, it investigates the legacy, logic, and consequences of this appellation that appear to connect cyberspace to the Columbian voyages of discovery and the larger network of European expansionism. It therefore engages in a critical investigation of the colonial logic implied by this seemingly innocent taxonomy, examines its deployment in and significance for current research, and inquires about its position in the future of discourses written in and about cyberspace.

Today another frontier yawns before us, far more fog-obscured and inscrutable in its opportunities than the Yukon. It consists not of unmapped physical space in which to assert one's ambitious body, but unmapable, infinitely expansible cerebral space. Cyberspace. And we are going there whether we want to or not (Barlow, 1994, p. 1).

If a new world were discovered today, would we be able to see it? Would we be able to clear from our minds the images we habitually associate with our expectations of a different world to grasp the real difference that lay before our eyes? (Calvino, 1994, p. 1).

If a new world were discovered today would its contours conform to our understanding of “world” and “discovery?” Would it take place as a taking of place? Would it supervene as an uncov-

ering and drawing into appearance of that which had been covered, hidden, withdrawn? Would this new geographic possibility conform to these determinations that are as much a part of the Columbian voyage as the modern scientific enterprise? And could this “conformity” be anything other than the trace of a certain violence that endeavors to uncover everything through the illumination of enlightenment and seeks to establish every different domain as a new world that is determined as the opposite and other of an old world?

This essay embarks upon an exploration of what recent technical and popular discourses have called “the new world of cyberspace.”¹ It will investigate the legacy, logic, and consequences of this appellation that appears to connect cyberspace to the Columbian voyages of discovery and the larger network of European expansionism.² Applying the name “new world” to cyberspace is not without utility. The appellation designates the

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encounter with a previously unknown environment where little has been determined and the opportunities and perils appear to be immeasurable. This understanding hard-wires cyberspace into a network of available meanings, which render it somewhat familiar and approachable. The designation, however, is not without significant limitations and consequences. "New world" not only links cyberspace to the Columbian adventure but communicates with the exercise of power that is implied in the seemingly neutral act of discovery. This taxonomy, therefore, is not innocent but conveys additional information that, like noise in the channel, is often times ignored, forgotten, or filtered out.

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Cyberspace, like the Americas, has been proclaimed the "new world." A new world, however, is always posed as the correlate and other of an old world. In this way, the new world is situated under the conceptual domination of the old. In the new world one finds only what s/he wanted to find and discovers only what one, in advance, already desired to procure. Columbus, for example, discovers only what he has come prepared to find. He is confronted only with what he thinks he should encounter. Throughout the *Diario* (1989) recounting the first voyage, Columbus provides numerous entries that indicate that he was certain that his fleet was situated just off the coast of mainland China. For this reason, he records his encounters with people he called "Indians," anticipates the discovery of valuable oriental spices, and anxiously awaits the moment in which he will meet the Grand Khan. His comprehension is limited to a distinct cultural frame of reference

erected by Eurocentric orientalism.⁵ This concept gathers the new world under the logic of old world hegemony. The apparent formlessness of the new frontier does not resist this operation. The new world, its vegetation, and its inhabitants are made to yield to the force of European determination.

The same is true in cyberspace. Consider the following declaration made by Michael Benedikt (1993a), editor of *Cyberspace: First Steps*: "We are contemplating the arising shape of a new world, a world that must, in a multitude of ways, *begin*, at least, as both an extension and a transcription of the world as we know it and have built it thus far" (p. 23). According to Benedikt, the new world of cyberspace must be formed by extending and transcribing principles derived from the old, so-called real world. This beginning is understood precisely as the place of initiation. It is something that not only can be altered but is expected to change over time. The alterations, however, as described by Benedikt (1993b) in his essay "Cyberspace: Some Proposals," are still ruled (this word understood in its twofold sense as marked out and controlled) by the position from which he began. The alterations, therefore, remain variations turning within the space of the same. Benedict (1993b) writes

A central preoccupation of this essay will be the sorting out of which axioms and laws of nature ought to be retained in cyberspace, on the grounds that humans have successfully evolved on a planet where these are fixed and conditioning of all phenomena (including human intelligence), and which axioms and laws can be adjusted or jettisoned for the sake of empowerment. Before dedicating significant resources to creating cyberspace, however, we should want to know how it might look,

how might we get around in it, and, most importantly, what might we usefully do there (p. 119).

With this explanation, Benedikt universalizes a particular understanding of reality under the title "laws of nature" and delimits all possible operations according to their prescription. He justifies the extension of particular experiences and interpretations of the real into cyberspace by naturalizing these perspectives and making them a universal condition for all phenomena, including the human intellect. In this way, Benedikt duplicates the gesture enacted by Columbus and all subsequent colonial administrators. He posits his own circumstance as natural and extends it to universal applicability. From this proclaimed "universal and natural" position one begins to make decisions concerning what might be done usefully in this new locale. The apparent necessity for determining cyberspace in this way, however, is not natural. It must be seen for what it in fact is—an imposition and an exercise of cultural power. In beginning to determine cyberspace in accordance with a particular conception of reality, Benedikt perpetuates a trope of European expansionism which justifies its ethnocentrism by naturalizing and universalizing its own epistemology.⁴

A particularly instructive example of this operation and its consequences can be found in the fundamental structure and definition of cyberspace. The name "cyberspace" originates in a work of fiction, coined by novelist William Gibson in his proto-cyberpunk novel, *Neuromancer* (1984). Although this self-proclaimed computer illiterate⁵ was not involved in the myriad of technological experiments taking place in telecommunications, computer networking and virtual reality (i.e. Bulletin

Board Systems, computer animation, the early virtual reality projects of Scott Fisher, Ivan Sutherland and Tom Furness, ARPA's experimental network which eventually became the prototype of the Internet, etc.), Gibson provided the proper name around which these different endeavors were to be organized, understood, and properly identified. Early on, theorists and researchers at the first conference on Cyberspace (University of Texas at Austin, 4–5 May 1990) recognized, as reported in the words of David Tomas (1993), that "Gibson's powerful vision is now beginning to influence the way virtual reality and cyberspace researchers are structuring their research agendas and problematics" (p. 46).

Gibson assembled the word "cyberspace" from *cybernetics*, a neologism devised by Norbert Wiener to name the science of communication and control, and *space*. Although the inherent ambiguity of the word leaves some room for interpretation, the spatiality of cyberspace has been described and determined in accordance with a particular understanding of space. The initial source of this determination can be found in *Neuromancer*. In the descriptions offered in this narrative, the cyber-spatial environment not only displays data as three-dimensional, geometric objects but maps this information on a Cartesian grid. For example: "People jacked in so they could hustle. Put the trodes on and they were out there, all the data in the world stacked up like one big neon city, so you could cruise around and have a kind of grip on it, visually anyway, because if you didn't, it was too complicated, trying to find your way to a particular piece of data you needed" (Gibson, 1984, p. 13). Cyberspace is understood geometrically, and this understanding is particu-

larly Cartesian. Theorists and designers have for the most part remained within these nominal determinations. The developers of virtual reality equipment, like the head mounted displays (HMD) of Ivan Sutherland and Thomas Furness, endeavor to create data displays that appear to surround and envelop the user. The HMD creates the illusion of objects in 3-space through stereographic projections of wireframe or solid polygon models. The HMD provides a window into what Sutherland called a "mathematical wonderland" (Rheingold, 1991, p. 13) that is programmed and displayed according to the principles of Cartesian geometry. Even text-based virtual realities, like multi-user dungeons/domains (MUDs) and object-oriented MUDs (MOOs), describe their environments in accordance with the properties of modern geometry. In a MUD/MOO, users explore different rooms or locales and interact with each other by navigating through a textually described three-dimensional space. Characters enter rooms, look under sofas, take the elevator to the second floor, and even fall off dangerous precipices. The general goal of virtual reality technologies, according to Scott Fisher (1994) is to simulate or "duplicate the viewer's act of confronting a real scene" (p. 94). This "real scene," however, is always already an interpretation that is guided by a particular understanding of the real. "Reality," in the words of John Perry Barlow (1993), "is an edit" (p. 311).

Cyberspace readily receives the x-y-z of the Cartesian coordinate system. It accepts the inscription and delimitation of the three-dimensional grid. It is, therefore, subject to the modern logic of space and spatiality. This determination, however, is neither natural nor

necessary.⁴ It is culturally determined and as such may be understood otherwise. Simon Penny marks this at the beginning of his essay "Virtual Reality as the Completion of the Enlightenment Project" (1994):

But the Cartesian grid is built into our culture and our perception as an integral and structuring part of the rationalist determinism with which we have been inculcated. To propose an alternative to Cartesian space is to propose an alternative to the philosophical and technical legacy of the Enlightenment (p. 232).

Cyberspace has the potential to interrupt the very structure, substance, and control of modern epistemology. This alternative, which Penny poses as a virtual impossibility, has been articulated by several discourses addressed to the aftermath of enlightenment science. Cyberspatial theorists, like Nicole Stenger (1993), describe this alternative by relying on the discursive tropes created in the hallucinatory poems of Henri Michaux.

Perception would change, and with it, the sense of reality, of time, of life and death. We would, as Michaux puts it, 'enter the world of Fluids,' it would be 'over with the solid, over with the continuous and with the calm,' some dance quality would invade everything, and Cartesian philosophers would go through a trance, floating on history like chops on gravy" (Stenger, 1993, p. 50).

To begin to determine cyberspace from the perspective of the real (which is already a particular interpretation of what is called reality) is to limit our understanding to old world preconceptions and (mis)perceptions. Cyberspace has the potential to dissolve the solid monuments of enlightenment science. In the face of this dissolution, there are two opportunities. Either this dangerous potential is controlled by submit-

ting its formless alterity to familiar structures, insisting from the beginning that it behave according to protocols imposed by and from the established order. Or it will dissolve the very means by which this control could be exercised thereby reversing the flow of invasion and domestication. As Stenger (1993) suggests "I felt that this hallucination behind a screen was just the first stage in a development, a rehearsal for a D-Day when this substance would finally escape and invade what we call reality" (p. 49).

Commercialism@wealth.com

Columbus sought gold. In his *Diario* of the first voyage (1989), he indicates that he not only actively sought gold but at every encounter endeavored to ask the native peoples directions to stockpiles of such wealth. In his proposal submitted to Queen Isabella, Columbus (1993) promises that this new world will bring forth gold and riches beyond compare. And when the islands do not immediately supply the wealth originally promised, he fudges the account. Although the *Diario* indicates that he found only a few pieces of gold represented by native decorations (earrings, rings, etc.), he assures the queen that "in the island Espanola, there are many spices and great mines of gold and of other metals" (Columbus, 1993, p. 16).

The new world is always posited as a world of riches, waiting to be exploited. The frontiers of the American West and Alaska were organized and articulated around the concept of gold and the gold rush. Justifications for the American space program, which set out to explore the "final frontier," were usually couched in the discourse of wealth. This wealth consisted of a particularly cold-war commodity, scien-

tific knowledge and national identity (Web, 1967). Cyberspace is also formulated as a world saturated with the potential for commercial gain. In *Neuromancer*, the matrix is dominated by the Zaibatsus, multinational organizations that employ the cyberspatial net for the enrichment of their information capital. In this way, cyberspace is a virtual mall of commercial operations and consumerism. In the published fragment "Academy Leader," Gibson (1993) offers the following description of the cybernetic matrix:

The architecture of virtual reality imagined as an accretion of dreams: tattoo parlors, shooting galleries, pinball arcades, dimly lit stalls stacked with damp-stained years of men's magazines, chili joints, premises of unlicensed denturists, of fireworks and cut bait, betting shops, sushi bars, purveyors of sexual appliances, pawnbrokers, wonton counters, love hotels, hotdog stands, tortilla factories, Chinese greengrocers, liquor stores, herbalists, chiropractors, barbers, bars. . . . These are the dreams of commerce (p. 28).

According to Gibson, cyberspace is predominantly composed of data that is brokered, traded, accumulated, and consumed. Commercialism is also the promise of the would-be non-fictional cyberspace. A caricature of this promise can be found in LucasFilm's *Habitat*, an early virtual environment designed by Chip Morningstar and Randall Farmer for a tele-network of Commodore 64's. *Habitat* consists of an inhabitable social space represented by a two-dimensional, cartoon-like frame. The virtual person who is the user's delegated agency is represented by a cartoon-like figure and his/her "speaking" is indicated by a speech balloon that appears over the character's head (Stone, 1993, p. 94). In "The Lessons of LucasFilm's *Habitat*" (1993),

Morningstar and Farmer offer only one frame as an illustration of "a typical Habitat scene." This frame depicts a suburban street with two houses in the background. The foreground is occupied by two characters engaged in the following exchange:

Cathy: Hi Terry.

Terry: Hi Cathy.

Cathy: Nice day for a quest!

Terry: It's always a nice day for treasure hunting (p. 275).

The illustration provided by Morningstar and Farmer suggests that the typical scene of cyberspatial interaction still falls under the purview of new world adventure, namely, the quest for discovery thinly veiling a search for gold. In this way, cyberspace is already conceptualized as a locale for the pursuit of treasure. Contemporary corporations have wasted no time in positioning themselves to capitalize on these new commercial possibilities. International Business Machines (1996a), for example, has been optimistic about the possible riches to be netted in cyberspace.

The networked world is already arriving—in a hurry. Consider the Internet: hundreds of millions of people, perhaps billions, connected by the year 2000. Already we're seeing how people and organizations use these networks. They're moving from browsing to buying, from surfing to working. People are doing real work. They're seeing results. That's why our major thrust in network-centric computing is to help our customers get their valuable content to the right people and to new people—both within and outside of their organizations: to employees, to suppliers and of course, to customers.

Organizations like IBM conceive of cyberspace as a new domain for commercial transactions. Because of the recent proliferation in online com-

merce, automated teller machines (ATMs) and electronic trading of futures, cyberspace has become, in the words of Benjamin Woolley (1992), "literally where the money is" (p. 133).

In *Neuromancer*, the matrix is dominated by the commercial. Any non-commercial entity, anyone loitering in the neon-laced mall of information is considered an unauthorized and dangerous presence. For this reason, *Neuromancer* describes cyberspace as the site of struggle between the multinational Zaibatsus and lone hackers, which Gibson names (in a gesture that is not without consequence to our investigation) cowboys. However accurate this description, commercialism is not the only goal. Commercial exploitation is always recoded by reference to the social and cultural. European colonial commerce, for example, has been justified in terms of its presumed humanizing effects. In Joseph Conrad's *Heart of Darkness* (1988), the company boss offers the following comment on the presence of Europeans in the Congo: "Each station should be like a beacon on the road toward better things, a centre for trade of course but also for humanizing, improving, instructing" (p. 34). A similar promise has been posed for online commerce. Once again, IBM (1996b) provides a particularly insightful articulation:

IBM's view of a 'network centric' future is driven by the desire of people and enterprises to connect to other people and enterprises around the world and leverage information using powerful new technologies that transcend distance and time, lower boundaries between markets, cultures and individuals and actually deliver solutions that fulfill the promise of universal connectivity.

IBM's vision of the "network centric" future recodes global commerce and

commercialism under the millennial aspirations of intercultural communication and global communion. It's a global village after all, and IBM has already positioned itself to provide the necessary "solutions for a small planet." (IBM, 1996c). One should, however, approach such statements with skepticism. As Simon Penny (1994) warns, "We have no reason to delude ourselves that any new technology, as such, promises any sort of sociocultural liberation. History is against us here. We must assume that the forces of large-scale commodity capitalism will attempt to capitalize fully on the phenomenon in terms of financial profit . . ." (p. 247). Despite this warning, cyberspace is overcrowded with utopian projects and aspirations. Indeed for many theorists and researchers, like David Tomas (1993), cyberspace would be nothing more than a "waste of space" if it did not become the site of new communities that offer significant cultural promise.

If cyberspace represents, at the very least, the birth of a new postindustrial, metasocial spatial operator, it will remain for the most part stillborn if its parameters are engineered primarily to function, following Gibson's dystopic vision, as a virtual world of contestatory economic activity. In order to counter this vision, one must actively and strategically seek alternative spatial and creative logics, social and cultural configurations. If such creative flexibility is critically foregrounded in current research agendas, cyberspace will indeed become a site of considerable cultural promise" (p. 46).

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The "considerable cultural promise" that Tomas poses in opposition to the dystopic commercialism envisioned by Gibson necessarily pulls in the direc-

tion of utopia. For the new world is always the place of utopias. The peoples that Columbus encounters on the islands of the Caribbean are described as living in an idyllic paradise. According to Columbus's⁵ (1989) rather unreliable reports, they do not have governments, engage in work, practice religion, have monetary systems, or wage war. For the European, the new world is paradise found. It already is utopian and eventually will prove the site for numerous European experiments with alternative communities. The first utopian polities were instituted by Vasco de Quiroga as early as 1535 and have continually been deployed throughout the history of the Americas. According to Carlos Fuentes (1993), "Utopia persisted as one of the central stains of the culture of the Americas. We were condemned to utopia by the old world" (p. 4).

Neuromancer is often criticized for its dystopic vision. According to Benedikt (1993a), Gibson's is a world of "corporate hegemony and urban decay, of neural implants, of a life in paranoia and pain" (p. 1). Despite this vision and in direct opposition to it, theorists have posited cyberspace as the realm of cultural liberation and millennial aspirations. Examples abound, and we recall two particularly interesting formulations. The first is at the end of Nicole Stenger's "Mind Is a Leaking Rainbow" (1993). The second comprises an excerpt from an interview with Timothy Leary in the *Mystic Fire* video program, *Cyberpunk* (1989).

According to Sartre, the atomic bomb was what humanity had found to commit collective suicide. It seems, by contrast, that cyberspace, though born of a war technology, opens up a space for collective restoration, and for peace. As screens are dissolving, our future can only take on a luminous

dimension! Welcome to the new world (p. 58).

So this is going to be decentralization. It's going to mean ultimate democracy. Whoever controls the press, controls the people. Whoever controls the tube, controls the people. In the future we'll all be controlling our own screens, zapping our own messages around.

One should not forget that this "collective restoration" and "ultimate democracy" was also the promise of radio in the early 1920's and televisual technology as formulated by Marshall McLuhan's Global Village. The general contours of this millennial logic had been articulated as early as 1852 in a work entitled *The Silent Revolution*, which predicted the attainment of a new social harmony due to "a perfect network of electric filaments" (Mattelart, 1995, p. 33).

Why are we so naive as to think that the ultimate democracy, the perfect republic, is achievable this time around? Why, despite the warnings like those provided by Simon Penny, have we ignored the fact that history is against us here, that no new technology, as such, can provide sociocultural liberation? Perhaps it is because the cyberspatial community appears to conform to the parameters of the mythological millennium. The cybernetic utopia will be, according to its various formulations, peopled by a disembodied constituency. For this reason, Michael Heim (1993) estimates that in cyberspace "minds are connected to minds, existing in perfect concord without the limitations or necessities of the physical body" (p. 34).

Because of this proclaimed emancipation from the pitfalls of embodiment, cyberspace is now offered as the panacea for the perceived deficiencies of contemporary cultural and political

organizations. Specifically, the disembodiment facilitated by virtual systems is celebrated as a means by which to overcome the recent controversies surrounding identity politics and to achieve the goals of humanistic pluralism. Mark Dery, editor of *Flame Wars* (1994), one of the first critical anthologies concerning cyberspace, provides succinct articulation of this concept. "The upside of incorporeal interaction: a technologically enabled, post-multicultural vision of identity disengaged from gender, ethnicity, and other problematic constructions. On line, users can float free of biological and sociocultural determinants . . ." (p. 2-3). According to this logic, cyberspace would surpass the dissonance of multiculturalism, liberating identity from the problematic constructions embodied in biological and sociocultural difference. This utopian dream is of course an old story. From the ideal, incorporeal *polis* built by Socrates and Glaucon in the course of their discussions in Plato's *Republic* to Hegel's *Geist*, which uploads itself onto the matrix of consciousness by subsuming its embodiment in the sphere of natural difference, western metaphysics has postulated a millennium unencumbered by corporeal contamination. Under formulations of this type, cyberspace corroborates western metaphysics. And as such, the discourses written in and about cyberspace deploy all the language and strategies associated with that kind of metaphysical thinking that Nietzsche described under the title "despisers of the body." For Gibson's cyberspatial cowboys, the body becomes nothing but "meat." This is best illustrated in a description of the computer addict who despairs at no longer being able to enter the matrix. "For Case, who'd lived for the bodiless exultation of cy-

berspace, it was the Fall. In bars he'd frequented as a cowboy hotshot, the elite stance involved a certain relaxed contempt for the flesh. The body was meat. Case fell into the prison of his own flesh" (Gibson, 1984, p. 6).

The discourses of cyberspace are permeated with prophetic tales that forecast a time when one will be able to upload one's consciousness onto the matrix and forget about the cumbersome meat of the body. This incorporeal exaltation, however, is a luxury that belongs to a particular position of cultural hegemony. For this reason, Al lucquere Rosanne Stone (1993) has concluded, "Forgetting about the body is an old Cartesian trick, one that has unpleasant consequences for those bodies whose speech is silenced by the act of our forgetting; that is to say, those upon whose labor the act of forgetting the body is founded—usually women and minorities" (p. 113). According to Stone and other cultural theorists, a certain cultural power is exercised through forgetting. It is precisely in the attempt to transcend the meat of the body that western thought has instituted and accomplished a violent erasure of other bodies and the body of the other.⁷ Therefore, the cyberspatial researchers who forecast and celebrate a utopian community that is "raceless, genderless, and classless" do so at the expense of those others who are always already excluded from participating in this magnificent technocracy precisely because of their gender, race, and class. Far from resolving the crises of the multicultural society, cyberspace could perpetuate and reinforce current systems of domination.

In the final analysis, cyberspace, like all other frontiers (the Americas, the wild West, outer space, etc.) remains the domain of white males. In this

matter John Perry Barlow did not know to what extent he was right, with what exactitude he had described the demographics of cyberspace. "Cyberspace . . . is presently inhabited almost exclusively by mountain men, desperadoes and vigilantes, kind of a rough bunch" (Gans and Sirius, 1991, p. 49). Recent studies on computer usage and internet access corroborate these conclusions. According to a 1996 RAND report on computers and connectivity, the majority of netizens are male, white, college educated and highly compensated (average annual income ranging from \$50,000–\$60,000). This report not only found great discrepancies in the access to cyberspace due to race, gender, and class but, by comparing the data obtained in 1993 with that from 1989, concluded that the gap between the information haves and have-nots has been growing steadily (Bikson, 1996). Similar results have been obtained in the *Times Mirror* national survey of 1994 and the 1995 Georgia Tech/Hermes survey of Web usage (Bikson, 1996; Hoffman, Novak & Chatterjee, 1996).

Although cyberspace provides a laboratory for examinations of and explorations in identity politics, these experiments remain an alteration serving white, male subjectivity. The apparent liberation from and erasure of the problematic constructions of gender, race, and class is a luxury that has been granted a group of individuals for whom gender, race, and class have never been problematic. In this way, cyberspace introduces nothing new in the area of identity politics. It offers nothing more than virtual incorporations of "going native" and dressing in drag. These endeavors do nothing to challenge current systems of domination. Rather, they insidiously exclude

those differentiated by gender, race, and class under the guise of inclusion, which, in the end, is nothing more than appropriation.⁸

Conclusion

The meaning of *cyberspace* has been open to considerable interpretation. Gibson (1993) has provided an account of this matter in the fragment "Academy Leader." "[I] assembled [the] word *cyberspace* from small and readily available components of language. Neologic spasm: the primal act of pop poetics. Preceded any concept whatever. Slick hollow—awaiting received meaning" (p. 27). According to Gibson, the only determinations properly belonging to cyberspace are that it is formless, hollow, passive, and receptive. Gibson's cyberspace therefore is bestowed with all the characteristics attributed to *chora*, the protometaphysical concept usually translated as space and initially described by Timaeus in the Platonic dialogue that bears his name. It is precisely this choric (in)determination that has permitted the seemingly endless chatter in and about cyberspace. Cyberspace has become the receptacle of all sorts of determinations which seek to leave their imprint on the malleable surface of Gibson's neologism.

One determination that has left a considerable impression is the moniker "new world." We have only begun to trace the consequences and implications of this designation. Initially, the appellation was most certainly employed to help explain new information technologies and the opportunities they apparently engender. And "new world" does, indeed, provide some compelling explanations and conceptualizations. Its employment, how-

ever, has not been without significant consequences, which, although not necessarily intended, have had a definite effect on what cyberspace is and how it has been understood. Under this sign, cyberspace has already been made to yield to a particular conception of geometry, which effaces its ethnocentrism under the universal concept "law of nature." Its resources have already been surveyed, partitioned, and allocated for contemporary treasure hunters and marketing executives. And all this is recoded and justified through the promise of sociocultural emancipation, which turns out to be nothing more than a luxury belonging to the majority. In this way, the "new world" of cyberspace offers nothing new but is already appropriated into a rather specific lineage and history. Five hundred years after Columbus, the process of discovery begins anew but discovers little, if anything, new.

One may be tempted to disregard these conclusions as the unfortunate side-effects of taxonomy or the noise of imprecise language. But the activity of naming is never a matter of "mere words." It is one of the primary mechanisms of appropriation and control. The power that is exercised through such nominal operations is evident in the Columbian encounter with the Americas. Prior to the counter-Eurocentric critique initiated in the latter half of this century, white America said that Columbus discovered the new world. The manner of discovery, however, did not constitute the mere unveiling of something already available. Rather, the new world took form through the various descriptions inscribed in the reports and journals issued by the Admiral. It was this nominal activity that eventually dictated

what was "discovered" and what became possible within the space of this new frontier. As suggested by Carlos Fuentes (1993), "To discover is to invent is to name" (p. 2).

Naming is always an exercise of power and must therefore be taken seriously. The words that are employed to describe a technological discovery are never mere reports of the state-of-the-art but constitute sites for the production of and struggle over

significance. Describing cyberspace as a new world has had definite implications and consequences. But this is not the only designation that has been or can be received by this matrix. The future of cyberspace, therefore, will be determined not only through the invention of new hardware and software but also through the names we employ to describe it. What cyberspace becomes will, to a great extent, depend upon what we call it. □

Notes

¹The employment of the concept "new world" in order to designate and explain advances in communication technology does not begin with cyberspace or the internet. At the beginning of this century, for instance, Charles Horton Cooley (1901) proclaimed a new world in the wake of late, nineteenth-century electric communication (i.e., telegraph and telephone). "We understand nothing rightly unless we perceive the manner in which the revolution in communication has made a new world for us" (p. 65). Sixty-one years later, Marshall McLuhan (1962) generalized Cooley's perception, arguing that all information technologies, "whether it be alphabet or radio . . . present men with a surprising new world" (p. 23). The recent extension of this concept to the technologies of cyberspace is manifest in the discursive gestures that have been employed by researchers, theorists, and journalists. "In the rhetoric of the virtual realists," concludes Benjamin Woolley (1992), "this 'nonspace' was not simply a mathematical space nor a fictional metaphor but a new frontier, a very real one that was open to exploration and, ultimately, settlement" (p. 122). The popularity and general acceptance of this rhetoric is evident in the appointed subtitle to a special edition of *Time* magazine (25 July 1994), "The Strange New World of the Internet: Battles on the Frontier of Cyberspace." This title not only employs the imagery of "new world" and "frontier" but in doing so demonstrates the extent to which these concepts have become common and colloquial. In designating its edition in this fashion, *Time* was not introducing a nomenclature. Rather, the periodical was capitalizing on a discursive trope that had already been established and deployed in scholarly texts and industry research.

The majority of publications employing the concept "new world" to explain and describe cyberspace do so uncritically. Despite the recent reevaluations of the Columbian (mis)adventure (cf. note 2 below) undertaken in the latter half of this century, texts on cyberspace have remained rather naive in their employment of this terminology. Critical reflection addressing the consequences of this application is exceedingly rare and generally unsatisfactory. Timothy Leary (1994), for example, identifies Christopher Columbus as the first cyberpunk. Although Leary recognizes contemporary efforts to reevaluate the implications of the Columbian voyages and discovery, he quickly dismisses them as the dictates of the "Political Correction Department." For Leary, as for many cyberspace enthusiasts, Columbus remains, unproblematically, one of the essential role models for technological discovery and exploration. Benjamin Woolley's *Virtual Worlds* (1992) appears to be more skeptical and insightful. In a consideration of the origin of virtual reality, Woolley makes the following comment concerning the mythology of cyberspace research: "Its creation myth is filled with the rhetoric of invention and discovery, of 'founding fathers' and 'pioneers'. Technologists, being mostly American, are fond of titles that evoke their New World heritage" (p. 40). Although Woolley explicitly marks the association of cyberspace technology with the rhetoric of exploration and frontierism, his brief statement remains nothing but an indication. He does not probe either the rationale or the significance of this fondness of the technologist for titles that evoke new world imagery. The logic informing and animating this

curious association, however, has been suggested in Simon Penny's "Virtual Reality as the Completion of the Enlightenment Project" (1994). In a brief subsection, entitled "VR and Colonialism," Penny not only connects cyberspace to the history of European expansionism but situates technology as the defining principle of the frontier. "Technological development has always defined the location of frontiers. Medieval principalities were limited in scale by the speed of communication and the rate at which troops could be deployed. The Atlantic coast of Europe remained the edge of the world (to Europeans) until explorers were liberated from coast-hugging travel by accurate navigational technologies and robust ships. The American west was claimed and held only once the steam locomotive, the telegraph, and the conoidal bullet combined into one technological complex. More recently, the space race advanced as soon as the technology was available. With geography filled up and the dream of space colonization less viable every day, the drive to the frontier has collapsed on itself. The space remaining for colonization is the space of technology itself. No longer the tool by which the frontier is defined, the body of technology is now itself under exploration" (p. 237). Although Penny suggests intriguing historical connections that situate cyberspace within the context of European colonialism, he does not pursue an analysis of the cultural significance and/or repercussions of this lineage. One text that does take the next step, engaging in a critical investigation of the issue, is Mary Fuller and Henry Jenkins' "Nintendo and New World Travel Writing: A Dialogue" (1994). This essay not only traces structural similarities between the navigation of cyberspace and the exploration of the Americas but begins to examine the significance and consequences of this rather curious association.

⁴For recent reevaluations of Columbus and the Columbian encounter, see Hulme (1986), Fuentes (1988), Todorov (1984), Lopez (1990), Momaday (1992), *Rethinking Columbus* (1991), and Coco Fusco and Guillermo Gómez-Peña's "Radio Pirata: Colón Go Home!" in Fusco (1995). For critical examinations of travel, exploration and geography, cf. Enloe (1990), Helm (1988), Leed (1991), Appadurai (1996), Harvey (1969), Godlewska and Smith (1994), Unwin (1992), Dathorne (1994) especially chapter one "Europe Invents a New World," Clifford and Dhareshwar (1989), and Clifford (1992). For an examination of similar issues in the "geography" of cyberspace, cf. Morse (1996) and Hillis (1996).

⁵Cf. Said (1978).

⁶On colonialism and European expansion, see Trinh (1989), Spivak (1988), Giroux (1992), Fusco (1995), Anzaldúa (1987), Morris (1988), and Bhabha (1994). A good introduction to and survey of issues in post-colonial studies can be found in Ashcroft, Griffiths, & Tiffin (1995). A good introduction to issues surrounding ethnocentrism and marginal cultures can be found in Ferguson, Gever, Trinh, & West (1990).

⁷Gibson not only did not own or know how to operate a personal computer but wrote the entire text of *Neuromancer* on a manual typewriter.

⁸For a comprehensive examination of the cultural politics of mathematics and geometry, see Bishop (1990).

⁹On technology, the body, and identity politics, see Haraway (1991), Turkle (1995), Stone (1995), Poster (1995), Dery (1994), Gray (1995), Shields (1996), Argyle & Shields (1996), Hayles (1996), and Hayles (1993).

¹⁰For examples of alternative, post-colonial employments of cyberspace and information technology see Todd (1996), Gómez-Peña (1997), Nelson (1994), Haraway (1991), and Sandoval (1995).

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