THE DISAPPEARANCE OF CYBERSPACE AND THE RISE OF CODE

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Imagine the emergence of a remarkable new communications technology. Using this tool, you can interact with anyone located anywhere in the world, provided they have the same minimal hardware that you have. You can stay informed, express yourself in ways never before imaginable, and get access to all the knowledge ever recorded by humankind. This technology fundamentally changes education, work, family life, entertainment, politics, and the economy. Still, it is fairly simple to use. Kids, in fact, will have an easier time than adults learning to use it.

Once you get accustomed to using this technology, you'll wonder how you ever lived without it. No single person created this mode of communicating. Rather it developed spontaneously and collectively over time. And today, no single entity owns it or controls it, yet it works remarkably well. Most surprising of all, this innovation is thousands of years old. It is the alphabet.

Coyness aside, it is useful to think about the alphabet as we consider the emergence of another communications technology, the Internet. In particular, this comparison will be fruitful as we consider the legal and political implications of the Internet—or cyberspace, the "place" where online interactions are said to occur.

We do not generally think of ourselves as having, or needing, a formal law of the alphabet. Similarly, I will argue here that we should think critically about what we mean when we speak of the "law of cyberspace." To be sure, the increasing use of new technologies—particularly a global, interactive, digital communications network such as the Internet—can profoundly alter social relations. But the way we frame this development substantially affects our understanding of what is at stake and how we should respond to it. Just as having a law of the alphabet might cause us to see both too much and too little in the

subtle interplay of vowels and consonants, I fear that much of our current thinking about the law of cyberspace is impressionistic, reductionist, and ultimately counterproductive.

In particular, we are not well served by the idea that cyberspace is an autonomous "place." This conception wrongly implies that online interactions are, or should be, governed by their own body of law. It suggests that what happens "there" is in some way unconnected to what happens "here." In so doing, it distracts us from recognizing that the real significance of cyberspace is not in its being elsewhere but, quite the opposite, in its coming increasingly closer to us.

Indeed, my contention here is that cyberspace is disappearing. And curiously, as cyberspace disappears it becomes ever more powerful, ultimately assuming the ability to transform or even undermine the legal and political foundations of our society.

1. CYBERSPACE IS NOT ELSEWHERE

If anyone is responsible for propagating the idea that cyberspace is a place, it is probably John Perry Barlow. Along with Mitchell Kapor, Barlow wrote a manifesto in July 1990 called "Across the Electronic Frontier" to announce the launch of the Electronic Frontier Foundation, a civil liberties organization. In that document, Barlow and Kapor appropriated the term "Cyberspace" from William Gibson's science fiction novel Neuromancer. Gibson's cyberspace referred to a very specific virtual reality experience, where one was continuously "jacked in" to a matrix of computers.[1] Barlow and Kapor extended the metaphor to describe the place where all online interactions occur.[2] Here are the first three paragraphs of their manifesto:

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[1] William Gibson, NEUROMANCER 51 (1984). I am grateful to Mike Godwin, counsel to the Electronic Frontier Foundation, for pointing out to me that Gibson actually used the term "cyberspace" in an earlier short story called "Burning Chrome." *See* William Gibson, "Burning Chrome," OMNI, July 1982, at 72; *see also* electronic post by Mike Godwin, May 4, 1996 (describing phone conversation with Gibson regarding his first published use of the term cyberspace) (on file with the author).

[2] Though Barlow and Kapor were not the first to use Gibson's term, earlier references were more limited, speaking of cyberspace as the equivalent of an all-encompassing computer-generated virtual reality, which seems closer to what Gibson had in mind. *See, e.g.,* Peter H. Lewis, "In Search of a Meaningful Relationship with Computers," N.Y. TIMES, May 27, 1990 ("One intriguing area of metaphor exploration is in the field of cyberspace, where the user enters a "virtual reality" that exists as pure computer data. Using devices such as fiber-optic gloves and data helmets or goggles displaying the data in three-dimensional form, the user can interact with all forms of computer data, as if he or she were physically in another world.")

Over the last 50 years, the people of the developed world have begun to cross into a landscape unlike any which humanity has experienced before. It is a region without physical shape or form. It exists, like a standing wave, in the vast web of our electronic communication systems. It consists of electron states, microwaves, magnetic fields, light pulses and thought itself.

It is familiar to most people as the "place" in which a long-distance telephone conversation takes place. But it is also the repository for all digital or electronically transferred information, and, as such, it is the venue for most of what is now commerce, industry, and broad-scale human interaction. William Gibson called this Platonic realm "Cyberspace," a name which has some currency among its present inhabitants.

Whatever it is eventually called, it is the homeland of the Information Age, the place where the future is destined to dwell.[3]

In these three paragraphs alone, Barlow and Kapor use half a dozen spatial terms to describe where we are when we interact online. It is a "landscape," a "region," a "place," a "repository," a "venue," a "homeland." The authors hedge a bit at first, noting that this place is "without physical shape" and that it is the same space in which phone calls have taken place. But as they begin to describe cyberspace in more detail, the notion of it being an actual separate territory, with its own social and legal order, is heightened: "Certainly the old concepts of property, expression, identity, movement, and context, based as they are on physical manifestation, do not apply succinctly in a world where there can be none," they note. Most pointedly, Barlow and Kapor affirm the idea of cyberspace being elsewhere by claiming that "conflicts have begun to occur on the border between Cyberspace and the physical world" and warning that "[u]nless a successful effort is made to render that harsh and mysterious terrain suitable for ordinary inhabitants, friction between the two worlds will worsen." Two worlds.

Six years later, the day after President Clinton signed the Communications Decency Act into law, Barlow issued another manifesto called A Declaration of the Independence of Cyberspace. The statement minced no words about the illegitimacy of terrestrial governments' exercising jurisdiction over online interactions:

Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no

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[3]*See* Mitchell Kapor and John Perry Barlow, "Across the Frontier," July 10, 1990, available at http://www.eff.org/pub/Publications/John_Perry_Barlow/HTML/eff.html (visited February 21, 1998). The manifesto is reprinted in ROBERT B. GELMAN & STANTON MCLANDISH, PROTECTING YOURSELF ONLINE: THE DEFINITIVE RESOURCE ON SAFETY, FREEDOM, AND PRIVACY IN CYBERSPACE 14 (1998).

sovereignty where we gather. . . .

I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us. You have no moral right to rule us nor do you possess any methods of enforcement we have true reason to fear.

Governments derive their just powers from the consent of the governed. You have neither solicited nor received ours. We did not invite you. You do not know us, nor do you know our world. Cyberspace does not lie within your borders. . . .

Where there are real conflicts, where there are wrongs, we will identify them and address them by our means. We are forming our own Social Contract. This governance will arise according to the conditions of our world, not yours. Our world is different.[4]

It might be a mistake to construe the words of this former Grateful Dead lyricist without accounting for his playful penchant for bombastic metaphors. But other Internet pioneers also wrote about cyberspace as a new province, a place where communities existed, altercations occurred, cultural practices congealed.[5] The rise of cyberspace caused these observers to say cryptic things like: "The central event of the 20th century is the overthrow of matter."[6] Few, though, were as emphatic as Barlow about the importance of cyberspace being a separate world from what he called "meatspace."[7]

What were legal scholars saying about all this? The term cyberspace certainly caught on among lawyers and law professors, but few went as far as to accept Barlow's suggestion that cyberspace was an actual sovereign place. Cyberspace, to many of these early legal observers, was just "a convenient shorthand"[8]—a way of talking about interactions online. For example, in 1991, at

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[4] *See* John Perry Barlow, Declaration of the Independence Cyberspace, February 9, 1996,available at:http://www.eff.org/pub/Publications/John_Perry_Barlow/barlow   0296. declaration (visited on 7/3/97).

[5] *See, e.g.,* HOWARD RHEINGOLD, THE VIRTUAL COMMUNITY: HOMESTEADING ON THE ELECTRONIC FRONTIER 5 (1992) ("Cyberspace . . . is the name some people use for the conceptual space where words, human relationships, data, wealth, and power are manifested by people using [computer-mediated communication] technology.").

[6] Esther Dyson, George Gilder, George Keysworth, and Alvin Toffler, *Cyberspace and the American Dream: A Magna Carta for the Knowledge Age*, August 22, 1994. Available at http://seldy.townhall.com:80/pff/position.html (visited March 4, 1998).

[7] *See, e.g.,* John Perry Barlow, *Is There a There in Cyberspace?* (n.d.), available at http://www.eff.org/pub/Publications/John_Perry_Barlow/HTML/utne_community.html (visited 3/4/98).

[8] I. Trotter Hardy, *The Proper Legal Regime for 'Cyberspace,'* 55 U. PITT. L. REV. 993, 994 (1994).

the first conference on Computers, Freedom, and Privacy, constitutional law
scholar Laurence Tribe of Harvard gave an address called "The Constitution in
Cyberspace." Acknowledging that cyberspace had been coined by William
Gibson and adopted by virtual reality pioneers, Tribe used the term not to refer
to some other space, but "to encompass the full array of computer-mediated
audio and/or video interactions that are already widely dispersed in modern so-
cieties."[9] Indeed, Tribe's main point was to insist that the guarantees of the
U.S. Constitution should apply fully to online interactions.

As the writings of Barlow and others became better known, however, legal
scholars began asking questions like: "If cyberspace is a place, wouldn't it
have its own law, Cyberlaw?"[10] Most provocative in this vein are the writings
by David Johnson and David Post, together and individually, that have begun
to explore systematically the legal significance of cyberspace as a place.[11]

Johnson and Post argue that the rise of a global communications network
renders obsolete traditional territorial borders and jurisdictions.[12] For the pur-
poses of law and norms, they encourage us to "separate the tangible from the
virtual world."[13] We should, they say, see cyberspace "as a distinct 'place'
for purposes of legal analysis by recognizing a legally significant border be-

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[9]LAURENCE TRIBE, THE CONSTITUTION IN CYBERSPACE, 1991 (copy of remarks on file with author).

[10]The statement is attributed to an anonymous law professor participating in an online conference. *See* I. Trodder Hardy, *Electronic Conferences: The Report of an Experiment*, 6 HARV. J. LAW & TEC 213, 232 (1993).

[11]*See* David R. Johnson and David Post, *Law and Borders—The Rise of Law in Cyber-space*, 48 STANFORD L. REV. 1367 (1996) (hereafter "Law and Borders"); David G. Post, *Anarchy, State, and the Internet: An Essay on Law-Making in Cyberspace*, 1995 J. Online L. art. 3, available at http://www.law.cornell.edu/jol/jol.table.html. For another (less radical) attempt to define a legal regime for the Internet, see Joel R. Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEXAS L. REV. 553 (1998) (arguing that communications networks should be governed by their own rules, the same way Lex Mercatoria governed the transactions of traveling merchants in the Middle Ages).

[12]As they put it: "The rise of the global computer network is destroying the link between geographical location and: (1) the power of local governments to assert control over online behavior; (2) the effects of online behavior on individuals or things; (3) the legitimacy of a local sovereign's efforts to regulate global phenomena; and (4) the ability of physical location to give notice of which sets of rules apply. The Net thus radically subverts the system of rule-making based on borders between physical spaces, at least with respect to the claim that Cyberspace should naturally be governed by territorially defined rules." Johnson and Post, *supra* note 11 at 1370.

[13]*Id.* at 1378.

tween Cyberspace and the 'real world.'"[14] This is a clear endorsement of Barlow's belief in two autonomous worlds. But whereas Barlow's two worlds seem at least somewhat metaphorical, Johnson and Post are actually arguing that cyberspace should have "its own law and legal institutions,"[15] and that state-based governments would generally have no jurisdiction over online activity. To Johnson and Post, then, the law of cyberspace is, quite literally, the law of another place.[16] It is the law of cyberspace—the same way that we might think of the law of the State of New York or the law of the United Kingdom.

What does this brief genealogy of the idea of an autonomous cyberspace tell us? On the one hand, it may simply be an accident of semantics and interpretation that has led us to think about cyberspace as an actual place. Gibson, the originator of the term, did not suggest that cyberspace was elsewhere. Rather he described it as a "consensual hallucination experienced daily by billions . . . in every nation." This experience took place not in some static, removed domain, but "in the nonspace of the mind."[17] In other words, cyberspace was a construct, a way of talking about "where" we were when we used a certain communications technology. It's difficult, therefore, to imagine Gibson agreeing that we need to create virtual tribunals, and a Uniform Commercial Code just for cyberspace, and so on.[18] I suspect that Gibson would feel that his concept of cyberspace was being interpreted too literally.

On the other hand, some cyber boosters would argue that, Gibson's term aside, a spatial metaphor for online interaction would have emerged because there really is something about interacting online that makes you feel like you are somewhere else. The term cyberspace works, they would note, because it feels right to people, it accurately describes the way they experience computer-mediated communication. It's easy to succumb to this view. President Clinton

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[14]*Id.* at 1378.

[15]*Id.* at 1367.

[16]While other legal scholars have come close to taking this position, Johnson and Post have made the most far-ranging claim. *See, e.g.,* Dan L. Burk, *Federalism in Cyberspace,* 28 CONN. L. REV. 1095, 1099 (1996) (describing cyberspace as "a cognitive habitat that is conceptually separate from the real space that we physically inhabit"); Joel R. Reidenberg, *Governing Networks and Rule-Making in Cyberspace,* 45 EMORY L.J. 911, 917 (1996) ("network communities also develop distinct sovereign powers").

[17]GIBSON, *supra* note 1 at 51.

[18]*See, e.g.,* the Virtual Magistrate project (web site available at http://vmag.vcilp.org), an online dispute resolution forum cosponsored by the Cyberspace Law Institute. Johnson and Post are codirectors of the Cyberspace Law Institute.

has done so, calling the Internet a "free-trade zone."[19] And I admit that I've been prone to the spatial analogy myself at times.[20]

But I want to challenge this concept of an autonomous cyberspace. To do so, I want to begin by comparing the Internet to some other communications technologies. Using the Internet, we're told, situates us in a place called cyberspace. But when we speak on the telephone, why don't we say we're in telephone space—or Telephonia? When we're watching television, why aren't we in Televisia?[21] And when we write with the alphabet, why aren't we in—well, you get the point. Perhaps the idea of telephone space never dawned on us because that communications tool is not as intense and enveloping as the Net. But certainly for some people (operators, stock brokers, teenagers) being on the phone is a far more time-intensive and all-consuming experience than an occasional browse of the Web. Perhaps you can't really form communities on the phone—and communities, it might be argued, are what make cyberspace feel like a place. But there's nothing inherent in telephones that prevents us from having sustained interactions with others, either one at a time or in groups (i.e., by a conference call or party line).

The question of how we conceptualize our use of a technology is not a trivial one. The idea of cyberspace as a space—in the penumbral ether between all those networked computers, perhaps?—profoundly influences how we think about it. By describing our online interactions as occurring somewhere else, it is easy to assume that what we do "there" has little relationship to what we do here—on earth, as it were. And conversely, it is easy to presume that the rules and regulations of terra firma don't apply when we're interacting "there" in cyberspace. This, I want to suggest, is cyber-romanticism at its worst.

To begin with, it suggests an escapist fantasy of total satisfaction without any obligation.[22] Moreover, it is a view that can backfire badly, causing "real space" lawmakers to believe that they must write new laws—such as the Communications Decency Act or the newly proposed copyright laws—to govern what's happening "there" on the uncharted digital frontier. (Not surprisingly,

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[19]White House Press Release, July 1, 1997 (Remarks by the President in Announcement of Electronic Commerce Initiative).

[20]*See* Andrew L. Shapiro, *Keeping Online Speech Free: Street Corners In Cyberspace*, THE NATION, July 3, 1995.

[21]The terms "Telephonia" and "Televisia" are David Post's, from his presentation at the 1998 Conference on Computers, Freedom, and Privacy (February 1998).

[22]I am referring here less to the specific work of Johnson and Post, who believe in cyberspace-based legal obligations and restrictions on behavior, than to the general libertarian ethos among so-called netizens.

the people who complain about these new laws are people in real space.) Finally, this idea of a separate cyberspace just defies common logic and experience. The actions of human beings online have—need it even be said?—a real impact on the lives of other human beings. When a fraudulent securities offering on the Net causes novice investors to be bilked of their hard earned money, that's a real-space injury. When an Internet gossip maven with an audience of thousands knowingly publishes a false and injurious statement on an email list about a private figure, that also is a real-space injury. And when a group of terrorists use email to conspire to blow up a federal office building, there too is injury in real space.

I don't mean to deny that the idea of a separate online "space" may have made sense to a certain cohort of computer hackers[23] who appropriated Gibson's term. The Internet in the early 1990s was mostly a medium used by computer savvy individuals—researchers, activists—who engaged in dialogue in vibrant online communities like The Well. These pioneers who explained the wired life to the rest of us were dedicated users of interactive bulletin boards and of "chat rooms." To them, going online may well have felt like going somewhere: to a digital salon full of friends. It was often a laborious process, with a fair degree of unpredictability and randomness. But all this was part of the challenge—and the reward. Indeed, the sense of an arduous journey likely contributed to the romantic idea that cyberspace was foreign and far away, a frontier to be settled.

But the Internet circa 2000 or 2010 will be different. Already, the Net is increasingly easy to use and personalized. Retrieval of information and electronic commerce are growing online. People are using the Net in ways that are becoming more instrumental (emailing colleagues, setting up a personal website) and less experimental (creating an avatar identity). Sure, there are still some interfaces that stress the idea of being in a separate place (e.g., MUDs, chat rooms). They may even feel place-like. But as we become increasingly familiar with how interfaces work, it will be clear that these are merely functions of a particular design. In other words, the fact that you are in a chat "room" or a virtual "city" is simply the result of how some software designer or programmer has structured a certain online experience. Meanwhile, the almost supernatural notion of cyberspace as a place "to go" is losing currency. The mystery of cyberspace is fading.

If cyberspace is not elsewhere, then, how should we think of it? I prefer to think of cyberspace as a locus of control. It is not so much a space as it is a lens through which we can see the world. It is a filter through which we can do almost anything: learn, work, socialize, transact, participate in politics. It is an interface that allows us to control other things—the information we are

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[23]I use the term hackers here solely to mean skilled aficionados.

exposed to, the people we socialize with, the resources of the physical world. (If we must see it as a space, let it be simply a decision space, a "place" where we click, choose, and view, but not a place where we go.)

There is an etymological foundation supporting my view that cyberspace is all about control. Gibson's fictional word cyberspace derives from the term cybernetics, which is the science of communications and control theory, particularly the study of automatic control systems.[24] Cybernetics, in turn, was coined fifty years ago by a group of scientists led by Norbert Wiener and was based on the ancient Greek word kubernetes, which meant "steersman" (as in the steering of a ship) or "governor." Cyberspace, then, can be thought of as a "space" for steering or governance—not just governance of what happens online, but of interactions with the world at large. The question, then, is who is in control of the steering—and what are the effects of that control? That, however, is mostly a question for another day.

By saying that cyberspace is not an autonomous place, I do not mean to diminish its significance. If anything, I want to argue that cyberspace is too important to be thought of as elsewhere. Rather we should think of it being right here. Indeed, it is so close to us, so increasingly significant and indispensable, that it will eventually recede from the fore and even disappear. Disappear, that is, in the same sense that the wallpaper pattern in your bathroom eventually becomes so familiar that it fades away and escapes notice.

There is historical precedent for this phenomenon of disappearing technologies. Indeed, today's intense and somewhat bewildered preoccupation with cyberspace's distant unfamiliarity—its "otherness"—is to be expected, for this is how we treat every new technology at its inception. In the early days of the telephone, people shouted into the receiver and conversation was stilted, yet now phone communication is as natural for most of us as face-to-face contact. In the first years of radio, families gathered resolutely around the console at fixed hours each week to listen to programs. Today, the radio is a constant companion: it wakes us up, keeps us company in the car, and envelops us in elevators and shopping malls. (Indeed, few people listen to the radio any longer while not engaged in some other activity—driving, working, cleaning house.)

An even better comparison is the adoption of alphabetic writing or spoken language. We don't think about letters as we write or grammar as we speak. It is only when one says a word over and over, or stares at it on the page, that

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[24]*See* NORBERT WIENER, CYBERNETICS: OR CONTROL AND COMMUNICATION IN THE ANIMAL AND THE MACHINE 11 (1948). Wiener himself appeared to be unaware that 150 years earlier a French physicist also used the term cybernetics to refer to a branch of political science which he described as the science of governance. See KEVIN KELLY, OUT OF CONTROL 120 (1994).

it may start to seem significant or contrived. Generally, though, alphabets and language are simply lenses through which we filter experience. They are so familiar that they just disappear.Similarly, just as Microsoft Windows or the Macintosh operating system has been our transparent interface with the resources of the personal computer—and a good interface wants nothing more than to be invisible —the Net will increasingly be our interface with the world, our way of understanding and filtering reality.

2. THE LAW OF THE ALPHABET

One of the great hazards of defining cyberspace as elsewhere is that it has gotten us off on the wrong foot in our attempt to understand the legal implications of cyberspace.

I want to return to my claim that we don't typically think of ourselves as having or needing a law of the alphabet. This does not mean that alphabets do not have legal significance. Alphabets, in a sense, are laws—informal laws that govern how we express ourselves in writing. These rules deal with the form, variations, and arrangement of letters and, correspondingly, of words, sentences, and so on. They establish a protocol of written language, though it is not mandated.[25] Government does not need to force anyone to use language correctly. People simply do so by common agreement.[26] Additionally, major legal repercussions flow from certain uses of alphabets: depending on what you do with them, you can create a binding contract, a constitution, a libelous statement, or a death sentence.

Despite its importance to so much of what we do in life, we don't have a law of the alphabet. Why? The reason, I believe, is that such a circumscribed body of law would be both absurdly bureaucratic and practically underinclusive, causing us both to over-regulate and under-regulate use of this tool. By defining our focus so rigidly and narrowly, we would miss important social and legal dimensions of reading and writing. We would create a false realm of legal meaning, a realm that was artificially bounded and contained.

Certainly, we care if a will is in writing, as opposed to stated orally. But the right place to deal with that problem is in the law of trusts and estates. On the other hand, we don't care at all if a bankrobber hands a written demand to

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[25]Cyberspace similarly has building blocks that are constitutive and law-like. Just as written language has a set form and grammar, there is an Internet protocol —TCP/IP—that establishes the baseline rules for communicating. Just as alphabets have component units called letters, interactions in cyberspace can be reduced to digital units of one and zero.

[26]This does not mean that governments will not sometimes try to force certain types of language use, both orally and in writing, but such attempts are almost always a sign of an illegitimate, even fascistic, exercise of state power.

a teller or just verbally demands the money. But the criminal law can tell us that. In neither of these cases do we need a law of the alphabet.

So if the alphabet and the Internet are just two communications technologies, why would we need a body of law for one and not the other? In other words, if the will were written online and the bank were robbed via an email demand, why would we look to some hypothetical volume called the "law of cyberspace"? Why wouldn't we just rely on the same bodies of law mentioned above? Or at least start with those bodies of law and make adjustments and modifications to reflect the new communications medium. This is how the law has responded to every other technological innovation—not with an autonomous body of law for Telephonia, but with, say, modifications in the criminal law of harassment to account for threatening phone calls.

Now perhaps you think I am making the case too easy by comparing the law of cyberspace to some obviously absurd notion of a law of the alphabet. But recall, as noted above, that some of our leading thinkers about cyberspace want us to believe that this is a separate jurisdiction, where terrestrial law does not apply. Granted, they may want the law of cyberspace to have its own legal subcategories—the way the law of New York has its own contract law, just as the law of the United Kingdom does.[27] But this cannot save the cyber-romantics' vision of the law of cyberspace, for this entire conception is predicated on the fallacy that cyberspace is elsewhere. The subcategories, in fact, show just how futile this approach is in practice.

Johnson and Post, for example, address the question of how trademark, a geographically based body of commercial law, should be handled when marks for products and services appear globally on the Net. Their solution is to establish a trademark registry just for cyberspace. In a case dealing with a potentially infringing mark that appeared online, then, the threshold legal issue would be likelihood of confusion (or dilution) in the online context.

Yet this entire framework assumes an Internet that can only be described as a failure. For if the Net succeeds, it will not only reach every corner of the globe, but will incorporate many existing media—including what we today think of as television and publishing. Almost any commercial use of a mark, then, may be online or "in cyberspace." And, of course, every mark used online will also be used and seen in "real" space—many real spaces, in fact. Johnson and Post's attempt to draw a distinction between cyberspace and real space will be impossible. It will work only if the Net becomes some rarefied, marginal communications medium that has essentially no spillover into, and thus little effect on, the "real" world. But if all the users of the Net—all the "inhabitants" of cyberspace—actually reside in the real world, how can that be so?

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[27]They also note that cyberspace itself may be home to many legal jurisdictions.

Similarly, Johnson and Post suggest that defamation online should be actionable only according to the law of cyberspace "until such time as distribution on paper occurs." This makes no sense. Consider an example: A defamatory story appears in The New York Times on the Web and is read by a million people sitting at computer terminals around the United States. Is the defamed person not injured—in the real world—as much as if a million people read the defamatory statement in the print edition of the Times? How could a court possibly pretend that the defamation only occurred in cyberspace? To do so, we would have to imagine that every person peering into a computer screen adopts a cyber alter ego whose knowledge is wiped away the moment that his or her eyes shift from the monitor to the printed page. (Even William Gibson would be impressed with this.)

Consider, also, how Johnson and Post miss the structural interplay between the properties of the Internet and the real-space legal environment. They note that the enhanced ability of individuals to reply to false statements might change "the rules of defamation developed for the Net . . . ." But why shouldn't that ability to reply affect the rules of defamation generally—in any space? Here is where the cyber-romantics' law-of-the-alphabet-style reductionism becomes clear. Johnson and Post are so talismanically focused on the "there-ness" of cyberspace that they miss the way that the Net might affect the landscape of libel law "here." In arguing that digital technology poses a challenge to libel law only in cyberspace, they sell themselves short.

Johnson and Post claim repeatedly that their legal regime merely reflects "taking cyberspace seriously."[28] But, unwittingly, they are not taking cyberspace seriously at all. For if cyberspace is taken seriously, then what transpires in our online interactions will have a deep, tangible impact on our lives. Cyberspace will be pervasive, fluid, and imminent. The cyber-romantic vision suggests we will sneak off to cyberspace—with its fantasy-game rules—and then return to the "real" world where the "old" rules apply. A more robust vision of cyberspace—what I would call a "technorealist" view[29]—acknowledges that it is part of our world and that it may profoundly affect our existing

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[28]*See* Johnson and Post, *supra* note 11, at 1381, 1382, 1383.

[29]Technorealism, unlike cyber-romanticism, implores us to see that online interactions have very real consequences for the rest of our lives. Technorealism maintains that the code of cyberspace—that is, the collection of programs, protocols, and practices that make up our digital interactions—is itself a type of law that regulates our lives in real space. It therefore implores us to take code seriously, subjecting it to public scrutiny and criticism. *See* David Shenk, Andrew L. Shapiro, and Steven Johnson, *Technorealism: An Overview*, March 1998, available at: www.technorealism.org; *see also*, Katie Hafner, *Battle Cry of the Technorealists*, N.Y. TIMES, March 12, 1998, at G3; Elizabeth Weise, *Realist Tract Waves Yellow Flag as World Races Ahead in Net Era*, USA TODAY, March 12, 1998, at 3D.

social, political, and legal structures. Increasingly, it will be impossible, and even dangerous, to draw a distinction between cyberspace and real space, and between the law of cyberspace and the law of real space.

To be fair, the problem to which Johnson and Post are responding is undoubtedly a vexing one and they certainly make a good faith effort to solve it.[30] A global communications network like the Internet raises serious challenges in terms of a seemingly endless potential number of governments applying different, and potentially inconsistent, laws to online activities that are inherently transnational. But this multi-jurisdiction problem, real as it is, is not unique to the Net and does not require the solution that Johnson and Post propose. Indeed, I have already suggested that their solution does little in practice to solve the problem.

Moreover, I suspect that their solution will suffer in the arena of public reception. Even Johnson and Post describe their perspective as "disorienting and disturbing,"[31] though they don't explore what the effect of this may be. Many lawmakers and government officials—not to mention common citizens—will be befuddled by the starkness of their idea that cyberspace is autonomous, and thus quick just to dismiss it. Or they will be threatened by the idea of a separate sovereign, and thus quick to legislate restrictively, or worse. Certainly, many governments will be reticent about letting their citizens go online if they believe that they have no jurisdiction over what their citizens do there. The danger in alienating these constituencies is that there is a very real problem of fluid boundaries that Johnson and Post have identified, one which will continue to challenge us, and require our collective attention, in the future.

3. REGULATING CYBERSPACE—AND VICE VERSA

Perhaps the best reason to reject the idea that cyberspace is elsewhere is that cyberspace is itself a real-world regulatory force. The software code that dictates the nature of our computer-mediated communication is a form of law acting on each of us as we each sit here, all flesh and bone in "meatspace." Let me back up and explain what I mean.

A few years ago at a conference on cyberspace and the law, Judge Frank

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[30]Also, Johnson and Post do not, like Barlow, claim that territorial governments have absolutely no right to impose their will on what happens "in" cyberspace. Rather, they claim that traditional states will have little legitimacy exercising their legal authority in cyberspace—the same way Iran would have a difficult time trying to get the nations of the world to enforce its penal code. Still, Johnson and Post say, principles of comity might apply between terrestrial sovereigns and cyberspace.

[31]David R. Johnson & David G. Post, *The New 'Civic Virtue' of the Internet,* available online at http://www.cli.org/paper4.htm (visited March 8, 1998).

Easterbrook made the provocative claim that that there is no more a "law of cyberspace" than there is a "law of the horse."[32] According to Professor Lawrence Lessig of Harvard Law School, Easterbrook was effectively saying that "the effort to speak as if there were such a law would just muddy rather than clarify problems."[33] Lessig, one of the first scholars to consider the legal implications of cyberspace, was disturbed by Easterbrook's challenge to the nascent field.[34] And so he endeavored to show "just what it is a law of cyberspace could teach."[35]

In an essay responding to Easterbrook, Lessig argues that there are parallels between the regulation of cyberspace and the regulation of real space. "My suggestion," he explains, "is both that there is something new to think about there, and that what we learn there will teach us something about what we know here."[36] Lessig begins by examining the various forces that regulate behavior in real space. He recounts how various jurisprudential schools have maintained that law—in the formal sense of statutes, constitutions, and common law—often is not the most effective form of regulation. The Chicago school has emphasized the power of the market as a structuring force in society. "Law and society" scholars have demonstrated the import of norms. And postmodernists have emphasized the power of architectures of everyday life— what Lessig calls "real space code"—such as the design of a city or a prison. In the face of these strong alternative regulatory constraints, critics across the political spectrum have come to believe that law is relatively insignificant.

Yet rather than giving up on law, Lessig says, an emerging group of scholars—the New Chicago School—is arguing that law simply needs to shift its emphasis. Instead of trying to have law compete with the market, norms, and architectures, the New Chicago School is interested—as the diagram in Appendix One shows—in the potential impact of law on these alternative forms of control. In other words, this school seeks to understand the way that law can

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[32]*See* Frank H. Easterbrook, *Cyberspace and the Law of the Horse,* 1996 U. CHI. L. FORUM 207, 208 (1996). Easterbrook's contention was framed this way in Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach,* Stanford Technology Law Review, no date, [hereafter *Law of the Horse*] available at <http://stlr.stanford.edu/STLR /Working _ Papers/97_Lessig_1/index.htm> [visited February 21, 1998].

[33]Lessig, *supra* note 32 at ¶ 1.

[34]*Id.* at ¶ 3.

[35]*Id.* at ¶ 3.

[36]*Id.* at ¶ 3.

regulate not directly, but indirectly.[37] One of the problems with this shift, Lessig notes, is that while the Constitution is sensitive to the burdens of direct regulation—e.g., its impact on free speech, due process, or equal protection—it places little or no constraint on indirect regulation.

Next, Lessig looks at regulation in cyberspace and notes that, as in real space, there are powerful constraining forces other than law at work: the market, norms, and code—this time, the code of software, technical protocols, and network architectures. He argues that, in cyberspace, code is particularly powerful because it operates so directly. "Code in cyberspace," Lessig writes, "can more easily substitute for law, or norms [than can real-space code]. Code can more subtly control and discipline behavior."[38] In this sense, Lessig argues, the code of cyberspace has the potential to be a much more powerful—and uncontrollable—regulatory force than real-space code.

Lessig's essay is a brilliant exposition of the forms of regulation and of the importance of code. But it is telling that he never comes back to Easterbrook's original claim that there is no more a law of cyberspace than there is a law of the horse. For if he did, I believe he would have seen that Easterbrook's claim is right. Right, that is, in two senses:

First, as I have been arguing here, cyberspace is not a sovereign place. Notwithstanding the claims of the cyber-romantics, there is no law of cyberspace in the sense that there is a law of New York.

Second—and this seems to be Easterbrook's intended point—cyberspace is not a subject, like torts or contracts or bankruptcy, that we should, from the standpoint of legal ontology, try to set off to one side. There is, then, no law of cyberspace. This is similar to the point about why we don't need a law of the alphabet. Communications tools allow us to do all sorts of things, and it doesn't help to group all their legal implications under some contrived rubric. As Easterbook said about the law of the horse: "Lots of cases deal with sales of horses; others deal with people kicked by horses; still more deal with the licensing and racing of horses, or with the care veterinarians give to horses, or with prizes at horse shows." But, "[a]ny effort to collect these strands into a course on 'The Law of the Horse' is doomed to be shallow and to miss unifying principles."[39]

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[37]*Id.* at ¶ 12, 28. For example, to encourage the wearing of seatbelts, a government might enact a law requiring their use. Or it might fund a public education campaign saying that responsible people wear seatbelts (regulating norms). Or it might subsidize insurance companies that give lower rates to cars with seatbelts (regulating the market). Or it might require car manufacturers to install certain types of hard-to-avoid seatbelts (regulating the architecture or "code" of the car). *See* Lessig, *supra* note 32 at ¶ 32.

[38]*Id.* at ¶ 74.

[39]Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL

Does this mean, then, that we should abandon the very notion of the "law of cyberspace"? I don't think so, so long as we focus on the law—or laws—of cyberspace.[40] As Lessig's schema makes clear, our online interactions have distinctive legal and regulatory attributes—a combination of formal law, norms, market forces, and particularly code. But to prevent further ambiguity and confusion regarding the "law of cyberspace," I want to point out a small but critical error in Lessig's analysis, one that prevents him from articulating what I think is the true insight of his argument about "the code as law." The error is the one I have been critiquing throughout this essay—the idea that cyberspace is elsewhere, as opposed to being part of real space.

Ironically, Lessig himself has been a prominent critic of this idea. He has disagreed—colorfully—with Johnson and Post's attempt to separate cyberspace from real space:

While [people] are in that place, cyberspace, they are also here. They are at a terminal screen, eating chips, ignoring the phone. They are downstairs on the computer, late at night, while their husbands are asleep. They are at work, or at cyber cafes, or in a computer lab. They live this life there, while here.[41]

And yet Lessig (at least sometimes) describes the regulatory forces of cyberspace—the code, as well as the law, norms, and market forces—as elsewhere. Speaking of the way that trusted systems (a form of copyright management) may obliterate fair use, he says: "Code structures will better protect copyright in cyberspace than law protects copyright in real space."[42] Similarly, Lessig notes that obligations in cyberspace imposed by software code—like the requirement that one use a password—are deprived of the public policy protections found in real space obligations governed by contract law, with its exceptions for mistake, impossibility, and so on. ' But trusted systems and code obligations will not be undermining the fair use protections and public policy contract principles of some far away place. They will, as we have seen, be op-

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FORUM 207, 207 (1996).

[40]Another way to think about this is that although we may not need a formal law of cyberspace, we do need a critical legal perspective on technology. To a degree, this is what technorealism, *see* supra note 29, is meant to be. Julie Cohen makes the point that the need for such a critical perspective might be analogous to the need for feminist legal theory, even though we don't have, or need, a "law of women."

[41]*See* Lawrence Lessig, *The Zones of Cyberspace*, 48 STANFORD L. REV. 1403, 1403 (1996).

[42]Lessig, *supra* note 32 at ¶ 84.

[43]*Id.* at ¶ 87-89.

erating in real space. The dangers they pose will not be elsewhere.[44]

Lessig, truth be told, knows this. Early on in his response to Easterbrook, he acknowledges that there is no real difference between cyberspace and real space, and that, though there is "utility in speaking of cyberspace as 'there,'" eventually people will abandon the distinction.[45] But by staying with the distinction he fails to take what should be the final and most powerful step in his analysis, which might go something like this: Cyberspace code should concern us not because of what it does to public values "in cyberspace," but because of what it does to public values in our own real spaces. All code, in other words, is real space code.[46]

Consider the importance of this point to Lessig's main claim, which he summarizes as follows: "While in real space, most regulation is regulation by law, my claim is that in cyberspace, most regulation will be regulation by code."[47] And he concludes that "we should take seriously the regulatory power of this cyberspace code, if we are to preserve the values of real space there."[48] Where there? The regulatory power of software code is not affecting some band of space travelers in a far off galaxy. We are all here. And as cyberspace becomes so integrated into our lives that it effectively disappears, an increasing proportion of all regulation—here, there, and everywhere—will be by code.

Rather than worrying about how we will regulate cyberspace, then, we

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[44]Here, we must consider what might be called the principle of "virtual displacement." As activities and resources increasingly become available online, it is fair to assume that they will displace similar activities and resources that previously existed offline. In other words, there is a cross-elasticity of demand between many (though not all) online and offline products and activities. If I read a magazine online, this may very well displace my purchasing and reading the magazine in print format. It is safe to assume, by this presumption of virtual displacement, that many materials previously distributed physically (books, CD's, etc.) with a traditional intellectual property balance between fair use and exclusive control will likely be disseminated online with trusted systems and no such balance. Similarly, many agreements previously made by contract, with its public policy exceptions, will be code agreements with no exceptions.

[45]Lessig, *supra* note 32 at ¶ 55.

[46]I do not want to suggest that Lessig is unaware of this point, only that he fails to articulate it clearly. He does occasionally imply it; for example, in the last lines of his piece, he writes: "As the net grows, as its regulatory power increases, as its power as a source of norms becomes established, real space sovereigns lose." Lessig, *supra* note 32 at ¶ 179.

[47]*Id.* at ¶ 142.

[48]*Id.* at ¶ 178.

should be concerned about how cyberspace will regulate us—our legal princi-ples, our values. The diagram in Figure One, which was Lessig's to begin with, needs a new, bold arrow: one that shows not that law can affect code, but that code can affect law—and thus life as we know it. (See Appendix Two).

Sometimes, this effect will be positive. (For example, libel standards that inhibit free speech may have to be relaxed in a world in which reply is easier because anyone can be a publisher.) But there are also ways in which code may destroy our political, normative, and legal aspirations.

It is useful to think here of Robert Cover's concept of certain activities be-ing "jurisgenerative" (law making) or "jurispathic" (law destroying).[49] Cover explained how the norms, customs, and rituals that arise in tight-knit commu-nities may create a moral world that is more "legal" than the imposed world of state-made law. As a result, state law may then be perceived as jurispathic by the normative community. Online interactions, I believe, also have the poten-tial to be jurisgenerative—creating norms, rules, and architectures that are as powerful as formal law. It is for this reason that some norms and rules of on-line interaction deserve deference from state lawmakers. But the twist on Cover's thesis is that online activities may also be jurispathic. In other words, the norms and (particularly) code of online interactions can clash with—even destroy—other legal, moral, and political principles.

Lessig himself suggests this with his critique of the Internet filtering proto-col known as PICS (the Platform for Internet Content Selection).[50] PICS fa-cilitates the selection or blocking of certain content online, based on criteria provided by either the content publisher or a third party. When used verti-cally, PICS makes it easy for governments and other entities to restrict what end users can see. When used horizontally, it allows end users to exclude any unwanted content or communication. It should be clear, then, that the problem with PICS is not that it imperils free speech in cyberspace, but that it imperils free speech, period. Lessig implies as much,[51] but again shies away from fully jettisoning the cyberspace/real space distinction.

If we do so, though, and completely discard the cyber-romantics' vision of two worlds, the power of PICS—and of code, generally—is even clearer. PICS is but one form of what we might call "total filtering"—a method of selecting

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[49]*See* Robert M. Cover, *Foreword: Nomos and Narrative*, 97 HARV. L. REV. 4 (1983).

[50]*See* Lessig, *supra* note 32 at ¶152. Lessig suggests this as well when he says that code is so powerful that it may become "an alternative sovereign" of questionable legitimacy. *Id.* at ¶ 76.

[51]*See id.* at ¶ 159. "A fully PICS enabled world . . . will be a world with more censorship of speech than a fully CDA enabled world." *Id.*

and excluding speech that, because of the power and precision of digital tech-
nology, has the potential to fundamentally change the landscape of freedom of
expression in real space. Just as state law might intrude on the norms of online
interaction, so PICS intrudes on First Amendment values. Towards those val-
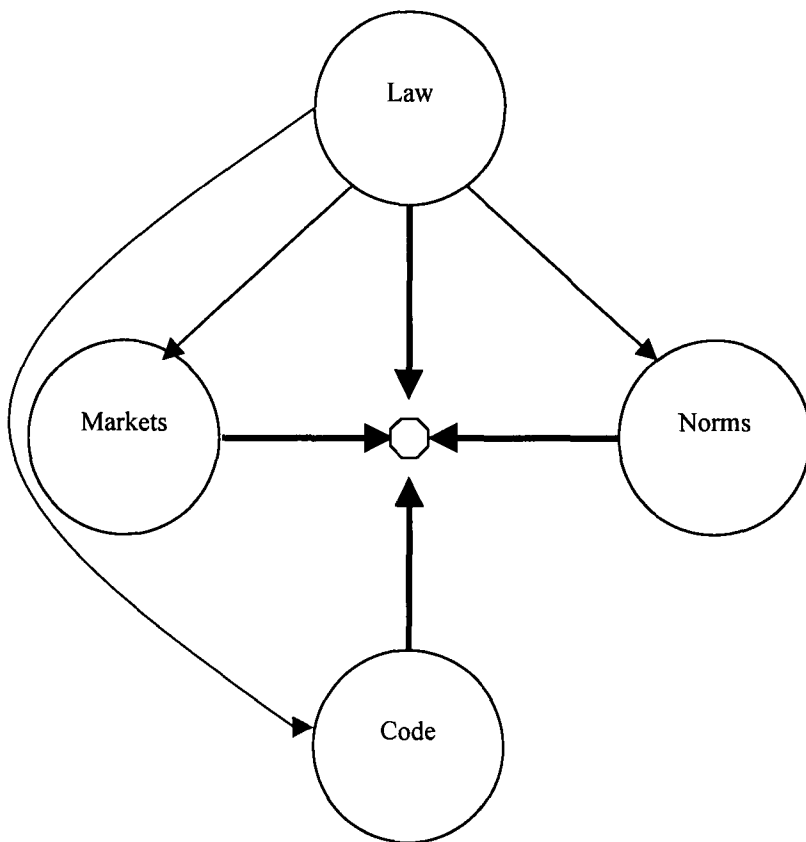ues, it has the serious potential to be jurispathic, for at least two reasons.

Vertically, total filtering alters the balance of power between the censor and
the free inquirer. When most of our expression and inquiry occurs online, the
censor will have a much easier time restricting speech than he did in a world
where he actually had to burn books, confiscate films, and break up meetings.
Indeed, the censor will be able to operate invisibly, never having to reveal
what content has been restricted. And the people deprived of the free flow of
information will be here in the real world.

Horizontally, total filtering alters free speech as we know it by changing the
balance of power between the dissident speaker and the indifferent listener.
Previously, in the public forum, the listener could not avoid hearing some bit
of the dissident's rant before tuning her out. Now, though, as we spend more
time in mediated speech environments, which have no public forum guarantees,
total filtering gives us a new absolute right to avoid unwanted speech. Not
only don't I have to engage or listen, I don't even have to be bothered to know
that this undesirable speech exists. I never have to hear the voice of the pick-
eter, the protester, the street corner speaker—or anyone else I don't want to
hear. Again, the unpopular speaker is unheard in the real world.

Total filtering is made possible by software code. But because it alters the
ground rules of an open society, it must be seen as nothing less than real-space
code, a force that regulates our lives—possibly in tyrannical ways.

We face, therefore, twin hazards. Seeing cyberspace as elsewhere will
cause us to misconstrue its legal significance. It will particularly keep us from
seeing the way that regulatory forces like cyberspace code, which some say are
"there," are actually affecting us here. On the other hand, once we recognize
that cyberspace is simply a construct—a control space as close to home as our
own minds—we may take it for granted. As this lens becomes ever more fa-
miliar, we must recall just how powerful it can be. This new way of seeing,
and interacting with, the world can cause profound social, political, and legal
change. As cyberspace disappears, we must be vigilant in safeguarding our
cherished values and rights against the rise of code.

APPENDIX ONE

APPENDIX TWO