SIDEWALKS IN CYBERSPACE:
MAKING SPACE FOR PUBLIC FORUMS IN THE ELECTRONIC ENVIRONMENT

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Minds are not changed in streets and parks as they once were. To an increasing degree, the more significant interchanges of ideas and shaping of public consciousness occur in mass and electronic media. . . . The extent of public entitlement to participate in those means of communication may be changed as technologies change.1

I. INTRODUCTION

The constitutional guarantee that citizens have access to public streets, sidewalks, and parks in order to speak and assemble has been and remains of paramount importance to the existence of a free and vibrant democratic culture in this country. In order to understand why this is so, and thus to understand how this role might evolve with changing circumstances, we must consider the spatial relationships between public forums and those places, whether in private or government hands, in which we go about daily life. Paradigmatic public forums perform their function in our constitutional order not so much because of what happens inside them as because of what happens outside, or more precisely, alongside them. As trips to the clothing store, doctor’s office, motor vehicle administration, or community center increasingly shift from the physical environment of our cities and towns to the electronic environment of cyberspace, we must create "the places in between"2 that enable ordinary citizens to engage one another as they move between the places where they conduct their affairs. In particular, we must preserve the ability to contest what transpires in non-public3 places by ensuring communicative access to individuals as they enter stores, workplaces,

2. Referring to changes in the structure of urban public space, Michael Sorkin argues, "What's missing in this city is not a matter of any particular building or place; it's the spaces in between, the connections that make sense of forms. The history of cities is embedded in the ways their elements are juxtaposed, the structures of art and regulation that govern urban amalgamation." Michael Sorkin, Introduction to VARIATIONS ON A THEME PARK xi, xii (Michael Sorkin ed., Hill and Wang 1992). I refer to "places" instead of "spaces" for consistency with the terminology employed below; see discussion infra Part III.B.
government buildings, or family planning clinics. In short, we need sidewalks in cyberspace.

This Note, then, will begin in Part II with the existing public forum doctrine that the First Amendment requires state actors to permit speech on government property to an extent dependent on the nature of both the place where speech is sought and the type of restriction the state would impose. Quite by design, this doctrine has the effect of subsidizing speech, both by providing opportunities for speech to persons who could not otherwise afford to purchase similar access and by encouraging speech relative to competing uses of the place. The explicit doctrinal tools, however, achieve their constitutional purposes only by relying on unarticulated and continually eroding background conditions consisting of the spatial relationships between public forums and non-public loci of social life. Shifting attention away from the internal characteristics of public forums to their relative spatial position reveals how public forums support two different kinds of access to audiences: general access facilitated by forums through which people pass on their way to many destinations (for example, the sidewalk in front of a subway station), and specific access facilitated by forums through which any person must pass if she is to enter a particular destination (for example, the sidewalk in front of a store).

In order to show how the problems addressed by the public forum doctrine are relevant to cyberspace, Part III proposes to take seriously the language of space, place, and environment, through which we increasingly articulate and experience our interactions on computer networks. Such an approach is more empirically and normatively illuminating than treating cyberspace either as a convergence of communications technologies or as a quasi-independent domain of informational flows. While the electronic environment provides the resources with which to build places similar to those established in our material environs, the structure of cyberspace renders the spatial relationships between places significantly different from the familiar geography of physical space.

Part IV will argue that recent attempts to develop a public forum doctrine for cyberspace generally fail to recognize the spatial component of public forums and therefore restrict their reach to the relatively weak requirements of public access to bounded conversational forums. Of more pressing concern is the absence of specific access to patrons of the cyber-places emerging on the Internet. The lack of public forums in cyberspace is not a problem that can be solved simply by applying a legal label to existing places, but one that requires intervention in the spatial relationships between places. That there are plausible, practicable
ways to construct the spatial relationship of "in between" is the subject of Part V. In particular, I suggest the creation of state-administered public forums that match potential speakers with the cyber-places outside which they seek to speak in conjunction with modest additions to Internet server and/or end-user software capabilities.

In Part VI, I explore the existing doctrinal resources from public forum, labor, and telecommunications law that support the constitutional requirement of meaningful public forums in cyberspace or at least the constitutional power for their legislative establishment. Part VII considers the countervailing constitutional objections likely to be raised on forced-speech, forced-listening, and content-neutrality grounds.

II. PUBLIC FORUMS AND THE PROBLEM OF ACCESS

There are few constitutional rights more familiar than the right to speak freely in public and to address the crowds on our sidewalks, streets, and parks. Nonetheless, it is a constitutionally peculiar privilege because it moves beyond limiting the public's ability, acting through the state, to penalize private decision-making to limiting public control over the use of public property. To see the contrast, consider the familiar structure of the constitutional right to an abortion. This right consists of limits on government authority to bar or restrict women's liberty to enlist a doctor to perform an abortion, but it does not prevent government from refusing to allow use of public property to facilitate such procedures.¹

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² See, e.g., Webster v. Reproductive Health Servs., 492 U.S. 490 (1989) (upholding ban on performance of abortions in public facilities); Harris v. McRae, 448 U.S. 297 (1980) (upholding exclusion of abortion from medical services covered by Medicaid). Abortion is hardly a special case in this regard, see generally DeShaney v. Winnebago County Dep't of Soc. Servs., 489 U.S. 189, 196 (1989) ("[T]he Due Process Clauses generally confer no affirmative right to governmental aid, even where such aid may be necessary to secure life, liberty, or property interests of which the government itself may not deprive the individual.")., and, indeed, similar reasoning has been applied to First Amendment questions when the issue has concerned limitations on expenditure of government funds, rather than use of government property. Compare National Endowment for the Arts v. Finley, 118 S. Ct. 2168 (1998) (upholding exclusion from government arts and humanities funding of projects considered "indecent") with Reno v. ACLU, 117 S. Ct. 2329 (1997) (striking down restriction on indecent speech by private parties on the Internet). This authority for governments to bar use of public resources for activities which it could not ban if performed with only private property is distinct from the constitutionally impermissible situation in which access to public resources is made conditional not on how those resources are used but on refraining from private activities.
In his opinion in *Hague v. CIO*, however, Justice Roberts rejected this approach. In an earlier case, a plaintiff's objection to restrictions on speech on the Boston Common had been dismissed with the reasoning that "there was no right in the plaintiff in error to use the common except in such mode and subject to such regulations as the legislature, in its wisdom, may have deemed proper to prescribe." Justice Roberts's rejoinder has since become the touchstone of the public forum doctrine: "Wherever the title of streets and parks may rest, they have immemorially been held in trust for the use of the public and, time out of mind, have been used for purposes of assembly, communicating thoughts between citizens, and discussing public questions." Elaborating this special role of public spaces, and identifying its scope, has been the task of the public forum doctrine in the years since *Hague*.

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that could not be barred directly. See *Harris*, 448 U.S. at 317 n.19 ("A substantial constitutional question would arise if Congress had attempted to withhold all Medicaid benefits from an otherwise eligible candidate simply because that candidate had exercised her constitutionally protected freedom to terminate her pregnancy by abortion."). In the context of the use of public spaces, the difference would be between preventing someone from using a public sidewalk to speak and preventing someone from walking down the public sidewalk if she wrote a newspaper column.

7. Id. at 515.
9. One way to avoid framing the public forum doctrine as a departure from the usual divide between government regulation and government provision of resources is to distinguish between situations in which government control of public property amounts to "regulation" and when it is properly analogized to private "proprietorship." See International Soc'y for Krishna Consciousness, Inc. v. Lee, 505 U.S. 672, 678 (1992) [hereinafter ISKCON] ("Where the government is acting as a proprietor, managing its internal operations, rather than acting as lawmaker with the power to regulate or license, its action will not be subjected to the heightened review to which its actions as a lawmaker may be subject."). The problem, however, is that in other contexts the Court treats government control over the use of public resources as conclusively establishing the government's position as mere "proprietor," even when in practice its actions in that capacity exert tremendous influence over the choices available to ordinary citizens and thus have the practical effect of "regulating." See *Harris*, 448 U.S. at 314 ("The indigency that may make it difficult and in some cases, perhaps, impossible for some women to have abortions is neither created nor in any way affected by the Connecticut regulation." (quoting *Maher v. Roe*, 432 U.S. 464, 474 (1977))).
The doctrine developed by the Supreme Court in *Hague* and continued through the present day reflects a delicate and ultimately unstable compromise between, on the one hand, national commitments to political equality and the open transmission of ideas and information and, on the other hand, the dependence of speech upon scarce resources distributed through an economy structured by systematic inequality. This compromise has been achieved through a searching analysis of the place in question, first by distinguishing among categories of places and then formulating how the state may regulate its use based on this classification. The relationship between these free speech principles and the doctrinal framework is mediated, however, by features of the spaces in which these places are situated, for example, the forum's

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11. See Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 765 (1976) ("[I]f it is indispensable to the proper allocation of resources in a free enterprise system, it is also indispensable to the formation of intelligent opinions as to how that system ought to be regulated or altered. Therefore, even if the First Amendment were thought to be primarily an instrument to enlighten public decisionmaking in a democracy, we could not say that the free flow of information does not serve that goal."); Thornhill v. Alabama, 310 U.S. 88, 104 (1940) ("The range of activities proscribed . . . embraces nearly every practicable, effective means whereby those interested -- including the employees directly affected -- may enlighten the public on the nature and causes of a labor dispute. The safeguarding of these means is essential to the securing of an informed and educated public opinion with respect to a matter which is of public concern.").


13. See *ISKCON*, 505 U.S. at 678-79; *Perry*, 460 U.S. at 45-46.

14. The separation of these questions is itself a troublesome one. On the one hand, past regulatory practices may themselves be relevant to the category of place, a classification that then determines what regulations may be imposed, thereby opening the door to a self-justifying circularity. See, e.g., *ISKCON*, 505 U.S. at 682. On the other hand, a permissible form of state action may itself transform the present categorization that formerly ensured limitations on state ability to restrict speech. See id. at 699-700 (Kennedy, J., concurring in judgment) (suggesting that changes to a forum's architecture could change it from public to non-public); cf. Edward J. Neverill, Comment, "Objective" Approaches to the Public Forum Doctrine: The First Amendment at the Mercy of Architectural Chicanery, 90 NW. U. L. REV. 1185 (1996) (criticizing Justice Kennedy's approach as opening the door to "architectural chicanery"). Implicit in both circularities is a denial of the extent to which places receive their character from the social practices that animate them, see David Harvey, *Justice, Nature & the Geography of Difference* 261 (1996); Michel de Certeau, *The Practice of Everyday Life* 117 (Steven Rendall trans., University of California Press 1984), practices that are themselves not independent of either the legal or material environments in which the state may intervene.
location relative to other places. These conditions are neither themselves subjected to constitutional scrutiny nor make any explicit appearance in the constitutional analysis of place.

A. Doctrinal Contours

The public forum doctrine limits the degree of state control over use of its property. The nature of these limits depends on a categorization of the place in question as a "public" or "non-public" forum. Once the type of forum has been identified, the standard of review is determined by the criteria, purposes, and effects of the restriction on speech.

1. Identifying the Place

The first step in applying the doctrine is identifying the contours of the forum in question. Recognizing the multi-functional and internally differentiated nature of many public places, the Court tends to narrow the scope of the forum to include only those elements of the place most necessary to the speech in question. This narrowing can take either a geographic or functional form. Thus, in United States v. Grace, the Court divided the Supreme Court grounds into perimeter sidewalks and interior grounds, relying on the sidewalks' functional continuity with the adjoining streets and indistinguishability from other public walkways.

While Grace relied on subdividing a parcel of land into physical subunits, the Court has made clear that the place of a forum need not be

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15. The property interests in question need not consist of government title, as made clear by the application of the public forum doctrine to public streets, sidewalks, and rights-of-way. See Denver Area Educ. Telecomm. Consortium, Inc. v. FCC, 518 U.S. 727, 792 (1996) (Kennedy, J., concurring in part, dissenting in part) ("Public forums do not have to be physical gathering places, nor are they limited to property owned by the government. Indeed, in the majority of jurisdictions, title to some of the most traditional of public forums, streets and sidewalks, remains in private hands."); Hague v. CIO, 307 U.S. 496, 515 (1939) ("Wherever the title of streets and parks may rest, they have immemorially been held in trust for the use of the public . . . ."); Jackson v. City of Markham, 773 F. Supp. 105 (N.D. Ill. 1991) (privately owned sidewalk within right-of-way of county highway is public forum). In some cases the doctrine applies as well to public control over property by private owners. See discussion infra Part VLA.

17. Id. at 179-80.
18. Id. at 180.
19. Id. at 179.
given a strictly physical interpretation. In *Perry*\(^{20}\) and *Cornelius*,\(^{21}\) in the course of declaring them non-public, the Court identified the relevant forums as a school district's internal mail system and a charity fund drive among federal employees, respectively, notwithstanding that each "lacks a physical situs."\(^{22}\) Any remaining doubts that such a functionally defined place could qualify as a public forum were dispelled in *Rosenberger*,\(^{23}\) where the Court characterized the university's student activity funding system as "open[ing] a limited forum"\(^{24}\) and declared that "[t]he SAF is a forum more in a metaphysical than in a spatial or geographic sense, but the same principles are applicable."\(^{25}\)

2. Categorizing the Forum

Having identified the contours of the forum, the Court next determines what kind of forum is in question. While it is well-settled that forums should be situated in a tripartite scheme of public forums, limited public forums, and non-public forums,\(^{26}\) the method of determining the proper category is both hotly contested\(^{27}\) and less than clear.\(^{28}\)

22. *Id* at 801.
24. *Id* at 829. The Court uses the term "limited" or "designated" forum to denote a forum that, at least for a class of speech that may be limited by speaker and/or subject-matter, will be treated as a "public forum." See *id*.; ISKCON, 505 U.S. 672, 678 (1992) ("The second category of public property is the designated public forum, whether of a limited or unlimited character -- property that the State has opened for expressive activity by part or all of the public. Regulation of such property is subject to the same limitations as that governing a traditional public forum.") (citations omitted). See infra Part II.A.2.
25. 515 U.S. at 830.
27. See generally *ISKCON*, 505 U.S. at 695-700 (Kennedy, J., concurring); Neverill, *supra* note 14.
28. For examples of the Court's varying analyses of pedestrian walkways, compare *Kokinda*, 497 U.S. at 728-29 (O'Connor, J., plurality opinion) ("[T]he location and purpose of a publicly owned sidewalk is critical to determining whether such a sidewalk constitutes a public forum."); Frisby v. Schultz, 487 U.S. 474, 481 (1988) ("No particularized inquiry into the precise nature of a specific street is necessary; all public streets are held in the public trust and are properly considered traditional public fora."); United States v. Grace, 461 U.S. 171 (1983) (sidewalks surrounding Supreme Court grounds are public forum), with Greer v. Spock, 424 U.S. 828 (1976) (walkways of publicly accessible military base not a public forum).
In public forums, strict scrutiny applies to any content-based regulation, including regulations that discriminate between speech on the basis of speaker or subject matter but remain viewpoint-neutral.\textsuperscript{29} Content-neutral regulations of the time, place, and manner of speech will be upheld only if they "are narrowly tailored to serve a significant governmental interest, and . . . they leave open ample alternative channels for communication of the information."\textsuperscript{30} The state's power to dedicate the forum to particular types of expressive activity,\textsuperscript{31} to restrict speech because of its burdens on the forum's non-speech functions,\textsuperscript{32} and to rededicate the property to other purposes\textsuperscript{33} is thus substantially curtailed.

In contrast to public forums that measure restrictions on speech against a baseline assumption of no limitations,\textsuperscript{34} the Court has recognized an intermediate category of "limited" or "designated" forums. Limitations in these forums are judged against the specific purposes for
which the forum was created or opened to the public. Restricting the forum to particular groups or subjects establishes the standard against which later elaborations or modifications are to be judged. Reservations of a forum for the expression of a particular viewpoint, however, remains forbidden. Once a forum's open character is grounded in the state's intentions, it becomes very difficult to show that a subsequent state restriction violates the forum's purposes rather than exemplifies its limits. Once the speech falls outside the purposes to which the forum was dedicated, the forum becomes non-public with respect to that speech.

In practice, this intermediate category only has force when the forum's bounds are themselves found to be illegitimate or their application manifests a discriminatory backsliding from their initial meaning. Thus, in Rosenberger, the Court found that the University of Virginia's funding mechanism for student publications could not exclude religiously-motivated viewpoints "otherwise within the forum's limitations," essentially reconstructing the University's long-standing guidelines to eliminate viewpoint discrimination.

Even when the Court determines that a forum is neither a traditional public forum nor has become a public, if perhaps limited, forum by designation, some restrictions apply to the regulation of such non-public forums. Such regulations "need only be reasonable, as long as the regulation is not an effort to suppress the speaker's activity due to disagreement with the speaker's view." Even this reasonableness

35. See Rosenberger, 515 U.S. at 829 ("The necessities of confining a forum to the limited and legitimate purposes for which it was created may justify the State in reserving it for certain groups or for the discussion of certain topics.").

36. See id.


38. 515 U.S. at 830.


40. ISKCON, 505 U.S. 672, 679 (1992). See also Perry, 460 U.S. at 46. This limitation on viewpoint discrimination in a non-public forum appears to be somewhat weaker than the ban on incorporating viewpoint discrimination into the definition of a limited forum. Since the University policy in Rosenberger appeared motivated not by disagreement with religious points of view but by desire to avoid what it thought were Establishment Clause barriers, it is not clear that it would have failed this "much more limited review." ISKCON, 505 U.S. at 679.
inquiry can require that once a forum is opened to a relatively wide range of uses, even non-expressive ones, the state cannot exclude further, non-disruptive communicative uses.41

B. Constitutional Functions of the Public Forum Doctrine

Public forums provide tangible places in which the promise of the First Amendment can be made real. Free speech and assembly serve important ends of individual liberty of expression,42 the free exchange of information and opinion on which the institutions of civil society rely,43 and the promotion of the open debate among political equals upon which a thriving democracy depends.44 Achieving these ends requires particular material and social conditions, conditions that permit communication both among citizens purposefully engaged in collective action and between speakers and audiences. Neither a voice on the street nor a radio broadcast does the speaker much good if no one is there to listen.

41. See ISKCON, 505 U.S. at 692 (O'Connor, J., concurring) (striking down ban on pamphleteering in non-public forum because "I cannot see how [it] is incompatible with the multipurpose environment of the Port Authority airports . . .").
42. See Cohen v. California, 403 U.S. 15, 24 (1971) ("No other approach would comport with the premise of individual dignity and choice upon which our political system rests."); Wooley v. Maynard, 430 U.S. 705, 714 (1977) ("A system which secures the right to proselytize religious, political, and ideological causes must also guarantee the concomitant right to decline to foster such concepts.").
43. See Edward J. DeBartolo Corp. v. Florida Gulf Coast Bldg. & Constr. Trades Council Bd., 485 U.S. 568, 576 (1988) (handbills promoting "the benefits of unionism to the community and the dangers of inadequate wages to the economy and the standard of living of the populace"); Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc., 425 U.S. 748, 765 (1976) ("So long as we preserve a predominantly free enterprise economy, the allocation of our resources in large measure will be made through numerous private economic decisions. It is a matter of public interest that those decisions, in the aggregate, be intelligent and well informed. To this end, the free flow of commercial information is indispensable."); Healy v. James, 408 U.S. 169, 197 (1972) (Douglas, J., concurring) ("Without ferment of one kind or another, a college or university (like a federal agency or other human institution) becomes a useless appendage to a society which traditionally has reflected the spirit of rebellion."); Martin v. City of Struthers, 319 U.S. 141 (1943) (religious proselytizing).
44. See Carey v. Brown, 447 U.S. 455, 466-67 (1980) ("Public-issue picketing . . . has always rested on the highest rung of the hierarchy of First Amendment values: The maintenance of the opportunity for free political discussion to the end that government may be responsive to the will of the people and that changes may be obtained by lawful means, an opportunity essential to the security of the Republic, is a fundamental principle of our constitutional system.") (quoting Stromberg v. California, 283 U.S. 359, 369 (1931)).
Although public forums play a tremendously important role by providing public places in which like-minded individuals can assemble for various expressive, pragmatic, and community-building purposes, my focus in this Note is on the importance of public forums in allowing access to audiences. Even when public forums are used by mass assemblies, they are very often a means of amplifying an expressive purpose directed at the audiences to which the forum gives access. The public nature of the forum, then, refers not only to those who are entitled to enter it and speak -- any member of the public -- but also to those who populate the forum; they are places where one can find the public. It is because one finds the public there that "streets are natural and proper places for the dissemination of information and opinion." Important distinctions, however, exist between two different kinds of access to audiences. The sort of access most commonly evoked by the courts and commentators, access to an undifferentiated "public," is what I will call general access. Access to an audience defined by its relationship to the context of speech I will refer to as specific access.

1. Subsidizing and Equalizing Access to the Means of Communication

In the course of giving citizens access both to some of the material pre-conditions of speech (a place to stand and gather, use of land and air across which to transmit visual, audible, and tangible communications) and to a social context by which an audience may be reached, public forums provide a range of free speech subsidies. In the absence of public forums and against the backdrop of a private property regime in which the state enforces laws against theft and trespass, individuals and groups must purchase the means of exercising their right to free speech. By reserving public facilities not only for equal access by the public but access specifically for the purpose of speech, the government both

46. See Kalven, Jr., supra note 8, at 11 (discussing marches for racial justice whose "essential feature is an appeal to public opinion"); Cornelius v. NAACP Legal Defense and Educ. Fund, Inc., 473 U.S. 788, 815 (1985) (Blackmun, J., dissenting) ("Government property often provides the only space suitable for large gatherings, and it often attracts audiences that are otherwise difficult to reach.").
47. Schneider v. State, 308 U.S. 147, 163 (1939).
48. See Balkin, supra note 8, at 400-03.
establishes a free speech safety net for individual citizens and subsidizes the use of property for speech relative to other uses.

Property capable of both transmitting speech and delivering an audience is clearly scarce. With regard to traditional public forums like sidewalks and parks, it is illuminating that the primary costs involved are not those associated with the material preconditions of speech but with the location of that speech. Not only will a bustling street in a business district deliver far more potential listeners than an identically landscaped parcel in an unpopulated area or the bedroom of a private residence, but the ability and willingness of audience members to receive information and participate in communication is itself finite. Audiences, then, are scarce both in terms of absolute numbers of listeners and in the amount of each one's time and attention that speech can command. In a competitive market for the means of communication, substantive opportunities to be heard will be ordered by the economic resources of speakers without regard to principles of political equality.

Moreover, access to the means of communication would reflect not only the scarcity of speech resources but also a premium for the expression of views unappealing to the owners of property. As among speakers willing to pay the same amount for access to speech-facilitating property, one speaking against the interests of the owner will be asked...
to pay more than one furthering those interests. Such conflicts will be all the more acute when the audience delivered by the particular property has strong ties to the non-speech characteristics of the place. Thus, one hardly expects television networks voluntarily to carry advertisements attacking the broadcast industry, nor malls to be plastered with billboards condemning conspicuous consumption.

In practice, the public forum doctrine substantially cushions the harsh effects on opportunities for effective speech that would otherwise follow from the need to buy access to audiences. Although the divide is hardly absolute, two distinct problems are remedied, to some degree, by the doctrine: the costliness of engaging in speech directed at the general public, grounded both in competition with other would-be speakers and with non-speech uses of the same resources, and the costliness of engaging in speech directed at specific private places, grounded in their proprietors' interest in controlling visitors' experiences.

2. General Access and Multiuse Places

General access involves speech directed at an audience with only a loose connection to the particular context in which that speech occurs. Typical examples would be leafleting on a street-corner about a national election, door-to-door solicitations for an international environmental or religious organization, and almost all advertising done in newspapers and other mass media. Strategies based on general audience access will generally either rely on multiple, low-cost communications with very small portions of the relevant audience or high-cost communications to mass audiences. Because, by definition, speakers reach general audiences in contexts where their presence is largely unrelated to the substance of the speech, public access to general audiences always exists in tension with the primary uses of places enabling speech.

In other words, precisely the same features of public forums that make them effective conduits to general audiences imply a conflict between this function and the very reasons that the audience is present in the forum. Thus, while the public forum cases often speak as if the forums exist precisely in order to facilitate speech, characterizing a forum as "property that has as 'a principal purpose . . . the free exchange

54. This tension is sometimes reasoned away by an appeal to government "intent," casting the public forum doctrine as merely the ordinary enforcement of essentially legislative will. Chief Justice Rehnquist's majority opinion in ISKCON, for instance, locates the creation of public forums in manifestations of majoritarian will, explicit in the case of designated forums, see id. at 680, and "expressed through acquiescence in a continuing practice" in the case of "traditional" forums, id. at 681. The problem, however, with treating public forum status as a manifestation of government intent regarding its use is that the doctrine specifically blocks government's ability to change its mind regarding the extent to which a forum will be dedicated to public discourse, radically unlike the typical legitimacy of legislative repeal.

55. See Balkin, supra note 8, at 402-03.

56. See Schneider v. State, 308 U.S. 147, 162 (1939) ("Any burden imposed upon the city authorities in cleaning and caring for the streets as an indirect consequence of such distribution results from the constitutional protection of the freedom of speech and press.").


58. See Martin v. City of Struthers, 319 U.S. 141 (1943) (striking down ban on use of public residential streets for purposes of door-to-door solicitation despite burden on residents of calls at the door).

59. See Cohen v. California, 403 U.S. 15, 16 (1971) (striking down statute banning "disturb[ing] the peace or quiet of any neighborhood or person . . . by . . . offensive conduct").

60. Note that this pattern need not rely on those purposes being non-speech related, as long as the speech for which they enter the forum is distinct from the additional speech allowed by its open character. Advertising in mass media takes advantage of this principle, achieving access to audiences whose accessibility relies on their interest in other forms of speech, for example, the programming between the commercials.
that attract the public into places that foster a particular kind of public culture.61

The significance of this functional bundling is apparent from the fact that, absent constitutional restraint, both the state and the market show strong tendencies toward unbundling. Not only do the courts regularly strike down laws and administrative rules for failing to weigh adequately expressive uses of public property against other, competing, considerations,62 but also privately owned places that replicate functions sometimes served by public forums or otherwise attract the public regularly refuse to accommodate speech to the extent the public forum doctrine requires in streets, sidewalks, and parks.63 This speech-promoting constitutional "thumb on the scale" protects dissenters against government officials and fellow citizens who disfavor the airing of discontent, and succors a tradition of open debate and exchange of information essential to a working democracy.64

3. Specific Access and Captive Audiences

Although explicit explanations of public forums' constitutional role generally emphasize subsidies for speakers and the role of public debate in a well-functioning democracy, characterizations that fit well with general access, the substantial portion of public forum cases dealing with specific access look rather different. Speakers with pickets, leaflets, or just loud voices contest their immediate surroundings, attempting to dissuade audience members from entering a family planning clinic,65

61. Cf. Jerry Frug, The Geography of Community, 48 STAN. L. REV. 1047, 1051 (1996) (arguing for the value of "a space that, because it is open to anyone whatsoever, provides exposure to opinions and cultures very different from one's own").


64. It also maintains a distinction between what Cass Sunstein calls consumer and political sovereignty, between the results of aggregating individuals' choices about their own immediate behavior and their choices about preferred general rules for all. See Cass R. Sunstein, The First Amendment in Cyberspace, 104 YALE L.J. 1757, 1790 (1995) ("In their capacity as citizens assessing the speech market, people may well make choices, or offer considered judgments, that diverge from their choices as consumers.").

alert consumers to the labor practices of their shopping destination, 66 convince citizens on their way to the polling place to vote a particular way, 67 question the legitimacy of government proceedings, 68 or inform a community about the activities of one of its residents. 69 In these situations, substituting another place with a numerically equivalent audience would miss the point, because the audience the speakers want to reach is defined by its relationship to a specific place. 70

The feature of the forum that makes it valuable to the speaker is not the degree to which it is a public place but the degree to which it simulates access to a non-public place. Thus, it is not surprising that in specific access cases the public forum speech competes not so much with the other legitimate uses of the forum itself but with the legitimate uses of the property toward which the speech is directed. Public forum speech is pitted against the uses of adjacent non-public property, whether they be women obtaining abortions with some degree of privacy, 71 citizens voting in and the state administering fair elections, 72 the conduct of commercial enterprise, 73 secure and dignified judicial proceedings, 74 or residential privacy. 75

While speech in public forums inevitably, and by design, has some effect on activities within adjacent places, it does so without compromising their owners’ right to exclude entry into and control behavior within those places. 76 This balance is evident from the pattern of rulings that upholds public forum protections when speech affects

70. The same principles are at work in right-of-reply rules for mass media. The purposes of the rules upheld in Red Lion Broad. Co. v. FCC, 395 U.S. 367 (1969) (television) and struck down in Miami Herald Publ’g Co. v. Tornillo, 418 U.S. 241 (1974) (newspaper), would not have been equally well achieved by government broadcast of the reply on PBS or by government purchase of advertising space in a competing newspaper. Even if they achieved the same audience share, such replies would be less likely to reach the specific audience already exposed to the speech provoking the response, and they would not they be able to challenge the specific broadcaster or newspaper in which it appeared.
72. See Burson, 504 U.S. at 198-99.
76. See Balkin, supra note 8, at 402.
adjacent places through persuasive effects on persons passing through the forum but allows restrictions when the speech modifies conditions within adjacent places, usually through the transmission of noise across property boundaries. Similarly, claims of a right to enter non-public places in order to speak turn on the presence or absence of adjacent public forums through which the audience must pass.

The availability of public forums for specific access enables the meaningful exercise of First Amendment rights by those who would otherwise be denied direct access to the place in question, protects the interests of specific audiences in receiving information, and facilitates the exercise of forms of social power that require collective action but not state action. Access to specific audiences takes advantage of both spatial and temporal precision to enhance the effectiveness of speech. Rather than reaching the greatest number of listeners at the lowest per capita cost, specific access allows speakers to avoid wasting resources on irrelevant audiences and to reach audience members in situations in which they are most likely to pay attention to the message and be able to act on it.

Not only will speakers often be unable to identify in advance the relevant subset of a general audience, such as which residents of a metropolitan area will shop at a given store, but the audience members themselves may not know in advance that a piece of information will become relevant to them. Speech directed at specific audiences occurs in a context in which listeners are most likely to devote their scarce attention to it, since its connection to their own lives and actions is

77. See DeBartolo, 485 U.S. at 578-79; Claiborne Hardware, 458 U.S. at 926; Thornhill v. Alabama, 310 U.S. 88, 94 (1940).
79. See Lechmere, Inc. v. NLRB, 502 U.S. 527, 540 (1992) (observing that organizers had access to grassy strip between highway and private parking lot); Lloyd Corp. v. Tanner, 407 U.S. 551, 563, 566 (1972) (distinguishing between a store "located in the center of a large private enclave with the consequence that no other reasonable opportunities for the pickets to convey their message to their intended audience" exist and one where "[a]ll persons who enter or leave the private areas within the complex must cross public streets and sidewalks"); Asociacion de Trabajadores Agricolas de Puerto Rico v. Green Giant Co., 518 F.2d 130, 138 (3d Cir. 1975) (discussing availability of alternatives to entry and finding no right of access because plaintiffs failed to document "impracticability of other avenues for reaching the workers outside the camp's perimeter"). See discussion infra Part VI.A.
readily apparent. Moreover, the immediate relevancy of the speech means that, even for listeners aware of the relevancy in advance, audience attention is not wasted on worthwhile issues that might not be worth the cost of ensuring recall at the appropriate time.

Specific access is thus especially important to intervention in highly asymmetric relationships where large institutions aggregate the actions, individually relatively insignificant, of a great many people. Since the effects of one individual's behavior are relatively small, the individual may be unwilling to invest significantly in obtaining information that would modify her behavior. These are the problems of the individual voter, consumer, worker, student, shareholder, or patient. Moreover, the asymmetry in bargaining power in these situations, when an individual depends on a large institution for needed goods or services, for medical care, or for gainful employment, is precisely the characteristic that creates captive audiences. In these cases, however, the problem is not the power to impose unwanted speech upon the audience but the power to impose unwanted silence.

Not only does public forum doctrine protect the flow of speech to audiences that might be unable to force targeted institutions or individuals to allow such speech on their property, but it also serves important purposes with respect to audiences that, absent the speech, might not realize they want it or might prefer to avoid the confrontation altogether. Some audiences are in no position to insist upon permitting access by a class of speakers or on a class of topics until they are aware of its existence and the value of the speech, but reaching this point itself requires an antecedent exchange of ideas and information. The informed but unwilling audience is obviously the more difficult case. Even though there are types and contexts of speech for which we recognize the right of the audience to be left alone, we generally are

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81. See Balkin, supra note 8, at 417-18 (discussing extension of "captive audience" theory to sexual and racial harassment).

82. In practice, however, it is more likely to be a combination of both imposed speech and imposed silence -- self-serving propaganda without compelling rebuttal. In the context of union-organizing campaigns, for instance, burdensome limits on pro-union speech in the workplace are coupled with extensive, sophisticated anti-union campaigns by management. See Mark Barenberg, Democracy and Domination in the Law of Workplace Cooperation: From Bureaucratic to Flexible Production, 94 COLUM. L. REV. 753, 930-36 (1994).

83. Cf. James Boyle, A Theory of Law and Information: Copyright, Spleens, Blackmail, and Insider Trading, 80 CAL. L. REV. 1413, 1443 (1992) (discussing breakdown of market pricing mechanisms premised on perfect information when only imperfect information is available as a commodity).

careful both to prevent such protection from unnecessarily cutting off access to willing listeners85 and to allow the speaker at least an initial overture.86 However firmly we might protect the unwilling residential listener, our current system assures that in public places people may be confronted with speech they would rather avoid, a feature that promotes education, discussion, and empathy across differences.87

Specific access protects important First Amendment values by allowing "uninhibited, robust, and wide-open" speech in precisely those circumstances where it would most likely be suppressed. It allows citizens "[t]hrough exercise of these First Amendment rights . . . to bring about political, social, and economic change" through lawful, informed, concerted action in situations where it may be either impossible or impractical to rely on the political process alone.90 The Court's First Amendment jurisprudence recognizes that a healthy democracy respectful of individual rights requires protection for forms of social participation in the economic and cultural life of the nation that have no immediate relationship to political institutions. The values of the First Amendment embrace "the continued building of our politics and culture"91 and insistently defend the right to protest about "important economic, social, and political subjects."92

Preserving individuals' ability to organize to challenge cultural, economic, and social practices requires some degree of access to the places where those practices occur and where other members of the public participate in them, just as a free political system may require presenting a "challenge to governmental action at its locus."93 Appeals
to specific audiences to act in their immediate circumstances are also part and parcel of achieving a state of public knowledge and political consciousness that further aids democratic decision-making at the level of the state.94 Even in the absence of patterns of general social interaction that regularly place different groups into intimate contact,95 specific audience access maintains the possibility of confronting the users of particular places with the effects of their actions on people and places that may seem far away, such as fetuses, workers at a supplier's plant, or the environment around a manufacturing facility.

C. Public Forums in Public Space

The ability of public forums to provide meaningful opportunities for speech to general and specific audiences depends not only on the legal requirements of content-neutral access and subsidy for speech relative to other uses but also on the attachment of public forum status to particular kinds of places. For general access, the most important characteristic is the presence of relatively large numbers of a broad section of the public who can easily be reached as they use the place for other purposes. For specific access, most important is the forum's location relative to a non-public place, a location that provides access to users of the non-public place as they pass through the public forum.

What should be readily apparent is that the ability of public forums to support these forms of communicative access relies specifically on particular patterns of spatial relationships, patterns supported by a combination of technological needs and legal mandates. Because of the geographic qualities of distance, adjacency, and fixity,96 we must pass through places in between as we move from place A to place B, and it is often advantageous to concentrate many destinations in close proximity (as in shopping malls, business districts, office parks, university campuses, or medical centers), as well as many people in single places (as in large workplaces, schools, government buildings, or

(1985) (Blackmun, J., dissenting). Cf. Balkin, supra note 8; Yassky, supra note 12 (arguing that post-New Deal First Amendment jurisprudence should be understood in terms of a theory of liberal pluralism that requires protection specifically against government over-reaching).

95. See generally Mike Davis, Fortress Los Angeles: The Militarization of Urban Space, in Variations on a Theme Park, supra note 2, at 154 (describing loss of public spaces that encourage interaction across social class); Frug, supra note 61.
96. See discussion infra Part III.C.
retail stores). Of course, there are many different ways in which to develop spatial relationships among physical places -- residential living spaces connected by hallways within single structures or streets and sidewalks through a neighborhood, pedestrian traffic on sidewalks alongside streets reserved for vehicles or separated into walkways above or below the roads, concentrated commercial districts at the center of large cities, malls accessible only by cars driven over highways, or intermingling of places of work, residence, and consumption.

Different patterns of spatial organization will, even aside from questions of who may enter various properties, affect the possibilities for various forms of speech. For example, a driver speeding on a highway is vastly less accessible than one stuck in city traffic or a pedestrian on a sidewalk. Given a particular spatial arrangement, the public forum doctrine further relies on specific patterns of government property ownership. Most important is ownership of the places through which people travel: the streets, sidewalks, and highways. These places serve the ends of general and specific access particularly well. They offer general access because travelers to so many different destinations may pass through the same street. And they offer specific access because every destination requires passage through at least one of these places.

Conduciveness to general and specific access sometimes diverges and sometimes converges. While sidewalks or access roads to very popular destinations may offer both general access because of the breadth of the crowd attracted and specific access because all are going to the same place, high-traffic roads may offer excellent general access because so many use them but poor specific access because any given traveler is far from her destination. Conversely, the path to an isolated store or workplace may be largely useless in reaching a general audience but perfect for reaching the few employees or customers of a single enterprise.

In order for the public forum doctrine to function successfully as a "First Amendment easement" mitigating private actors' ability to suppress speech by enrolling the state against theft or trespass, three conditions must be met: (1) places must exist from which general and specific access is feasible, (2) the government must control public access

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97. See Trevor Boddy, Underground and Overhead: Building the Analogous City, in Variations on a Theme Park, supra note 2, at 123.
98. See Frug, supra note 61.
99. Similarly, parks are often islands of respite integrated into a city's transportation network that appeal to passers-by as much as to those who make them a sole destination.
100. Kalven, Jr., supra note 8, at 13.
to these places, and (3) the courts must apply the doctrine to state regulation of that access. Without the first two conditions, the public forum doctrine would be a dead letter. To vindicate the purposes of public forums in a world with changing patterns of spatial organization and government property ownership, the law of free speech may have to intervene in the social choices which control how space is organized, in the allocation of property among private and public actors, and in the state's enforcement of private parties' sovereignty over their property.

III. CREATING SPACE IN THE ELECTRONIC ENVIRONMENT

Do the considerations that support and explain the public forum doctrine have any applicability to electronic networks like the Internet? The question is not simply whether the doctrine straightforwardly "applies" to these new technologies, but whether the constitutionally grounded commitments that themselves have shaped the doctrine's development thus far are sufficiently implicated as to merit another period of innovation to meet new circumstances. One frequent response to this challenge has been a simple "no," grounded in the claim that the Internet should be treated like any other privately-owned

101. See Denver Area Educ. Telecomm. Consortium, Inc. v. FCC, 518 U.S. 727, 740 (1996) (plurality opinion) ("The history of this Court's First Amendment jurisprudence, however, is one of continual development, as the Constitution's general command that 'Congress shall make no law . . . abridging the freedom of speech, or of the press,' has been applied to new circumstances requiring different adaptations of prior principles and precedents."); Yassky, supra note 12, at 1729-36 (describing evolution of First Amendment jurisprudence in conjunction with changes in other areas of constitutional law).
"medium." This Part criticizes the "medium" approach and develops an alternative account.

Our ability to transmit and manipulate information and to integrate that control over information with other material and social practices has expanded rapidly. As a result, the breadth of activities and interactions facilitated by cyberspace begins to approach, and in limited cases exceed, what we can do in physical space. This Part argues that conceiving cyberspace either as a medium through which information flows between social actors or as a site for disembodied interaction distinct from the "real world" is misguided. Rather, like the familiar materials of the physical environment, the electronic environment of cyberspace may be configured to facilitate communication between actors and to create the particularized, stable conditions for complex interaction normally characterized as "places." As such, the public forum doctrine's focus on the nature of places, and its crucial role in facilitating communicative access to them, is very much relevant. As shown in the previous Part, however, while motivated by and formally focused on preserving access to certain kinds of places, the doctrine's efficacy relies implicitly on a particular regime of spatial relationships between places. The nature of these relationships, however, takes a markedly different form in cyberspace -- a difference to which our legal approaches must be responsive. As in our material environment, the configuration of places, and their interrelationships, in cyberspace influences the possibilities for social action and may be reconstructed by it.

102. See, e.g., Krattenmaker & Powe, supra note 49 (recommending that the "print model" of First Amendment jurisprudence apply to emerging electronic networks). In practice, much of the debate over the framework for interpreting the First Amendment in cyberspace has focused on the question of to which medium it should be analogized, in light of differing regulatory regimes prevailing for broadcast and other media. See id. (arguing for the demise of broadcast-specific First Amendment doctrine). The Supreme Court has resolved this debate in the context of content regulation within particular Internet sites, rejecting the broadcast model of allowing restrictions on "indecency" that are otherwise impermissible. See Reno v. ACLU, 117 S. Ct. at 2343-44. This rejection of the broadcast model for the purposes of content regulation, however, does not commit the Court to any particular approach in the context of regulating access. Barring restrictions on "indecent" speech is equally consistent with analogizing speech within Internet sites to newsprint, telephone conversations, and performances in a theater. See Sable Communications of Cal., Inc. v. FCC, 492 U.S. 115 (1989) (rejecting regulation of telephone indecency); Reno, 117 S. Ct. at 2342 (explaining that zoning restrictions on adult entertainment establishments are constitutionally permissible only to the extent they focus on "secondary effects" rather than the "primary effects" of speech content upon an audience).

103. See SHAPING TECHNOLOGY/BUILDING SOCIETY: STUDIES IN SOCIOTECHNICAL CHANGE (Wiebe E. Bijker & John Law eds., 1992) [hereinafter SHAPING
A. From Convergent Communications to Technologies of Transmission, Translation, and Distribution

Even before Internet-based transmission of voice, video, and print content has a chance to make a significant dent in traditional markets for radio, television, telephony, newspapers, or magazines, \(^{104}\) let alone achieve successful integration of these media, \(^{105}\) it has become clichÈ to declare a glorious convergence of traditional mass media into a single, powerful new medium of telecommunication. \(^{106}\) What the clichÈ overlooks is that the technologies constituting the Internet -- like television, radio, telephony, and print, not to mention leaflets, pickets, and ordinary or amplified speech -- achieve not only the transmission of data through a medium but distinctive translations of that data into meaningful form \(^{107}\) and particular patterns of distribution between users of the technology.

1. Transmission and Translation

Human action can be broken down into moments of information transmission and translation, as well as material transformation, and any aspect can become so routinized and obscured from view that we overlook its presence in favor of a singular, continuous process -- a "black box." \(^{108}\) The problem with characterizing the Internet as a


\(^{106}\) See Krattenmaker & Powe, supra note 49, at 1719 ("For students of telecommunications law and technology, it has become a trivial ritual to observe that telecommunications technologies and media are converging."); Fred H. Cate, Telephone Companies, the First Amendment, and Technological Convergence, 45 DePaul L. REV. 1035 (1996); Henry H. Perritt, Jr., Access to the National Information Infrastructure, 30 Wake Forest L. REV. 51, 52 (1995).

\(^{107}\) Moreover, the translation need not be into "information" at all, but into mechanical or other kinds of action. See discussion infra Part III.A.1.

\(^{108}\) Bruno Latour, Science in Action 2-3 (1987). If I punch you in the mouth, we collapse the transmission of electrical signals between brain and hand and the translation of those signals into muscular contractions, as well as the translation of impact into an experience of pain via further neurological transmissions. If I speak to you, we tend to overlook the vibration of vocal chords and the molecular collisions of air, not to
communications technology, much less a point of convergence among all such technologies, is that it overlooks the myriad ways in which information transmission over wires or electromagnetic waves are integrated with increasingly sophisticated technologies of translation by computers at either end of the line. What separates the Internet from the telephone is not the ability to transmit information over copper wire but the ability of computers to do more than vibrate in your ear.

We talk of communications technologies largely in terms of their ability to transmit information because of the rigid, routine ways in which that information is translated, though in fact we treat technologies with identical methods of transmission, but different means of translation, as different communications media. Broadcast radio and television, for instance, both employ frequency modulated electromagnetic radiation but translate the information with the different devices of televisions and radios. Changes in the nature of the "medium" may be effected by intervening in the technologies of translation while leaving the mode of transmission unchanged, as for instance by equipping televisions with a "v-chip" that conditions translation on a convergence of ratings encoded in the signal and a viewing preference encoded in the television set.

Ironically, the very observation that the Internet can individually simulate, as well as collectively combine, a variety of existing communications technologies suggests that the nature of the Internet exceeds the narrow category of mass communications technology. The very flexibility in the form of translations, as well as the sheer volume of transmission, makes the Internet more like the earth and air than the telephone or television. Audio (voices), video (the gesturing professor),

mention the physiological and cognitive processes which turn vibrations into sounds and sounds into meaning.


111. Both television and radio can also be carried by coaxial cable, as can the TCP/IP packets that carry data across the Internet. See, e.g., Mark Landler, Cablevision Sets Link to Internet for L.I. Viewers, N.Y. Times, Dec. 17, 1996, at D1.

112. See J.M. Balkin, Media Filters, the V-Chip, and the Foundations of Broadcast Regulation, 45 Duke L.J. 1131 (1996). Similarly, the software-based filtering capacities of Internet end-users' and servers' computers have become central to the constitutional analysis of restrictions on material distributed via the Internet. See Reno v. ACLU, 117 S. Ct. 2329, 2349 (1997).
and print (words on the blackboard) are all transmitted across every law school classroom,113 but it would be foolish to regulate all classroom communication without reference to which kind of communication is in question (students may be required to be silent but are rarely expected to be invisible) and without reference to the kind of place a classroom, as opposed to a cafeteria, is supposed to be. The classroom, while certainly capable of serving as a mode of information transmission, is hardly exhausted by that capacity, despite the fact that so many particular forms of communication may "converge" in it.

Unlike the classroom, of course, transmission across the Internet consists solely of standardized "packets" of binary information, enclosed in "envelopes" consisting of yet more binary information.114 Nonetheless, our interface with the Internet relies on the computer hardware and software that translate these packets into something more meaningful, whether the text of an e-mail message, the display of a video segment, or the initiation of a print-out.115 When the end result of that process of transmission and translation is a text, graphic, or sound, we conventionally refer to it as some form of speech or expression. However, means of transmission and translation that facilitate a communicative interaction may also enable the transportation of discrete objects, as when computer software arrives through the mail or over the Internet -- the same mechanisms of transmission as a letter or e-mail. Moreover, when a transmission directly causes downstream effects we may treat the initiation of the transmission as "acting" at a distance, without any attention to the mediating technologies or cognitive processes, as when a person assaults another verbally (across a room, or radio transmission, or e-mail)116 or physically (such as a bomb placed in

113. Not to mention the occasional transmission of olfactory (someone's lunch) or tactile (the thrown eraser) sensations still beyond the ordinary Internet surfer's reach.
115. Indeed, the effectiveness of these technologies relies on black-boxing the processes of transmission and translation such that we consider text, audio, or video itself to have been sent, much as advertising slogans like "reach out and touch someone" or "is it live or is it Memorex?" premise success on technological transparency. See Paul Farhi, With a Song in Their Spot: Ad Jingles, Viewed as Costly and Old-Fashioned, Being Replaced by Pop Oldies, WASH. POST, Jan. 4, 1998, at H1; Seth Schiesel, A Bit of Lucre from Lucky Dog, N.Y. TIMES, Oct. 11, 1998, 84, at 2; Memorex Focuses on 'Total Computer Solutions,' Bus. Wire, June 22, 1998, available in LEXIS, News Library, Bwire File.
116. Hate speech and pornography may be characterized as an assault on the victim if the cognitive processes translating the speech are considered so involuntary that the speaker is as responsible for the consequences as he would be if he delivered a physical blow. See, e.g., Charles R. Lawrence III, If He Hollers Let Him Go, in Words That Wound: Critical Race Theory, Assaultive Speech, and the First Amendment 53,
a room, sent by mail, triggered by radio signal, or some day, by action across the Internet).\textsuperscript{117} It is only possible to describe clearly the technologies that constitute the Internet by including both the transmission of binary data \textit{and} the mechanisms -- whether electronic, mechanical, or social -- that first generate and later translate these transmissions.

2. Technologies of Distribution, Practices of Technology

Not only can actions mediated by a single mode of transmission have widely divergent features because of differences in the mode of translation (radio signals may broadcast music or activate a bomb), but incorporated into our identification of distinct technologies are specific modes of distribution as well. Personal letters, magazines, and newspapers all involve inscription of images on paper and may be transmitted by the postal service, but differences in the relationships between senders and receivers, as well as the time frame over which communication occurs, make them different "media." Similarly, personal e-mail messages, mass mailing lists, listservs, and newsgroups all are transmitted via the Internet and are ultimately translated into individual textual messages on a screen, frequently by a single software program, but are distinct means of communication because of different modes of distribution.\textsuperscript{118}

\textsuperscript{117} Hilgartner & Brandt-Rauf, supra note 109, observe that elements in the data streams of molecular biological research vary in the ease with which they may be translated into elements further "upstream" or "downstream." When the translation is routinized, access to an upstream element is equivalent to access to the downstream element (analogous to the automatic translation of a transmission into an effect), but this equivalence is disrupted when the translation requires the intervention of individualized human skill (analogous to the mediation of human volition between speech and action). See id. at 363-66.

\textsuperscript{118} Conversely, substantially similar patterns of distribution may lead us to interpret vastly different technologies of transmission and translation to nonetheless constitute the "same" communications technology, as with cable and broadcast television. Such
The essential role of distribution also highlights the fuzzy boundary between the artifactual and social makeup of technologies. The nearly universal location of television and radio sets in private residences, and the social practices of education and entertainment that render children relatively capable of and interested in understanding them, become a component of broadcast technology for the purposes of its distinctive regulation. Internet technologies display a wide range of modes of distribution, from e-mail technologies that hold messages in "mailboxes" on local servers for download and reading while off-line, to point-to-point audio and video links, to "netcasting" over the World Wide Web, to highly interactive real-time Multi-User Dungeons ("MUDs") and Internet Relay Chat ("IRC") that rely on the mediation of centralized server software in conjunction with social conditions of mass participation.
Indeed, what is so powerful about the Internet is precisely this degree of variability. The possibility of integrating the packet-switching data transmission technology with vastly different modes of translation and distribution yields not a single medium of mass communication but an electronic environment, supporting not only diverse technologies of speech but structured activity including assembly (in a chat room), transportation (of a software package), shopping (making flight reservations or buying books), going to work, theft, or rape.

B. Environment, Place, and Space Online

We can mold our material environment, in conjunction with reliable social practices, to communicate between individuals, within groups, and from single points to mass audiences. Similarly, we can shape the electronic environment of cyberspace. We can also structure both environments to build stores, gymnasiums, hospitals, homes, libraries, and cities, as well as build friendships, steal or destroy property, commit battery and rape, and submit votes. Neither environment can be reduced simply to "communication" or "speech." As the bandwidth of the Internet and successor networks increases and the sophistication of translation technologies expands to embrace a broader range of our sensory experience, the real convergence on the horizon is not

124. See Elena N. Broder, Note, (Net)workers’ Rights: The NLRA and Employee Electronic Communications, 105 YALE L.J. 1639, 1640 (1996) (“The one common space in which they can meet, despite their physical isolation, is cyberspace--often in the form of an employer-owned and -maintained Local Area Network (LAN) into which homebound employees telephone, a Wide Area Network (WAN) covering multiple offices, or the Internet.”).


126. See Dibbell, supra note 123.

127. This expansion can occur along multiple dimensions. For instance, video transmission may occupy far more of our visual field than a computer monitor and computers and allied technologies may translate data transmissions into the manipulation of mechanical appendages in order to perform surgery or into tactile sensations of pressure or resistance.

Electronic interaction will become increasingly multimodal, as when videoconferencing combines sound and vision. Robotic effectors combined with audio and video sensors will provide telepresence. Intelligent exoskeletal devices (data gloves, data suits, robotic prostheses, intelligent second skins, and the like) will both sense gestures and serve as touch output devices by exerting controlled forces and pressures; you will be able to initiate a business conversation by shaking hands at a distance or say
between the Internet and communications technologies but between the Internet and our physical environment.\footnote{128}

This "convergence" of cyberspace and the physical environment involves not simply the \textit{simulation} of the physical by the electronic but the seamless integration of the two. When electronic networks carry transmissions (whether generated electronically or themselves translated from prior physical action) that are translated into physical effects, whether moving a scalpel or landing a punch, the idea of cyberspace as an independent domain collapses.\footnote{129} Interpreting the Internet as an environment that facilitates and structures action hardly necessitates positing it as a "separate" or "alternate" space, as is commonly done when drawing distinctions between "virtual" and "real" worlds.\footnote{130} In this Section I show that one way cyberspace facilitates particular forms of activity and interaction is the construction of \textit{places} quite analogous to the structuring of our material environs.


\footnote{130} As bandwidth burgeons and computing muscle continues to grow, cyberspace places will present themselves in increasingly multisensory and engaging ways. They will look, sound, and feel more realistic, they will enable richer self-representations of their users, they will respond to user actions in real time and in complex ways, and they will be increasingly elaborate and artfully designed.

\textit{We will not just look at them; we will feel present in them.}\footnote{Id. (footnotes omitted). See \textbf{William Gibson, Neuromancer} (1984) for a fictional account of such a world. Gibson is credited with inventing the term "cyberspace." \textit{See Andrew L. Shapiro, The Disappearance of Cyberspace and the Rise of Code}, 8 Seton Hall Const. L.J. 703, 704 & n.1 (1998).}

\footnote{129} In the case of telesurgery, the technologies of translation and transmission would allow a tight integration of the material environment of the patient's body with that of the surgeon to form a single operating environment consisting of causal interactions mediated indistinguishably by the features of both the material and electronic environments. In the case of a boxing match with a computer-generated opponent, the electronic environment structures not only the interaction between the two actors but generates one of the entities itself. Nonetheless, a blow landed by the "simulated" boxer might have tangible effects on the material environment of her opponent's body.

1. Electronic Places

For the purposes of this Note, we need not dwell on futuristic visions of Internet surgery or boxing matches with computer-generated opponents. Analogous, though far simpler, examples are already emerging. Newsgroups, IRC "chat rooms," MUDs, and bulletin board systems are routinely described and organized according to spatial metaphors of place, including functionally differentiated locations and spatially interpreted actions of movement. More recently, the rapid expansion of the World Wide Web has brought with it a host of Internet "places," offering structured interactions in fixed locations that compete with physical places as the locus of social activity, especially commerce. Internet bookstores, furniture stores, computer stores, clothing stores, and even grocery stores allow the examination, selection, and purchase of goods, as well as conversations with sales representatives or guest authors, without a physical trip to the store. In addition, libraries, digital publications, and audio, video, and software stores may deliver their goods over the Internet. The commonplace description of the Internet in terms of space and place reflects these characteristics, as the Supreme Court recently recognized when it compared the Internet to a sprawling mall offering goods and services.

In all these examples, computer software does more than simply transmit and translate information; it structures sociotechnical interaction in distinct and complex ways, whether among users or between individual users and the server and its operators. Software may place limits on the number of individuals who can coexist in a room at one time.
time; it may require specific forms of identification for the crossing of borders; it may control the first and last things you see or hear online. Users can create and exchange objects and initiate sociotechnical processes, such as those required to record, pay for, and arrange delivery of an object. Large sites often are subdivided into separate departments, offer "shopping carts" that allow users to accumulate items, and provide a check out procedure to place an order, confirm payment, or initiate delivery directly to the user's computer. Moreover, there is a degree of stability over time -- one can return to the same website or MUD and learn one's way around. Thus, the Internet can generate places\textsuperscript{137} -- relatively stable configurations of environmental conditions (including the distinctive social practices that animate and shape them) that facilitate interaction over time.\textsuperscript{138} Such stable electronic environments link various actors (human and non-human) to the same causal processes, possibilities, and constraints, providing the experience of being in the same place.

2. From Place to Space

If we recognize that cyberspace is constituted by places in which a variety of interactions may occur, one must think about the spatial relationship among these places; geography, after all, implies both discrete places and an ability to map their organization. Justice O'Connor's opinion in \textit{Reno v. ACLU} makes a similar point, observing that "[c]yberspace undeniably reflects some form of geography; chat rooms and Web sites, for example, exist at fixed 'locations' on the Internet."\textsuperscript{139} Although it may seem intuitive to move quickly from a recognition of the multitude and diversity of distinct places to talk of cyberspace as an internally differentiated "city,"\textsuperscript{140} the distinctive nature

\textsuperscript{137} For theoretical elaborations of "place," see Harvey, supra note 14, at 261 ("[P]lace is a site of relations of one entity to another. . . . Entities achieve relative stability in their bounding and their internal ordering of processes creating space, for a time. Such permanences come to occupy a piece of a space in an exclusive way (for a time) and thereby define a place -- their place -- (for a time)."; DeCerteau, supra note 14, at 117 ("A place is thus an instantaneous configuration of positions. It implies an indication of stability.").

\textsuperscript{138} See Harvey, supra note 14, at 212 ("Representations of space and time arise out of the world of social practices but then become a form of regulation of those practices . . . .").

\textsuperscript{139} 117 S. Ct. at 2353 (O'Connor, J., concurring in the judgment in part and dissenting in part). In this sense, the characteristics of a place are partly influenced by how it is embedded in spatial relationships that influence its differential accessibility.

\textsuperscript{140} See Mitchell, supra note 127; David J. Goldstone, \textit{The Public Forum Doctrine}
of cities consists not only of the collection of individual places but also of their juxtaposition and of the patterned ordering of motion among them.\textsuperscript{141} Space, like place, is produced through social practices that both regulate social activity within that environment and shape material environmental conditions, which themselves come to exert a regulatory force on human action.\textsuperscript{142}

A few commentators have begun to express concern that these social practices of Internet use may result in a dangerous lack of interaction among the inhabitants of various cyber-places, leading to self-indulgent "balkanization"\textsuperscript{143} and self-serving refusal to acknowledge opposing viewpoints.\textsuperscript{144} My concern here is with how the production of spatial relationships in cyberspace corresponds to that in the physical landscape, and how we can learn from our physical surroundings in order to shape both the electronic environment and our habitation of it to reflect a commitment to an open, democratic society and to preserve the integrity of zones of relative autonomy.

\textbf{C. Mapping Physical and Electronic Space}

Relationships among ordinary, physical places are primarily structured by relationships of distance and direction. Places occupy fixed locations in space, and although the significance of fixed relative location is substantially influenced by technological interventions and

\textit{in the Age of the Information Superhighway}, 46 HASTINGS L.J. 335, 337 (1995) ("[T]he NII [National Information Infrastructure] should be conceptualized on a broader scale as an entity, like a city, that includes an abundance of both public forums and nonpublic forums.").

\textsuperscript{141} See Sorkin, supra note 2; DE CERTEAU, supra note 14, at 97 ("Their [footsteps'] intertwined paths give their shape to spaces. They weave places together... They are not localized; it is rather they that spatialize.").

\textsuperscript{142} The pronounced racial segregation of public space in many U.S. cities, for instance, is produced both through the material shaping of the built environment (for example, building major highways along neighborhood borders, see Frug, supra note 61, at 1069) and social regulation (for example, through racist patterns of police and citizen suspicion, see Brent Staples, \textit{Black Men and Public Space}, HARPERS, Dec. 1986, at 19, and the drawing of municipal boundaries, see Richard Thompson Ford, \textit{The Boundaries of Race: Political Geography in Legal Analysis}, 107 HARV. L. REV. 1841 (1994)).

\textsuperscript{143} See Sunstein, supra note 64, at 1787.

social practices, \(^{145}\) geography matters nonetheless. \(^{146}\) All other things being equal, places that are geographically close are causally intertwined more tightly than those far apart, though the extent to which this is true varies substantially with the nature of the causal mechanisms. \(^{147}\)

In the material environment, spatial relationships are not symmetrical in all directions. A store should generally be far more concerned by garbage in front of its entrance than by the same garbage an equal distance above, below, or behind it. Perhaps more important, when moving a given distance between places, one always travels through other places. \(^{148}\) Our efforts to move through space efficiently create bottlenecks, such as streets, sidewalks, and airport terminals, where people gather simply because they are on their way someplace else, and locations such as malls and business districts, where people congregate to take advantage of shared needs and low transportation costs. All of these bottlenecks are potential sites of blockade. Anything that enters a given place must pass through some other place adjacent to it. Any shopper who enters the store must pass by the picketer standing out front.

Cyberspace is different. Although within its bounds a discrete cyber-place may be substantially similar to analogous "real world" places, the relationships among cyber-places are vastly different. Three features are particularly salient: distance, adjacency, and fixity.

1. Distance

The most widely heralded spatial characteristic of cyberspace is its erasure of distance. \(^{149}\) Cyberspace, like many communication and

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145. New York and Los Angeles may, in many senses, be closer to one another than to many points intermediate on the map.
146. A store in downtown Manhattan would generally be wise to spend its money advertising in New York City rather than Buenos Aires, even if the people of Buenos Aires might be equally interested in its wares.
147. For the purposes of the shared effects of a chemical spill, the Upper East Side and East Harlem will be tied to each other much more closely than either is to the Lower East Side, while changes in New York City policy toward abandoned buildings would yield a different ordering.
148. Driving from New York to Delaware is not simply a question of traversing a given distance, but of going through New Jersey.
149. See M. Ethan Katsh, Rights, Camera, Action: Cyberspatial Settings and the First Amendment, 104 YALE L.J. 1681, 1686-87 (1995) ("Although they are widely perceived to have their primary impact on time, by accelerating how long it takes to perform informational tasks, the most significant influence of the new media will be on the dimension of space, by making what was distant and unreachable appear close and
transportation technologies before it, in significant ways eliminates and therefore equalizes distance. The distance between any two websites, for instance, is just the entry of a new Uniform Resource Locator ("URL," for example, <http://jolt.law.harvard.edu/>), as is the distance between home and the airline ticket counter, library, or fashion boutique. This conclusion, however, is somewhat misleading because it assumes that one already knows where one is going. Nonetheless, cyber-distance is at least highly contingent and compressible. Although your first journey might require a long and winding road, a simple "bookmark" makes your second visit just a step across the street.

2. Adjacency

Except that there is no street to cross. The lack of direction and continuity in cyberspace means that there are no fixed places that lie between any other two, nor is the environment of one place affected much by any other. There are no neighbors in cyberspace and, therefore, no blockades, no loud noise bothering you from the disco next door, and no neighbor's tree dropping fruit on your side of the fence.

Of course, there are important and interesting relationships of adjacency on the Web via hypertext links between sites. These relationships, however, are neither symmetrical nor exclusive, unlike in the material environment. That site A has a link to site B creates a limited spatial relationship between them, in the sense that visitors to A are more likely to travel to B than they would be in the absence of the link. In contrast to movement between neighboring plots of land, the ease of moving from A to B says nothing about the ease of moving from B to A. Moreover, since one can always go directly to B from any other point on the Web simply by entering its URL directly or by using

useable.

151. Since time and distance are so closely related, the annihilation of distance is accompanied by an annihilation of time. One can even be in multiple cyber-places simultaneously, though this is in part a function of the still relatively limited demands of cyber-presence on one's total capacity for attention and reaction.
152. An unknown site might as well be on the other side of the planet, and the path to its location might itself require a certain amount of Internet "travel," the cyberspace equivalent to a trip around the block to get next door.
153. For example, Chin, supra note 144, at 315, worries that this asymmetry creates a sort of moral hazard for the even-handed speaker who links to her antagonists but whose existence is not likewise signaled by the other side.
a bookmark, there is no site through which one must pass in order to reach B.\textsuperscript{154}

3. Fixity

As is apparent from the preceding discussion, cyberspace is not simply a disordered set of places. There are important spatial relationships among sites, but they are of a different character than those among places in our material environment. Of particular import is the relative contingency of cyberspatial orderings. Relative to the physical environment, the spatial relationship between two places in cyberspace can easily shift based on how one arrives at a given place, or through the passage of time.

First, they are contingent upon one's course and means of travel. Not only is the relationship of adjacency asymmetrical, and thus contingent upon which of two sites one visits first, but the distance between two sites may be modified by a path through a third. Thus, site C may link to site A, while site D links to A and B. If one comes to A via C, the spatial relationship of A to B is different than if one comes to A via D, having passed an alternate path toward B. This sort of relationship is readily apparent in search engines -- the closest thing cyberspace has to a highway system and whose function is to facilitate travel to other places. A search for "Corps" might place AmeriCorps and the Marine Corps in close proximity, while one could easily compose searches which would yield one but not the other.

Secondly, spatial relationships are highly subject to change over time. Whereas building a new road or airport, tearing down or building walls, or relocating the site of a store are time-consuming and costly affairs, adding or deleting links, changing keywords for search engines, bookmarking (or memorizing) an address, and moving a website to a new Internet Protocol ("IP") address are much less capital- and labor-intensive undertakings. When purchasing a parcel of land, "location is everything:" a substantial fraction of its price will reflect not the material characteristics of the place itself but its spatial relationships to other sites. Cyberspace, by contrast, disaggregates internal features of the place from its spatial characteristics.

While this feature renders the spatial ordering of cyberspace less reliable, it also leaves it more open to purposeful intervention. Although the spatial ordering of our physical landscape is a social construction in

\textsuperscript{154} Indeed, it is entirely plausible never to visit \textit{any} but a single site.
the sense that its particular form can be explained in terms of social processes of decision-making, the spatial ordering of cyberspace has far less permanence. Once built, a website's persistence over time far more reflects a continuing social choice than the permanence of a bridge at a given site, despite subsequent regrets. Having built an information superhighway without sidewalks, we can still add them on without displacing either the roadway or the places abutting it.

IV. PROPOSALS FOR ACCESS TO ELECTRONIC SPEECH

Although scholars and policy-makers have begun to express concern about the problem of access to cyberspace, these concerns have largely been premised on a limited vision of the nature of social interaction in cyberspace and are far from vigorous in demanding the degree of public access required to vindicate free speech values. While some of these critics have adopted spatial metaphors to a limited degree and explicitly relied upon the public forum doctrine to justify their proposals, they generally frame the problem of access as one of discriminatory exclusion from communications technology, or at most a room full of speakers, without attention to the non-speech aspects of


157. See DiLello, supra note 156, at 227; Goldstone, supra note 156, at 337.

158. See DiLello, supra note 156, at 221-26; Goldstone, supra note 156; Hammond, *Regulating Broadband*, supra note 156, at 219-23; Naughton, supra note 156. Goldstone has recently moved away from framing the problem of access in terms of the public forum doctrine because of the difficulties in applying it to privately owned sites. See David J. Goldstone, *A Funny Thing Happened on the Way to the Cyber Forum: Public vs. Private in Cyberspace Speech*, 69 U. Colo. L. Rev. 1 (1998) (turning to resources of antitrust and common-carriage law in response to analysis of market failures).
cyberspace or to the spatial relationships among its constituent parts. There is no room in these models for leafleting passers-by as they travel the Information Superhighway nor for picketing in front of cyber-stores.

A. Access to the Means of Transmission

One form of analysis sets out a problem of access to powerful technologies of transmission, generally drawing on analogies to the telephone or cable television. Two distinct sorts of barriers may exist: those based on economic resources and those based on content discrimination.

The predominant concern is that owners of capital intensive communications networks may unfairly and self-servingly engage in content discrimination. In order to address this problem, commentators have suggested various regulatory schemes that would prevent such discrimination by at least some service providers, either by mandating content-neutrality for certain networks, waiving liability for transmitted speech in exchange for content-neutrality, or requiring the devotion of some portion of bandwidth to uncensored speech. Of course, some have argued that adequate non-censorious service providers will arise from market forces themselves.

Beyond content-neutrality lies the problem of economic exclusion. There is some concern about the inability of individuals to enter cyberspace because of the costs of basic computer equipment, as well as the need for computing skills. However, it is widely argued that in

159. Andrew Chin's article, supra note 144, is a partial exception, exploring the problem of links between websites, though still understanding the Web as strictly a collection of texts. In a provocative article in The Nation, Andrew Shapiro has sketched a vision of a cyberspace rich in public forums, though his ultimate suggestions are limited to conversational forums that do not take into account the particular spatial features of cyberspace. Andrew L. Shapiro, Street Corners in Cyberspace, THE NATION, July 3, 1995, at 10.

160. See, e.g., Goldstone, supra note 156, at 345; Hammond, Private Networks, supra note 156, at 1089-90; Hammond, Regulating Broadband, supra note 156, at 206.

161. See Hammond, Regulating Broadband, supra note 156 (arguing that common-carrier status should be imposed on networks with access monopolies).

162. See Hammond, Private Networks, supra note 156.

163. See Horwood, supra note 156.

164. See, e.g., Krattenmaker & Powe, supra note 49, at 1739. Even if would-be speakers can find content-neutral networks willing to carry their speech, there remains the question of their access to users of networks with contrary practices.

165. See Horwood, supra note 156.

166. See id.
the age of the Information Superhighway speech will be so cheap\textsuperscript{167} that adoption of efficient technologies and ordinary government regulation of rent-seeking monopolies,\textsuperscript{168} or at most selective government subsidy of a minimum level of service,\textsuperscript{169} will adequately address any access problem.

The combination of non-censorious common carriers with low-rate universal service would certainly be no trivial achievement. It would allow intentional communication among individuals and within groups at low cost. With the use of various forms of conferencing technology, such an arrangement might provide a meaningful right to assembly to groups that would otherwise find it difficult to travel to a single place and obtain the facilities for assembly and internal dialogue. In such a world, free speech would be as well-protected as if everyone had an equal opportunity to rent conference space at a secluded hotel for a small fee as well as to initiate affordable, non-discriminatory phone and mail transmissions but without any guarantee of delivery.

What this approach ignores is the problem of audience access. No provision is made to ensure that speakers have a meaningful opportunity to reach an audience. Even audience members who are actively seeking a speaker's general type of speech will need to rely on a variety of filtering and cataloging mechanisms in order to identify and locate the speaker.\textsuperscript{170} Certainly, no mechanism is available to reach specific audiences, to tie one's cyber-speech to a significant place in order to inform or interrogate citizens about their use of it. Nor is there any opportunity to reach general audiences in the way that users of public forums may, by reaching out to them and initiating communication as they go about their other daily affairs. Of course, one does retain the option of publicizing one's own speech by exploiting the popularity of particular places through the purchase of advertising on websites or Internet service providers ("ISPs") that use pop-up advertising, but this option only reintroduces the problems of both content-neutrality and economic exclusion with redoubled force.

\textsuperscript{169} See Horwood, supra note 156, at 1445.
\textsuperscript{170} See Volokh, supra note 167.
B. Access to Messaging Forums

Focusing on whether concerns over censorship by and public access to network service providers should prompt some variant on common-carriage,171 most writers have tended to analyze the Internet and successor technologies under the telecommunications convergence model. A few, however, have focused on content-providers and moved tentatively toward analyzing electronic places.172 These articles have fastened on the appearance of group messaging forums, often known as bulletin boards, in which messages posted by individuals accumulate in a specified electronic place and are available to a mass audience, the members of which may then respond and add to the dialogue.

Like the convergence theorists, the primary worry of writers attempting to extend the public forum doctrine to cyberspace has been content-based exclusion from communications systems otherwise open to the public. Two articles are specifically inspired by instances of censorship by Prodigy, an early online service.173 A more recent article by David Goldstone is organized around three hypothetical messaging conferences created by a private individual's group of politically minded friends, a mayor for the use of his inner circle, and the President for public discussion of health care policy.174 While Naughton's and DiLello's pieces take as their unit large combined service and content providers like Prodigy and ask whether cyberspace as a whole, or at least discrete networks,175 should be considered public forums, Goldstone

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171. See Cate, supra note 106; Hammond, Regulating Broadband, supra note 156; Horwood, supra note 156; Krattenmaker & Powe, supra note 49; Myerson, supra note 168.
172. See DiLello, supra note 156; Goldstone, supra note 156; Naughton, supra note 156.
173. See DiLello, supra note 156; Naughton, supra note 156. For a discussion of Prodigy's elimination of a controversial bulletin board, suppression of messages critical of its rate structure, cancellation of users who protested, and censorship of anti-semitic messages, see DiLello, supra note 156, at 207-08.
174. See Goldstone, supra note 156.
175. Compare to Hammond's writing which also takes entire networks as the unit for which a public/private choice should be forced. Hammond, Regulating Broadband, supra note 156; Hammond, Private Networks, supra note 156. Writers concerned not with problems of access but with limiting government suppression of speech have also discussed whether the Internet as a whole should be considered a public forum. See Christopher M. Kelly, Note, "The Spectre of a Wired Nation": Denver Area Educational Telecommunications Consortium v. FCC and First Amendment Analysis in Cyberspace, 10 Harv. J.L. & Tech. 559, 626-28 (1997); Robert Kline, Freedom of Speech on the Electronic Village Green: Applying the First Amendment Lessons of Cable Television to the Internet, 6 Cornell J.L. & Pub. Pol'y 23, 56-60 (1996).
argues for distinguishing different "forums" based on certain criteria, including their relationship to the government, commercial use, and openness to public message receipt and initiation. Although Goldstone introduces a degree of internal differentiation to cyberspace, which he analogizes to a city consisting of both public and non-public forums, and characterizes individual conferences as "locations" constituted by particular, stable configurations of technology and governing rules, he shares with the other authors an image of cyberspace as constituted solely by the exchange of information.

Unlike either the "real" cities of our everyday experience or the "city of bits" developing around cyber-places that facilitate a variety of interactions, only one of which is communication, this cyberspace of messaging forums serves strictly as a slightly structured conduit for information passing between individuals without accounting for the technologies of translation, whether mediated by computerized or cultural software, that create more varied effects. Goldstone's use of the city metaphor also fails to go far enough because it includes no account of the relationship between these different forums. Even if one analogizes the mayor's electronic conference of cronies to a private

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176. See Goldstone, supra note 156, at 383-89.
177. See id. at 337.
178. See id. at 347-48 & n.50.
179. See Goldstone, supra note 156, at 346 (activity constituted by "acts of communication" in units of "messages"); DiLello, supra note 156, at 203 ("In the twenty-first century, technology will afford the American public a profusion of new means to send and receive ideas and information."). Fred Cate's dismissal of common carriage is especially ironic. Cate, supra note 106, at 1039 ("A law designed for regulating the nation's railroads had been given a new name and applied to the nation's largest communications industry."). If anything, as "communications" technologies expand in bandwidth and are integrated with increasingly sophisticated technologies of translation, they more and more resemble the means of transportation between places that spawned common carriage regulation.
180. MITCHELL, supra note 127.
181. See supra Part III.B.
182. This vision of cyberspace as a place reserved exclusively for communication, persists in later analyses of the Internet that emphasize the World Wide Web. In order to criticize the restrictions on "indecent" speech later struck down in Reno v. ACLU, 117 S. Ct. 2329 (1997), Robert Kline has proposed applying public forum analysis to the entire Internet because "[t]he Internet has become the new 'village green' for voicing ideas and persuading one's listeners." Kline, supra note 175, at 58. See also discussion infra Part IV.D of Andrew Chin's account of the World Wide Web.
meeting\textsuperscript{183} to which one would not expect the public to be admitted, one would expect the public forum doctrine to preserve the right to demonstrate outside on the sidewalk so that the mayor and her cronies would at least be exposed to the public's speech as they enter and leave the non-public conference.\textsuperscript{184}

For the same reason that exclusion from a place may be countered with an adjacent public forum, the mere creation of places in which the public may speak should not satisfy advocates of public forums. Without the proper spatial relations, such forums will be relatively useless because they fail to provide access to any audiences, let alone the relevant ones. In an environment where spatial relationships are as fluid and contingent as those in cyberspace, private ownership of places is less problematic than market ordering of space, and the existence of publicly owned places is neither necessary nor sufficient for the creation of public space.\textsuperscript{185} For the same reasons, public forum advocates should not rely exclusively on the difficult task of applying public forum doctrine to privately owned cyber-places; not only would success in this project yield a cyberspace still impoverished of adequate opportunities for access to patrons of non-communication-oriented places, but the enterprise also mistakenly assumes that the absence of effective public forums is due to the mislabeling of places as "private" rather than "public." The crux of the problem, however, lies instead in the spatial relationships between places.\textsuperscript{186} An approach addressing solely the classification of existing places relegates the law, as well as the normative aspirations it reflects, to a purely reactive role that responds to technological forms as they exist, rather than grappling with how the law ought to participate in shaping technological development.\textsuperscript{187}

\textsuperscript{183} Goldstone makes a comparison instead to the paper mail system in \textit{Perry Education Ass'n. v. Perry Local Educators' Ass'n.}, 460 U.S. 37 (1983), suggesting the tentativeness with which he pursues the spatial as opposed to the telecommunications metaphor.

\textsuperscript{184} Cf. Shapiro, supra note 159.

\textsuperscript{185} \textit{But see id.} (citing private ownership of the Internet as the primary barrier to public forums).

\textsuperscript{186} See generally DiLello, supra note 156; Goldstone, supra note 158; Goldstone, supra note 156; Naughton, supra note 156.

\textsuperscript{187} Note that the choice is not between legal passivity and activism but between forms of legal activism. The development of cyberspace has always been intertwined with government action and legal rules, whether through the military's development of the Internet protocols, see ACLU v. Reno, 929 F. Supp. 824, 831-32 (E.D. Pa. 1996), aff'd, 117 S. Ct. 2329 (1997), federal development and then sale of the Internet transmission backbone and domain name registration system, see Robert Lee Hotz, \textit{Breaking the Speed Barrier: With the Regular Internet Congested, Research Scientists Are Busy Building Special Routes for Their Own Private Data Flow}, L.A. TIMES, Aug. 25, 1997, at D1;
A recent federal case has, for the first time in court, raised the
question of the public forum status of online networks. In Cyber
Promotions, Inc. v. American Online, Inc., an e-mail advertising firm
attempted to defend its practice of sending millions of e-mail messages
to subscribers of America Online ("AOL"), the leading online service
and Internet service provider in the United States. Initially, AOL simply
refused to process messages originating with Cyber Promotions
("Cyber") and even returned them to Cyber's server as a "mail-bomb." Later, AOL would deliver the mail to its subscribers only if they
requested solicitations by checking a box in a user maintenance
calendar. Cyber sued AOL, claiming that its freedom of speech under
the federal, Pennsylvania, and Virginia constitutions had been violated,
and that AOL had violated antitrust law. Although Cyber's aggressive
tactics, refusal to bargain for available advertising space, and reliance on
individual electronic mail accounts operated by AOL, as well as the fact
that this case involved commercial speech, make it an especially weak
case for extending the public forum doctrine to cyberspace, Cyber's
arguments and Judge Weiner's opinions raise several important issues.

Kate Gerwig, .Com into the DNS Fray -- Congress, White House Weigh Competing
Interests Over Domain Name Registry's Future, INTERNETWEEK, Oct. 13, 1997, at 43,
or the emerging rules of intellectual property, see Planned Parenthood Federation of
infringement through use of domain name), liability for defamatory or obscene speech,
see 47 U.S.C. § 230(c) (1997); Zeran v. America Online, 129 F.3d 327 (4th Cir. 1997),
cert. denied, 118 S. Ct. 2341 (1998); Linton Weeks, The Tangled Web of Libel Law: Suit
jurisdiction, see Bensusan Restaurant Corp. v. King, 126 F.3d 25 (2nd Cir. 1997); IDS
Life Ins. Co. v. SunAmerica, Inc., 958 F. Supp. 1258 (N.D. Ill. 1997), aff'd in part and
vacated in part, 136 F.3d 537 (7th Cir. 1998); Maritz, Inc. v. Cybergold, Inc., 947 F.
Supp. 1328 (E.D. Mo. 1996); see generally Johnson & Post, supra note 130. The question
is not whether the law will shape cyberspace, but how. For criticism of the idea that
technologies have an innate developmental trajectory and analysis of how technological
change is always constituted by and contingent on "social" forces including the law, see
generally SHAPING TECHNOLOGY/BUILDING SOCIETY, supra note 103; Hilgartner &
Brandt-Rauf, supra note 109; SHEILA JASANOFF, SCIENCE AT THE BAR: LAW, SCIENCE,

(mem.).
189. See 948 F. Supp. at 437.
190. See 948 F. Supp. at 450.
The crux of Cyber's argument was that "once AOL decided to provide its subscribers with Internet e-mail boxes so that they could send and receive e-mail over the Internet, AOL's Internet access-way became a public system subject to the First Amendment because the Internet itself is a public system." Cyber required e-mail access to AOL's subscribers because, somewhat tautologically, it was the only way to reach AOL subscribers by e-mail, and therefore AOL exercised inappropriate bottleneck control over access. Remarkably, Cyber does not appear from either the joint stipulation of facts or the arguments discussed by the court to have emphasized any of AOL's wide range of services other than e-mail and Internet access. Even though Cyber, in order to support extension of First Amendment protections to actions by the privately-owned AOL, relied heavily on cases in which members of the public sought to speak in publicly accessible but privately owned business districts, its claim to access was based solely on AOL's function as a communications medium. Indeed, Cyber argued that this actually strengthened its case. Like the arguments for common-carriage discussed above, Cyber's invocation of public forums reduced to a claim of access to a means of communication, independent of its placement in spatial context.

Having reduced both AOL and the Internet to a particular mode of communication, Cyber had great difficulty explaining why it required e-mail access to AOL subscribers in particular. In its first ruling, the Court

192. 948 F. Supp. at 450.
193. See id. at 442-43, 453.
194. Cf. DiLello, supra note 156, at 227 (grounding public forum status of Prodigy in its function as a shopping mall).
196. See id. at 452 ("[U]nlike the situation in Lloyd where the handbilling was unrelated to the principal business of the shopping center, in this case, Cyber is doing nothing more than that which AOL has specifically invited the public to do -- send information to its subscribers." (quoting Mem. of Law in Support of Motion for Reconsideration at 9, Cyber Promotions, 948 F. Supp. 436 (No. 96-2486, 96-5213)).
197. Judge Weiner's analysis conformed to Cyber's, adopting, for instance, the finding from ACLU v. Reno, 929 F. Supp. 824, 831 (E.D. Pa. 1996), aff'd, 117 S. Ct. 2329 (1997), that the Internet is ""a decentralized, global medium of communications -- or 'cyberspace' -- that links people, institutions, corporations, and governments around the world. This communications medium allows any of the literally tens of millions of people with access to the Internet to exchange information." 948 F. Supp. at 439 (quoting 929 F. Supp. at 831). Judge Weiner then used this understanding of the nature of the Internet to deny any equivalency between AOL's business and recognizable public functions, offering the surprising assertion that "[t]he State has absolutely no interest in, and does not regulate, this exchange of information between people, institutions, corporations and governments around the world." Id. at 442.
argued that Cyber had ample alternate means of communication available to it, including non-Internet based media, Internet media other than e-mail, and e-mail to members of competing online services. In a later filing, Cyber responded to the Court's first ruling by arguing that e-mail, as opposed to other Internet media, was unique because it did not require affirmative steps by the recipient to obtain the information and that e-mail to AOL subscribers was required because AOL controlled such a large portion of the online market. In other words, mass e-mail provided an effective form of general access to the population of Internet users.

One of the Court's most significant responses to this problem was to suggest that Cyber could either send e-mail to subscribers of other services or indeed start a competing online service itself. This approach complements AOL's own tactic of instituting a "PreferredMail" tool that filtered out a set of e-mail senders unless subscribers checked a box indicating "I want junk e-mail!" If consumers of online services wanted to receive Cyber's mail, they could tailor their market choices to do so. Thus, Cyber was put to the test of explaining either why e-mail users should not be able to refuse to bear the costs of receiving unwanted e-mail or why AOL exerted unfair monopoly control over the online market despite the existence of several significant competitors like Microsoft Network, CompuServe, and others.

Because Cyber itself did not tie its need for access to the non-e-mail functions of AOL or the Internet, these challenges had enhanced force. Unlike the public forum cases, including those that allow extensions of the doctrine to privately owned but publicly accessible places, Cyber could not link its requests to a normative vision of a lively, democratic public culture in which communicative encounters with fellow citizens are integrated into other public activities. Although even in cases involving malls and company towns one might respond that adequate

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198. See 948 F. Supp. at 443-44.
199. See id. at 452-53.
200. At the time AOL subscribers constituted one-seventh to one-sixth of the total population of e-mail users and one-half those with Internet access. See id. at 455.
201. See id. at 453.
203. Depending on the pricing arrangements, these costs might be borne directly in the form of payment for the online time spent downloading the unwanted mail. This very situation was the source of CompuServe's later, successful suit against Cyber Promotions for trespass. See CompuServe, Inc. v. Cyber Promotions, Inc., 962 F. Supp. 1015 (S.D. Ohio 1997). Regardless of whether Cyber's mailings resulted in higher charges for online time, higher flat rates due to the cumulative burden on AOL's network, or just frustration with time and energy wasted on unwanted mail, some costs would be borne by the users.
alternative places or media for communication exist, it hardly seems plausible to recommend to someone picketing a store or handbilling against a war that she simply start her own shopping mall. One's e-mail in-box alone seems like a poor candidate for the sort of public place in which we might attach important value to preserving opportunities for unwanted or unexpected speech and rather closer to the well-established privilege of households to turn away in-person or postal solicitations.

Moreover, since Cyber's speech was strictly the conveyance of third-party advertising, concerns about balkanization and open political debate are not particularly relevant. In fact, AOL did incorporate into its operations a form of non-e-mail "pop-up" advertising over which its users did not have direct control, but Cyber never tried to negotiate for such advertising space, undermining any claim of either economic or content-based exclusion. Instead, Cyber insisted on flooding AOL with nearly 2 million e-mail messages a day.

Judge Weiner reasoned that AOL's inability to process an unlimited amount of e-mail precluded treating it as a service which openly and without restriction invited the e-mailing public to use its facilities to communicate with AOL subscribers: "AOL has never presented its e-mail servers to the public at large for dissemination of messages in general as AOL's servers have a finite capacity." Finite capacity, however, cannot be the relevant test of publicity, since congested streets and sidewalks are no less public forums for their limited capacity to accommodate all potential speakers. While managers of public forums may be forced to tilt the allocation of a forum's finite capacity further toward speech itself than they might otherwise prefer, and to allocate that capacity among speakers on a content-neutral basis, preserving the

204. See Martin v. City of Struthers, 319 U.S. 141, 148 (1943) (requirement that city allow door-to-door solicitation "leaves the decision as to whether distributors of literature may lawfully call at a home where it belongs -- with the homeowner himself"); Rowan v. United States Post Office Dep't, 397 U.S. 728 (1970) (upholding postal regulation allowing households to request that the Post Office refuse to deliver mail from designated senders). Both cases, however, rely on decisions made by the individual recipient, rather than prospective restrictions by the owner of the means of access.

205. See Goldstone, supra note 158, at 54-63.


207. See id. at 462. Although the opinions never make clear AOL's total daily e-mail traffic, the volume generated by Cyber seems likely to have generated a substantial percentage increase given AOL's subscriber base of seven million. See id. at 463. The burden of similar tactics on CompuServe's ability to maintain reliable service formed the basis of its successful claim for trespass against Cyber Promotions a few months later. See CompuServe, 962 F. Supp. at 1022-23.

208. 948 F. Supp. at 446.
primary uses of the property will obviously justify some degree of time, place, and manner restrictions.

D. Weaving a Deliberative Web

Andrew Chin has recently produced the first sustained discussion of the World Wide Web in light of the democratic aspirations of the First Amendment. In order to "make the Web safe for democracy," Chin argues that we must look not only at a speaker's ability to host a Web page but to two crucial indices of audience access: page hits and links from other pages. He worries about a potentially "structural" moral hazard in which fair-minded speakers committed to a deliberative democracy magnanimously provide links to their opponents while the less "democratic" speakers refuse to acknowledge the existence of others. While Chin's analysis rests on some questionable empirical and normative assumptions, it nevertheless breaks important ground by raising the issue of the relationships among websites and the importance of audience access.

Although Chin conceives of links between Web pages as indicators of the originating page's commitment to joint deliberation rather than in

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209. See Chin, supra note 144.
210. Id. at 310, 322.
211. Among the problems with Chin's model are (1) not all hits and links have the same relationship to the potential effectiveness of the hit or linked page (for example, links and hits by those eager to expose a page's evil ideas or promote their spread); (2) links may differ in the likelihood of anyone following them (varying with the number of hits to the page originating the link, its placement within that page, and its attractiveness to potential visitors); (3) the Web itself is not the exclusive source of information about the existence of particular sites; and (4) not all Web pages may be operating in the same speech market (for example, between two candidates for elected office in North Carolina, the one with a page visited by 75% of North Carolinians on the Web may be more effective than the one visited by 10% of all Web users without regard to residence, even though the latter would surely receive far more hits). These problems are compounded when one accepts Chin's "Madisonian" commitment to democratic deliberation, since presumably not all sites would actually offer equally valuable contributions to such a debate. See generally Sunstein, supra note 64, at 1762-63 (maintaining that the Madisonian model includes content-specific preferences for educational and deliberative speech).
212. The Madisonian model on which Chin relies seems to go beyond a commitment to equalizing opportunities for effective speech toward directly equalizing the actual effectiveness of speech. More importantly, this commitment to equality sits uneasily with the position, also part of this theory, that certain kinds of subject matter and certain kinds of presentation are "more equal than others" (for example, politics over pornography and gentlemanly recognition of one's opponents over polemical refusals of generosity).
spatial terms, he nonetheless points to the importance of the processes by which potential "listeners" arrive at Web pages rather than merely how those pages arrive on the Web. Chin's primary goal is to avoid a concentration of Web traffic on a relatively small number of sites by enhancing opportunities for less popular sites to receive links from other parts of the Web. To reach this end he proposes publicly funded search engines and directories, publicly funded "link exchanges," by which participating site A links to participating site B in exchange for a link from site C, and, most provocatively, a "must-carry" rule forcing high-traffic sites to carry links to randomly selected sites participating in the link-exchange. Chin's proposals, then, would constitute a significant intervention in the topology of the Web, lowering the costs of locating any particular site by providing centralized means of identifying sites of interest, encouraging interconnection by taking on the transaction costs of exchanging links, and forcing high-traffic locations to carry free advertising for sites that would otherwise have to pay for that privilege.

The "must-carry" proposal, in particular, represents an initial attempt to create a form of general access to users of the World Wide Web by exploiting the popularity of certain destinations to expose smaller voices. Even setting aside the pragmatic and normative difficulties with forcing one website to incorporate links into its pages, Chin's proposal might not actually be as attractive to its intended beneficiaries as he seems to assume. The basic problem is that the value of a link to the

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213. Chin characterizes the tendency toward concentration of hits on disproportionately few sites as being the result of "structural characteristics," Chin, supra note 144, at 320, that require medium-specific responses, and yet provides no argument that the Web displays unusual degrees of concentration. Indeed, the primary mechanism of inequality he discussed, disparities in willingness to provide links to opposing viewpoints, see id. at 332, relies on a behavioral pattern quite widespread in other media and not obviously enhanced by Web-specific characteristics.

214. See id. at 329. Chin compares such initiatives to public libraries and, less intuitively, to bulk rate postal subsidies. See id. at 330. Public operation of such facilities could offer important benefits by avoiding self-interested viewpoint- and content-discrimination by search engine owners either threatened by the content of some speech or with a financial interest in the success of particular websites (analogous to the problem of vertical integration between service and content providers in the cable industry). Nonetheless, one would expect such facilities would, like libraries, engage in extensive filtering both by subject matter and, quite possibly, by likelihood of user interest. To the extent search engines and directories did this, they would tend to replicate precisely the problems of balkanization and inequality that motivate the proposal.

215. See id. at 330.

216. See id. at 330-31.

217. See discussion infra Part VII.A.2.
target site will vary tremendously with the nature of the originating site. Thus, a site attempting to persuade pregnant teens not to have an abortion might much prefer a link from Planned Parenthood's website than from the site of a senior citizen's organization, even assuming the latter had a greater number of hits. Not only will some originating sites be more likely than others to produce hits for the target site, but they will also vary in the likely value to the target site of each new visitor. Indeed, some sites may actively prefer to avoid certain kinds of visits because unnecessary traffic could tax the speed of servers or result in increased hosting fees from servers that charge on a per-hit basis. In other words, random link assignment is completely insensitive to the continuum between general and specific access, while cyberspace is a technology that maximizes the importance of this distinction because geographic specificity is not built into the costs of accessing any particular site.

Chin's argument for inter-linkage relies on an unrealistic picture of the Web as a place exclusively constituted by speech, especially political speech. Even if there were nothing but political speech on the Web, some degree of "balkanization" would be desirable. Even accepting the burden of speakers to act in a deliberative mode, the end of effective deliberation is hardly furthered by expecting advocates of drug legalization to link to opponents of NATO expansion into Eastern Europe. The problem for Chin is to distinguish between rational filtering and anti-deliberative "balkanization," but his model offers no resources for doing so.

Not only does Chin inadequately account for the tremendous subject matter diversity on the Web, but his account of the obligation of sites to provide links to others also relies on an excessively static account of the Web itself. For Chin, the Web is "a collection of more than 30 million documents stored in different computers throughout the Internet" and each website operator is a "publisher" attempting to "speak." By introducing a conception of the Web as a static aggregation of texts, albeit perhaps graphical and aural in addition to type, Chin leaves no room in his account for the structuring role of server software in producing complex and patterned interactions that go beyond publisher and reader. In Chin's model, there is no Web-based IRC or

218. The problem goes beyond that of a sensible ordering of debate along topical lines. From a Madisonian point of view, not all Web pages would have an equal claim to receive links because of their differential contribution to democratic deliberation.

219. Chin, supra note 144, at 311.

220. Id. at 312.

221. Chin is hardly alone in this approach to the Internet. This approach dominated the Supreme Court's recent discussion in Reno v. ACLU, 117 S. Ct. 2329, 2334-35 (1997)
MUD allowing real-time conversation or modification by one user of another's experience, no purchasing of airline tickets or downloading of software packages, and no customized assembly of documents in response to requests tailored by a single user.

When our understanding of the Web expands to include these dynamic places that receive their "content" only through social practice, insisting on idealized rules of fair deliberation fails to capture the claim that potential speakers might have on the attention of visitors to virtual places. The problem of "balkanization" is not self-referential cyberspeech but infinitely divided cyberspace, cyber-places with impenetrable walls and nowhere in between. Like proposals for access to messaging forums, Chin's approach aims simply to expand the number of speakers who have access to existing conversations. The critical role of public forums, however, lies in providing opportunities to initiate conversations, to bring speech to bear where otherwise there would be silence.

V. TOWARD CYBER-SIDEWALKS

As more and more social activity moves out of the physical environment and into the electronic one, the preservation of the free speech values traditionally protected by the public forum doctrine requires the creation of new sets of technical architecture, legal requirements, and social norms. Traditional public forums like streets and sidewalks are constituted not only by the legal rules governing state action within them, but also by particular patterns of property ownership, built environments that rely on vehicular and pedestrian transportation, and public expectations that in certain places they can and should anticipate being engaged by fellow citizens -- expectations themselves already shaped by social and material engineering.

Because the electronic environment does differ from the physical one, different kinds of legal rules and technological orderings may be required to achieve analogous results. In this Part, I will argue that, at least for the moment, the most pressing and easily met need is to extend to cyberspace the opportunities for specific access to the users of discrete places currently ensured by public forums. Specific access on the World

(characterizing the Internet as enabling "people to communicate with one another and access vast amounts of information" and the Web as consisting "of a vast number of documents stored in different computers all over the world"). But see discussion supra Part II.
Wide Web could be achieved by the simple means of requiring sites, upon request, to insert into the first page that visitors see a command causing the visitor's browser to open a new window at the URL of the speaker seeking access. More ambitious variations on this approach might feature government administration of the process of matching speakers with targeted sites, as well as public forum-specific software innovations that would give the cyber-traveler a degree of control over the nature of public forum speech that she encounters in her forays through cyberspace.

A. The Changing Role of General Access in Cyberspace

One of the basic functions of the public forum doctrine is to provide speakers mass access to the general public. Speakers seeking general access, hoping to sway public opinion or support a particular candidate or referendum on an election ballot, aim simply to reach as many people as possible without regard to which subset of the total potential audience they reach and without regard to the exact setting in which the communication occurs. As a result, a given level of general access can be achieved through a wide combination of means. Assuming equal costs, the ends of general access might be equally well served by handbilling in the parks and streets, advertisements on radio, one's own cable television show, a page of a major newspaper, phone calls to individual residences, or some combination of the above.222

While the Constitution arguably requires "the government to create at least some public forums that provide effective means of communication,"223 there is little reason from the perspective of general access to require that public forums take advantage of one or another means. Since we are far from a day when, in order to reach a substantial portion of the population, one has little choice but to spread one's message via cyberspace, tapping cyberspace's potential to reach large audiences is not pressing. Moreover, the very ease with which cyberspace offers speakers extremely low-cost access to potentially very...
large audiences may mitigate the need for affirmative government action to ensure a minimum level of general access, at least compared to much lower bandwidth media like broadcast and cable. Speakers who cannot afford to buy advertising in radio, television, or major newspapers, nor even print up leaflets and hand them out on street corners, create Web pages accessible by millions.

The sticking points remain audience scarcity and "balkanization." Even though Web pages can in principle be accessed by millions of people at relatively low cost, it may nonetheless be difficult to get them to visit a specific site. They may simply have no way of knowing the site exists or have no interest in seeking it out. Public forums not only allow access in principle to large numbers of people but they permit speakers to seek out their audiences. Indeed, they facilitate a degree of communication among members of the public by mere juxtaposition in the same place; there is important social value simply in seeing that other kinds of people exist and in retaining some degree of familiarity through jostling on a subway, passing by on the sidewalk, or waiting in line together at the post office. These sorts of very casual encounters are the ones most distant from the current structure of cyberspace, in which one never sees any trace of the individuals simultaneously using the same ISP or interacting with the same website, except when the cyber-place is specifically constructed to enable such interactions.

At present, the parts of cyberspace that offer the closest analogues to the streets and sidewalks of our cities, the thoroughfares along which we pass in great concentrations before dispersing to particular destinations, are the Internet service providers. Although one can perhaps imagine turning ISPs into public squares, enforcing some degree of public mixing as we travel the Information Superhighway to our destinations, it is difficult to see how one might achieve this end in the current environment without fairly massive interventions into the provision of Internet service, especially given the tremendous variation in service arrangements.

224. See Shapiro, supra note 159 (suggesting that major online services be required to reserve conversational forums for uncensored speech or that users pass through public gateways when first logging on the Internet).

225. Online services such as AOL, for instance, use customized browsing software that allows the ISP itself to deliver content directly to the user, achieving an effect roughly analogous to driving past a billboard or having a leaflet thrust into one's hand. Many other arrangements, however, simply provide a network connection and IP address, leaving much greater control in the hands of the user and no mechanism for "pushing" content onto the screen without a prior request.
require transmission through some combination of wires across public right-of-ways and electromagnetic spectrum licensed by the FCC. The federal government could quite conceivably exercise this leverage to impose upon travel in cyberspace the same requirements of accessibility to the speech of others that it imposes upon travel along public streets and sidewalks. The federal government has exercised such leverage by imposing public service requirements on broadcasters and "must-carry,"\textsuperscript{226} "leased-access,"\textsuperscript{227} and "PEG"\textsuperscript{228} (public, educational, and governmental) channels on cable operators who rely on use of government owned broadcast spectrum and rights-of-way.\textsuperscript{229} Nonetheless, given the very early development of cyberspace and its still relatively small role in the daily lives of most Americans, embarking on a major project of forum-building may be premature.

\textbf{B. Specific Access to Cyber-Places}

Unlike general access, the specific access ensured by the public forum doctrine cannot be achieved simply by substitution of other media that reach an equally great number of people. The combination of the public forum doctrine and the public ownership\textsuperscript{230} of roads, highways, and sidewalks provides a crucial restraint on the ability of any given


\textsuperscript{227} See Time Warner Entertainment Co. v. FCC, 93 F.3d 957, 967-71 (D.C. Cir. 1996) (upholding "leased-access" provisions requiring cable operators to dedicate a portion of their bandwidth to common-carriage at regulated rates).

\textsuperscript{228} See id. at 971-73 (upholding "PEG" provisions authorizing localities to require reservation of channels for public, educational, and governmental use).

\textsuperscript{229} See Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 389 (1969) ("There is nothing in the First Amendment which prevents the Government from requiring a licensee to share his frequency with others and to conduct himself as a proxy or fiduciary with obligations to present those views and voices which are representative of his community and which would otherwise, by necessity, be barred from the airwaves."); Turner Broadcasting System, Inc. v. FCC (Turner I), 512 U.S. 622, 628 (1994) ("The construction of this physical infrastructure entails the use of public rights-of-way and easements and often results in the disruption of traffic on streets and other public property. As a result, the cable medium may depend for its very existence upon express permission from local governing authorities."); Denver Area Educ. Telecomm. Consortium, Inc. v. FCC, 518 U.S. 727, 793-94 (1996) (Kennedy, J., concurring in part, dissenting in part) ("[I]n return for granting cable operators easements to use public rights-of-way for their cable lines, local governments have bargained for a right to use cable lines for public access channels.").

\textsuperscript{230} Refers to public ownership of rights-of-way, if not of title outright. See supra note 15.
place, and any users of it, to isolate itself from the rest of society. While
the owners and users of abortion clinics, workplaces, stores and
restaurants, and government buildings may exert substantial control over
the activities inside these establishments, including most importantly the
ability to exclude those who would disrupt them, their accessibility to
fellow citizens who may want to offer challenges, explanations, new
information, or demands for justification is ensured by the public status
of adjoining streets and sidewalks. As we increasingly gain the ability
to move our activities and interactions from these physical places to the
electronically constituted places of cyberspace, it is imperative that we
create analogous means of public access to specific audiences. Only by
doing so can we maintain an open society in which citizens can inform,
dispute, and debate each other in the pursuit of individual liberty, the
collaborative institutions of civil society, and the joint decision-making
of democracy.

While the Internet offers significant opportunities for increasing
general access that could be achieved equally well through other means,
there is no substitute for integrating opportunities for specific access into
the topography of cyberspace. Once a significant number of people
begin to conduct some portion of their business exclusively through
visits to cyber-places, or proprietors begin to conduct their affairs
exclusively through the creation of cyber-places instead of built
environments, extension of the distinctive patterning of public and
private places of our physical environs becomes crucial if we are to
avoid allowing entire realms of social activity to slip through the net of
publicity. Certainly this day has already passed, as numerous
organizations and businesses present themselves to the public only
through virtual places on the World Wide Web, as entire communities
take shape that interact almost exclusively through electronically
constructed locations, and as trips down the Information Superhighway
are increasingly capable of substituting for trips down the road to the
bank, bookstore, or library.231

Compared to strategies of general access, mechanisms of specific
access also offer the most important efficiency gains. Guarantees of a
minimal degree of general access operate primarily as a subsidy
maintaining a minimum ability of speakers to compete in the market for
scarce audiences. Specific access, by comparison, enables speakers to
operate much more efficiently by allowing them to target only the
relevant audience and avoid prohibitive transaction costs. Public places

231. See discussion supra Part III.B.
for speech along the pathway into a private place allow speakers to focus their efforts only on the relevant audience. This avoids, for instance, wasting resources broadcasting a message relevant to only a fraction of a general audience or engaging in the perhaps impossible task of identifying relevant audience members and contacting them individually. The very features that make specific access so valuable to speakers make it a poor candidate for market provision because antagonistic access-seekers and proprietors are locked in a bilateral monopoly, unlike general access-seekers whose effectiveness is less place-specific.

Specific access is also closely tailored to the interests of audiences. Such audiences may well be captive to the selective silence of owners of the places they are entering and would face very high transaction costs relative to the value of the speech were they to seek it out in advance. Although some audience members may, on an individual occasion or with respect to a particular place, find their accessibility to public speech distracting or annoying, they nonetheless benefit from an impartially applied system of specific access that preserves the substantive speech rights of both audiences and speakers, even when one or both finds herself outvoted in contests of either consumer or political sovereignty. Such a system allows individuals with grievances to express their frustration and attempt to alleviate it "[t]hrough speech, assembly, and petition -- rather than through riot or revolution." In cyberspace, in particular, instituting a regime of specific access would also begin the important process of shaping public expectations of cyberspace. Drawing on the intuitive importance of allowing some degree of public speech or protest outside of our non-public places, and in particular speech or protest that has some clear relationship to the place in which it occurs, we can begin to experiment with treating cyberspace like the complicated, planned landscape of our cities and towns, perhaps laying the foundations for more ambitious projects in the creation of public space. Whether speech encounters in our forays into cyberspace are anticipated aspects of a dynamic public sphere, or shocking invasions of our private space, depends in part on the

232. Cf. Lechmere, Inc. v. NLRB, 502 U.S. 527 (1992) (reliance of union organizers on access to a grassy strip on the public right-of-way between the road and the private parking lot to communicate with employees and to identify them by writing down license plate numbers).
233. See discussion supra Part III.B.2.
234. See id.
235. See id.
expectations the law helps create by shaping the limits of public and private regulation.

C. Creating Specific Access

In the material environment, there are basically two different ways to create specific access. One can grant a right of communicative access either directly to the place that defines the audience or to a bottleneck through which the audience must pass. The public forum doctrine adopts the latter approach, taking advantage of public ownership of bottleneck paths of transportation into private property.237 Because the bottleneck is itself government property, this solution avoids the appearance of granting a positive free speech right or of interfering with private property.238 Not only does the public forum doctrine nonetheless burden private interests in the name of speech through taxpayer-financed maintenance of public forums,239 but it also imposes costs directly on the specific property owners adjacent to public forums who may find customers,240 patients,241 employees,242 or neighbors243 turned against them or deterred from entering.244

Allowing public access only to bottlenecks serves important interests in maintaining non-public places for their specific purposes and in avoiding problems of forced speech.245 When Justice Roberts opened the door to the modern public forum doctrine in *Hague v. CIO*,246 he took advantage of the available bottleneck of government land and a tradition, though not previously granted the degree of protection

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237. Cf. Balkin, *supra* note 8, at 402 (public forum doctrine as an alternative to vouchers, tax incentives, or easements promoting access to private property).
238. See *id*.
239. See *id*.
244. Thus, one cannot even distinguish the public forum doctrine from easements against individual property owners by characterizing the former as imposing the costs of redistribution on a wider portion of society than the latter. But see Balkin, *supra* note 8, at 403.
245. See discussion *supra* Part V.A.
246. 307 U.S. 496 (1939).
introduced by *Hague*\(^{247}\) of public speech in those places. Though cyberspace currently has neither bottlenecks well-suited to the task, let alone publicly owned ones, nor much of a place-specific speech tradition, I suggest we retain the vitality of *Hague* by actively creating both.

1. Existing Bottlenecks

Although ultimately unsuited to the task of ensuring specific access, it is worth noting that there are some existing bottlenecks in the organization of cyberspace: search engines and directories, the ISP of the target server, and the Domain Name Service ("DNS") server of the audience member. Even though they may not provide the mechanism for forum-creation, each bottleneck serves as a useful reminder that the Internet already relies upon technologies and social practices more complex than the one-to-one interaction between servers and end-users, some of which may provide valuable models for constructing public forums.

a. Search Engines and Directories

To the extent that users travel to their cyber-destinations by first locating a link on a search engine or directory, one could achieve some degree of adjacency by arranging for an access-seeking speaker's link to appear in the same list as the destination.\(^{248}\) This solution does not appear satisfactory because (1) search engines and directories are not truly a bottleneck;\(^ {249}\) (2) there is no guarantee of inclusion in search

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247. See Yassky, supra note 12, at 1729.

248. As of October 22, 1998, a search of the Yahoo! directory at <http://www.yahoo.com/> for "barnes and noble" yields as one of its results a link to <http://booksellersunion.org/B&N.htm> labeled "Barnes & Noble Employees Need a Union."

249. In addition to search engines and directories, one can connect to a destination by manually entering an address delivered by another medium (mass media advertisement, word of mouth, consumer product label, etc.), reusing a "bookmark" saved by browser software, or following a link from a non-directory Web page.
engines and directories;\textsuperscript{250} (3) it is difficult to ensure adequate audience notice;\textsuperscript{251} and (4) there is danger of suits for trademark infringement.\textsuperscript{252}

b. Service Providers' Routers

A user's interaction with any given cyber-place is mediated by the transmission of packets of information between the server's and the visitor's computer. A "router" provided by the server's ISP directs each packet toward its destination, using the information in the packet's "envelope" specifying both its source and its destination. In principle, that router could initiate the transmission of additional packets containing the access-seeker's speech to the same destination. Implementing such an arrangement, however, would impose very significant overhead costs on the router\textsuperscript{253} and require major modifications in the capabilities of both router and browser software.\textsuperscript{254}

\textsuperscript{250} But see Chin, \textit{supra} note 144, at 329 (proposing publicly operated, universally accessible search engines).

\textsuperscript{251} The link would have to appear in response to every search or directory listing that included the target. It would also have to attract the attention of a user seeking a specific address out of a potentially long list of related sites.

\textsuperscript{252} To the extent the speaker used the trademarked name of the target place in order to attract an audience -- probably the most effective way of ensuring adjacency -- it might face charges of trademark infringement. Planned Parenthood recently won a ruling in its favor in federal district court against an anti-abortion activist who used the domain name "plannedparenthood.com" to attract visitors guessing that Planned Parenthood might operate a Web page at that address. \textit{See} Planned Parenthood Federation v. Bucci, 42 U.S.P.Q.2d (BNA) 1430 (S.D.N.Y. 1997). That protestors must rely on deceptive advertising to capture the attention of their intended audiences only suggests that more appropriate outlets are unavailable. Because of the availability of public forums in the physical environment, anti-abortion activists can demonstrate in front of Planned Parenthood clinics and need not resort to false advertising in telephone directories or luring patients into mislabeled buildings.

\textsuperscript{253} The source of every packet passed by the router would have to be checked against a list of places to which speakers are seeking access. Moreover, the router would have to keep track of which recipients have already triggered the speech of the access-seeker in order to avoid transmitting the same information to the same user multiple times.

\textsuperscript{254} In order to initiate the transmission of packets from the access-seeker's site, software packages would have to be implemented that allowed the router to initiate a transmission from the speaker's site to the audience member's location, which would then have to know what to do with the transmission. In order for packets of data sent to a destination to be translated into significant form, the destination computer has to be running software expecting to receive certain types of transmissions. Browser software using the hypertext transfer protocol ("http") employed by the World Wide Web only displays information transmitted by a server with which it has already opened a connection. Additional packets forwarded by routers would be ignored unless browser software were rewritten to expect and translate such transmissions.
c. Domain Name Servers

Finally, most travel to cyber-places begins with the visitor's software asking a special server called a DNS server to translate a textual address (e.g., "jolt.law.harvard.edu") into the numerical IP address (140.247.216.224) actually used by the transmission protocols.\(^{255}\) In principle, a request to a DNS server for a targeted address could trigger the transmission of additional information to the source of the request. A DNS-based solution would face the same overhead and software innovation hurdles of the router-based solution discussed above\(^ {256}\) plus additional problems of unreliability\(^ {257}\) and inefficient redundancies.\(^ {258}\)

2. Constructing Bottlenecks

Even when enabling specific access requires public access to the piece of property defining the audience, that access is never absolute. Instead, the division of bundles of property into public and non-public is simply replicated on a smaller scale, within the holding of a single owner. For example, the Supreme Court grounds are divided into the peripheral sidewalk and the interior building and grounds\(^ {259}\) or a mall is divided into public walkways and private retail stores\(^ {260}\). A functionally equivalent internal ordering can be achieved by temporal division as

\(^{255}\) See KROL, supra note 114, at 25-30.

\(^{256}\) See supra notes 253-54.

\(^{257}\) A DNS-based solution is unreliable for the access-seeker because not all DNS requests are actually followed by a "visit" to the location named, since one might look up the address simply out of curiosity or to make sure it was still operating. Also, a single IP address may support multiple virtual places created by server software using different types of Internet protocols (e.g., separate Web, gopher, FTP, and telnet servers) as well as multiple places of the same type by using different "ports." Moreover, since some browser and router software is able to "remember" the IP addresses associated with particular domain names for temporary periods of time (a process known as caching), not all visits to a given place need be preceded by a request to a DNS server.

\(^{258}\) Distinct sub-networks of the Internet have their own DNS servers that engage in substantial degrees of duplication in order to handle high traffic loads and to avoid the costs of having all DNS requests travel to a single, centralized server and then back. In order for every DNS request for a targeted address to trigger the appropriate access, a system would have to be implemented allowing each DNS server to know whether an access request existed for every domain name it is capable of translating into an IP address.


\(^{260}\) See Amalgamated Food Employees Union v. Logan Valley Plaza, 391 U.S. 308 (1968).
well, by permitting speech only as one enters, regardless of exact spatial location.261

The functional equivalent of the specific access provided by storefront sidewalks can be achieved by having "entry" into a cyber-place trigger a temporally and spatially limited opportunity for an access-seeker to speak. This effect can be achieved directly on the World Wide Web using standard techniques of Web page design. All that would be required is the insertion of a command into the Web page that opens a page maintained by the access-seeker on her own server as a separate window in the visitor's browser.262 Appropriate time, place, and manner limitations could be imposed on the speaker's ability to interfere with the audience member's entry into her intended destination.263 Of course, the audience member would be free simply to close the window and go about her business as planned, just as she may ignore a picketer or take a leaflet and throw it out.

This approach would impose essentially no burdens on the operation of the target cyber-place, except any changed decision-making by audience members in response to persuasive speech. Unlike Andrew Chin's proposal for requiring the inclusion of clickable links in the Web

261. Cf. Republic Aviation v. NLRB, 324 U.S. 793 (1945) (requiring employers under the NLRA to allow employee speech on work-related issues while on employer property but only during non-working time).

262. Javascript is a scripting language supported by Netscape Navigator and Internet Explorer, which together dominate the browser market. See Mark Tran, Netscape Warns of Losses as Browser Wars Take Toll, THE GUARDIAN, Jan. 6, 1998, at 16. Using Javascript, the following would open a window titled "CyberSidewalk" at the site www.sidewalkspeaker.org: <SCRIPT>CyberSidewalk=window.open ("http://www.sidewalkspeaker.org")</SCRIPT>.

A Web page can be broken down into the information transmitted by the web server and the resulting translation achieved by the browser software. Thus, the static "page" that one sees on the monitor is achieved by the browser's response to a series of instructions contained in the HyperText Markup Language ("HTML") "page" transmitted by the server. Some instructions may not be translated into sensory effects at all but instead direct the browser to take certain actions, such as changing the size of the window, opening a new window, or reloading the page after a given amount of time. See JavaScript Guide (last modified Nov. 26, 1997) <http://developer.netscape.com/docs/manuals/communicator/jsguide4/index.htm>; An Exploration of Dynamic Documents, (visited Dec. 6, 1998) <http://home.netscape.com/assist/net_sites/pushpull.html>.

263. For instance, in keeping with the status of the interlocution as speech (though including other protected First Amendment activities like soliciting and gathering signatures) rather than diversion into another place, one might limit the speaker's ability to include links directly to other pages or require the page to close itself automatically after a set period of time. Presumably one would also want to limit the number of speakers gaining access at any given time.
pages presented on the monitor of the visitor, this method would not interfere with the proprietor's ability to control the content and layout of her page by forcing the inclusion of expressive content. Nor would it require that the proprietor dedicate the use of her property to the transmission of another's speech, since the entire content of the access-seeker's speech would reside on a server which she would have to maintain independently. All that would be affected is the spatial relationship among cyber-places. By intervening in the spatial relationships among cyber-places, the functions of public forums can be realized without the government owning or operating any "forums" at all.

While this method has the advantage of leaving the basic technology of the World Wide Web untouched -- requiring neither innovations in server or browser software nor in the vocabulary of HTML -- attention to the integration of these technologies with the social practices of site owners, Web travelers, and access-seekers suggests hidden costs. Any program of forum building must be attentive to the administrative costs of regulating and providing access and to the availability of technical countermeasures that either undermine its effectiveness or might provoke a technological "arms race." The system described above would require site owners to create and manage a procedure by which would-be speakers could notify the site of their interest in access, speakers would be screened in accordance with whatever limits are placed on access, and technical provision would be made for incorporation of the necessary HTML into transmissions to visitors.

Aside from the remediable problem of imposing costs on owners for the management of a public forum, such a system would invite conflict

264. See Chin, supra note 144, at 330-33.
265. A hyper-link clearly constitutes such content, as Chin himself recognizes, see id. at 312, both because of its contribution to the visual image of the page and because it might reasonably be taken to indicate some sort of commentary on the location to which it is linked.
266. This assumes that the market allows the creation of cyber-places cheaply and without discrimination, as seems very likely.
267. A useful contrast is the screening technologies being implemented on the Web and television. The v-chip is premised on two interventions: the addition of ratings labels to the transmission of the television signal and the installation of a v-chip in television sets to interpret these labels. See generally Balkin, supra note 112. One strategy for introducing analogous filtering on the Internet is the Platform for Internet Content Selection ("PICS"), which couples server-side labeling of site content with browser-side filtering software. See Reno v. ACLU, 117 S. Ct. 2329, 2354.
268. In principle, such costs could be covered by either imposing a fee system on access-seekers or government subsidy.
and litigation between owners and access-seekers who will often be antagonists. Unions and companies in the midst of a strike, Greenpeace and a major polluter, or Operation Rescue and Planned Parenthood are unlikely candidates for cooperation, and site owners would have significant incentives to introduce delay and error, and to use questionable judgment. There is little wisdom or fairness in asking highly and legitimately interested parties to implement public forum principles designed to bind a content-neutral state. Such a system would also require access-seekers to put sites on notice of their intention to use the cyber-sidewalk before actually doing so.

A substantial improvement could be achieved by shifting as many of these administrative responsibilities as possible away from the sites outside which speech would occur and onto a neutral third-party. Building on the principles of the DNS system, centralized databases could receive, store, and evaluate speakers' requests for access to a cyber-sidewalk outside a given location. When a speaker has been approved for the cyber-sidewalk in front of a site, the database would simply notify the targeted site of the initiation, cessation, or other modification of the speaker's access. The site's server software would then have the simple nonjudgmental task of incorporating the relevant modifications into its transmissions to visitors. No cooperation between owner and access-seeker would be required, and both the financial and judgmental burdens of receiving, reviewing, and implementing requests for access to a place alongside the targeted site would fall entirely on the centralized service.

269. Considerable variations are possible in the relationship between request, evaluation, and access. For instance, access could be immediate upon request by the simple submission of an online form, without any screening for applicable time, place, and manner restrictions. Enforcement of violations would then be left to the discretion of the site managers, much like the case with traditional public forums. Alternatively, access could be contingent upon prior approval for certain kinds and locations of access, analogous to a permit procedure for parades on public streets.

270. See supra note 262. As with the site-managed system discussed above, some method would be required not only to trigger access by speaker regardless of the point of entry, since many sites allow visitors to enter via either a "home page" functioning like a front door and waiting room or by going directly to an internal subdivision, but also to avoid redundant access every time the visitor visits a new page within the site. Again, simple, nonjudgmental provisions could be made by the server software to create the cyber-sidewalk only in the first transmission to a visitor and not again until some pre-determined period of time had passed since the last transmission.

271. One exception would be the trivial burden of transmitting a few more bytes of information and any increased costs of software associated with implementing the necessary process, which would be imposed on the target site. Given the simplicity of the requirement, one would expect these costs to be de minimis.
The obvious candidate for the administrator of such a project is the state, just as the state maintains and regulates traditional public forums like streets, parks, and sidewalks. State control would facilitate the major functions of the public forum doctrine by providing content-neutral access, promoting speech, and preserving a minimum level of access for speakers who might be excluded by market forces. If public forums and the speech therein benefit not only speakers but also audiences and the polity as a whole, then it is only appropriate that they be maintained in part through state expenditure. To the extent that such forums are "essential to the poorly financed causes of little people" and that some minimum opportunity for meaningful political participation inheres in our commitment to the equality of citizenship, a degree of subsidy for individual speakers is appropriate as well. Depending on the cost of the enterprise and the possible utility of nominal fees in restraining frivolous use, a licensing fee could also be imposed. Unlike a privately operated system, a public forum created through state action would bring with it the content-neutrality and time, place, and manner limitations of constitutional doctrine. It would also encourage allocation of speech opportunities according to traditional public forum principles rather than willingness-to-pay of either access-seekers or targeted sites willing to pay for silence. Here, public forum principles would be applicable not to the entry into any given place but to the creation of spatial relationships between places maintained by private parties, for example, the targeted cyber-place and the access-seeker's site.

3. Beyond Bottlenecks: Tailoring Public Forums to the Electronic Environment

Thus far, I have only discussed interventions in the spatial relations of cyberspace on the server-side, attempting to extend to cyberspace the model, adapted from the physical environment, of sidewalks through which one passes in order to enter a destination. Turning our attention to the browser-side, there are opportunities to further refine the public forums of cyberspace to account for, and take advantage of, its distinctive features. The spatial relationship between discrete cyber-places is a function not only of the construction of these places by their owners (through the inclusion of hyperlinks and other connective devices) but also by their visitors. Whether two linked sites are adjacent

in *time* depends on the user's choice to follow one with a visit to the other. Moreover, the user may create such relations of adjacency independent of the content of either site, by entering a new location manually or by using a bookmark rather than following a link. Finally, users may choose to be in more than one place at a time through the use of multiple browser windows.

Time, place, and manner restrictions on access to public forums preserve the use of public forums for their multiple purposes, such as recreation and travel as well as picketing and leafleting, and will impose identical limitations on all audience members. As between two visitors to a forum, each will encounter speakers acting under the same limitations; a ban on vocalization in favor of print (or vice versa) will bind each equally, even if their preferences diverge radically (for example, if one is blind and the other deaf).

In cyberspace, however, there are far greater opportunities for audience members to participate in shaping not only which place they are in but also the kind of place it is. Instead of forum administrators imposing one-size-fits-all rules on every speaker for the benefit and protection of all audience members, the malleability of cyberspace could allow audiences to exercise greater choice over the character of the public forums in which they find themselves. For instance, an important variable in any forum is crowding -- how many speakers can be allowed in before excessively interfering with the forum's other uses? This number will likely vary among audience members, reflecting their desire for communicative engagement in general and at a given point in time, their interest in speech about a particular site, and their capacity to engage with multiple speakers, whether because of the speed at which they read, their ability to concentrate on multiple topics, or the speed at which their hardware, software, and Internet connection process information.

In order to take advantage of this flexibility, public forums in cyberspace could rely on public forum-specific aspects of server transmissions and/or browser software. Instead of creating the cyber-sidewalk through generic use of HTML, the locations of access-seekers could be separately labeled in the server's transmission. Browser software capable of recognizing these tags could then be configured according to the preferences of the user. The user might, for instance, vary the number of "sidewalks" to be opened when multiple access-seekers are present.

The degree of potential user control is quite broad and could extend to the quality of access provided as well. Consider the following types
of access given to speakers and the corresponding burdens on the audience member to pursue communication:

The browser --

1) allows users to click on an icon if they wish to check for access-seekers.

2) causes an icon to flash or alarm to sound when an access-seeker is present. The user may click on the icon to visit the site.

3) causes a message of no more than 25 characters from the access-seeker to appear in a field in the browser's toolbar. The user may click on it to visit the site.

4) causes a message from the access-seeker to "pop-up" in a window asking the user to choose whether to ignore it or visit the site.

5) causes a window to be opened at the access-seeker's site with time, place, and manner restrictions on the nature of the opened page.

6) causes a window to be opened at the access-seeker's site without restrictions.

7) does any of 1-6 but presents a choice of up to a specified number of access-seekers.

8) applies 1-7 contextually, varying with the nature of the site being visited and/or the speaker seeking access.

The attractive element of such user flexibility is that it allows the user to set her own ceiling on accessibility, providing greater degrees of access to those eager to be engaged. Moreover, individually controlled preferences could promote use of the most effective forms of communication and selection among preferred topics.

The vexing challenge for any forum design, however, is whether the user should also be entitled to set her own floor on accessibility, in particular to set that floor at zero, and if not, at what level the floor should be set. Without attempting to defend the proposition here at any length, I would suggest that inextricable from an individual's right to speak and the place of that right in a democratic society, must be at least a qualified right to be heard by a fellow citizen. In other words, we have not only a right to speak but also an obligation to listen. Certainly this has always been the practical effect of venturing out of domestic zones

273. For instance, the total number of bytes required to be downloaded by the audience member's browser could be limited to prevent undue delay. The types of media used by the site could also be limited, perhaps preventing the use of audio clips to avoid inadvertent broadcast of noise into the audience member's home or office.
of privacy and into a public sphere where speech may not be regulated, even to accommodate listener offense, let alone disinterest.274

4. Direct Access to Audiences

Having come this far, we are now in a position to consider one final variation: shifting the mechanism for establishing the cyber-sidewalk from the server-side to the browser-side. Once we have shifted the administrative burdens of linking speakers with locations from site owners to a centralized database and allowed individualization of the forum's character by creating forum-specific labels and browser-side software features, it becomes unnecessary for the server to mediate a transmission that is essentially between the database forum and the cyber-traveler. Again following the model of the DNS requests already made by the user's software, the browser could transmit to the database the location of its next destination and in return receive appropriately encoded information about speakers seeking specific access to translate according to the array of preferences discussed above.

Browser- rather than server-side methods of establishing access would have a distinctive set of advantages and disadvantages. The most significant difference would be in the government's practical ability to establish personal jurisdiction and to exercise power over the use of the software packages. Any server physically located within a given jurisdiction will presumably be legally and practically subject to that government's regulation of its operations, but it is questionable whether even a strong United States policy of server-side forum building would be able to reach sites operated from other nations. Conversely, users physically located in another country would experience server-side forums when visiting sites physically located on U.S. soil.

In contrast to these server-side mechanisms, browser-side mechanisms would allow eligible speakers to reach audiences residing in the United States but visiting sites physically located abroad, while they would not necessarily address the opposite situation, audiences residing abroad but visiting servers physically located in the United States, or otherwise subject to its jurisdiction. The choice between

274. The difficulty is that along with public space has traditionally come a commonality of experience, such that protecting one listener from unwanted speech has necessarily entailed limiting access to willing audiences. No such trade-off need occur here, raising the issue much more sharply. I will argue below that cyber-sidewalks that do not allow audiences to opt out entirely would not be unconstitutional, since audience members are in the public and not captive. See discussion infra Part VII.A.3.
browser- and server-side mechanisms, then, squarely implicates the problem of where cyber-places are located with respect to jurisdictions with physical boundaries.275

Browser-side approaches would also facilitate grounding access in features other than cyber-travelers' destinations. Consider, for instance, forms of specific access that rely on the adjacency of public forums not to where audience members go but to where they live. Someone attempting to inform her neighbors about a crime, environmental threat, or political issue specific to their neighborhood would rely on the specific access provided by public streets and sidewalks to notify residents of adjacent properties about a place-specific issue. In cyberspace, analogous circumstances might involve common users of the same ISP276 or users whose common domain address reflected other ties such as a shared employer277 or university campus. Browser-side mechanisms would also be more amenable to forms of general access.278

Precisely because browser-side approaches rely on transmissions directly to audience members, they also have drawbacks not associated with server-side methods. A browser-side system of specific access would provide the central database with ongoing notice of every site the user visits, raising the need for privacy protections. More importantly, to the extent that use of browser software is necessary to the operation of public forums, it becomes more difficult to ensure that they are being implemented. A cyber-sidewalk created solely by the transmissions of servers in conjunction with normal browser operation could be verified by a visit to the targeted site. While individual audience members may be less motivated than targeted sites to undermine the public forum system, no analogous means of directly monitoring compliance by audience members is available. Presumably, though, all that would be required would be a relatively simple mandate to producers of browser software that they include in their packages some minimum level of


276. See, e.g., Di Lello, supra note 156, at 207-08 (describing attempts by Prodigy subscribers to alert other subscribers to censorship by Prodigy).

277. See Broder, supra note 124.

278. For instance, without requiring anything of ISPs, browser-side mechanisms could produce the "public gateway" effect advocated by Shapiro, supra note 159, by receiving from the centralized service a listing of established cyber-sidewalks. Alternatively, browser software could be configured to cause the user to pass through a randomly selected cyber-sidewalk whenever jumping to a new cyber-place.
functionality, just as television manufacturers are now required to include a "v-chip."

The exact form and mechanism of cyber-sidewalks are questions that I can leave only to future experimentation and technical development. Different aspects could presumably be combined in varying degrees, for instance, incorporating both server- and browser-side approaches but with different access rules and different degrees of user control to reflect assessments of privacy and speech interests that may change with context. Certainly some methods relying on a more or less centralized, government-operated matching service would address the most challenging problems of administrative cost and unambiguous public forum status.

These methods would create a cyber-sidewalk equally well-suited to either general or specific access, though for the purposes of general access most websites might not attract enough visitors to be of much use. Since seekers of general access have a weaker claim to access cyberspace audiences, especially those audiences associated with a specific cyber-place, it seems reasonable to give priority to speakers whose speech has some specific relationship to the place in front of which the speech will occur. Priority could presumably also be given to noncommercial speech, since otherwise cyber-sidewalks would surely be flooded with advertising schemes like "Cyber Promotions."
Ironically, one concern my proposals might raise is that the access allowed would be too cheap. After all, it is no easy feat to organize a continuous picket outside a store or abortion clinic or to coordinate a leafleting campaign at all the franchises of a particular company. The cheaper the speech, the lower the barrier to a flood of potential claimants. The mechanisms that match speakers with places and the time, place, and manner restrictions that allocate access opportunities among access-seekers would themselves generate administrative costs. It would be quite reasonable to require speakers to bear some or all of these costs without either significantly constraining their ability to speak or resorting to any content-specific pricing mechanism.282

VI. DOCTRINAL RESOURCES

Since intervention into the spatial organization of cyberspace to create places for communicative access to audiences is both feasible and necessary to preserve the free speech values reflected in the public forum doctrine, it remains only to discuss the doctrinal resources enabling such an intervention. The most important source of authority is the Constitution itself. Arguably, it is constitutionally required that the emerging regulatory structure of cyberspace, in conjunction with the everyday laws of the physical environment, not excessively infringe on the opportunity to exercise the right of free speech. Even if some degree of public access is not constitutionally mandated or the courts are not institutionally suited to enforce such "positive" constitutional norms, Congress and/or the states surely have the power to establish access.

A. Toward Constitutional Minimums

The initial hurdle of any constitutional claim of access, as demonstrated in the Cyber Promotions case,283 will be the state action requirement.284 Of course, attempts to limit the behavior of private actors can always be recast as limitations on the state's ability to structure

282. See Forsyth County v. Nationalist Movement, 505 U.S. 123 (1992) (invalidating license fees that consider the content of a message and the anticipated audience response to the message in setting the fee).
283. See discussion supra Part IV.C.
284. See Hudgens v. NLRB, 424 U.S. 507, 513 (1975) ("It is, of course, a commonplace that the constitutional guarantee of free speech is a guarantee only against abridgment by government, federal or state."). For a detailed discussion of state action in cyberspace, see Naughton, supra note 156.
its extensive regulation of social institutions, including especially its enforcement of the claims of "private" property owners, in ways which produce particular allocations of rights between private parties, including relative bargaining power affecting their ability to buy away those rights. The application of the public forum doctrine to cyberspace introduces some new twists into the old debate because of differences in the way space is organized and behavior regulated.

One important opportunity for the legal realist-inspired critique of the state action requirement is the fact that the legal meaning of property rights is so clearly in the process of active creation in cyberspace. When a Web browser requests a connection from a server, and the server sends information to the browser, and perhaps the browser responds with further transmissions, is the user of the browser entering the property of the server's owner? Vice versa? When a mail server downloads burdensome volumes of electronic mail, has the sender committed a trespass? As the law sets out to settle such disputes, conscious decisions are being made about the relative importance of competing interests, including the interests of parties in the ability to speak to particular audiences.

There is no reason necessarily to think of the proposal for cyber-sidewalks as requiring "intervention," since one might as easily argue that the common law of property in cyber-places should incorporate a limited public right of way stretching a certain informational "distance" from the outer boundary established by its initial transmission to a visitor. The constitutional considerations discussed below may arise


287. See id. at 1025-26 (considering the adequacy of alternative means of communication in determining whether actions constitute a trespass).

288. On the other hand, the ability of server owners to exclude potential speakers may rely less on enrollment of the state's legitimate exercise of force than on software that enables visitors to carry on particular interactions with the server (without being able to address one another directly or to modify the content of the server's transmissions). For a discussion of this phenomenon of "techno-law," see Lessig, supra note 130, at 1408. Lessig overestimates, however, the extent to which technological regulation is a new feature of cyberspace, as any burglar stymied by high fences, razor wire, or motion detectors knows all too well.
in contexts analogous to those in which rights of access to land are litigated, whether as a defense to a prosecution for trespass, a suit for the creation of practical means of access, or an attempt to prevent construction of technological barriers or otherwise bar access. As we have already seen, cyberspace is no stranger to conflicts over unauthorized entry and modification, implementation of filtering devices, and exclusion from "private" places. Unique features of the electronic environment are rapidly generating novel disputes.

Because spatial relationships are structured so differently in cyberspace, the significance of private rights of exclusion for the effective exercise of free speech are very different than in the physical landscape. The line of cases in which the Court has examined the extension of public access for the purposes of speech, notwithstanding the absence of government ownership, include situations in which large plots of private property -- entire company towns or expansive malls -- included highly differentiated uses of smaller parcels inside them. Specific audiences defined by the uses of these subdivisions -- customers of particular stores in Logan Valley and Hudgens, permanent

290. See, e.g., Matthews v. Bay Head Improvement Ass'n, 471 A.2d 355 (N.J. 1984) (finding positive obligation for beachfront property owners to provide feasible means of access to publicly held portions of beach and ocean).
295. See Naugton, supra note 156 (discussing the Prodigy controversy).
296. See Planned Parenthood Federation v. Bucci, 42 U.S.P.Q.2d (BNA) 1430 (S.D.N.Y. 1997) (trademark infringement through use of domain name); Rebecca Quick, 'Framing' Muddies Issue of Content Ownership, WALL ST. J., Jan. 30, 1997, at B8 (use of "frames" to capture advertising revenues from visits to other sites).
297. See discussion supra Part II.C.
298. See Marsh v. Alabama, 326 U.S. 501 (1946) (company town may not ban distribution of religious literature on streets and sidewalks of business district); Amalgamated Food Employees Union Local 590 v. Logan Valley Plaza, Inc., 391 U.S. 308 (1968) (shopping mall may not bar picketing of individual store from public walkways within mall); Lloyd Corp. v. Tanner, 407 U.S. 551 (1972) (municipal mall may bar anti-war leafleting from public walkways within mall); Hudgens v. NLRB, 424 U.S. 507 (1976) (Lloyd implicitly reversed Logan Valley. Shopping malls may bar picketing in front of individual stores).
residences of Chickasaw in *Marsh* \(^{299}\) -- were accessible only by speech within the larger plot of land. In the scheme of spatial organization assumed by the public forum cases, access to audiences defined by particular non-public property can always be achieved by access to adjacent, public land.

In cyberspace, there is no progression of bottlenecks decreasingly focused on the users of specific places: from the walkways in front of the entrance, to the parking lot serving an aggregation of places, to the streets feeding into the parking lot, to the arteries from which these streets branch off, and so on. This point cuts both ways. On the one hand, no owner of property can exercise bottleneck control over access to another's place.\(^ {300}\) On the other hand, though, a proprietor's control over communicative access to her *own* place becomes absolute, unmitigated by a neighbor's election to allow speech. Unlike one ejected from a strip mall parking lot, a speaker refused entry to a cyber-place cannot simply step over the property line and remain visible and audible to those entering or already within,\(^ {301}\) and unlike leafleters denied access to individual store entrances within a mall, one cannot simply relocate to the public sidewalks adjoining its pedestrian and automobile accessways.\(^ {302}\)

The Court in *Hudgens* did not purport to overrule *Marsh*, arguing instead that shopping malls do not present a clear enough case of private property ownership displacing government functions to warrant First

\(^{299}\) *Marsh* differs from the mall cases in that the private property encompassed residential areas as well. As a result, access to an entire audience defined by its relationship to a particular place -- residents of Chickasaw, Alabama -- was determined by access to the non-public property. Unlike the anti-Vietnam handbillers in *Lloyd*, the Jehovah's Witnesses in *Marsh* would have been cut off from communication with an entire town about issues of general importance, whereas in *Lloyd*, residents of the Portland area could easily be reached by speech in other areas, including the public streets and sidewalks surrounding the complex. *See Lloyd*, 407 U.S. at 566.

\(^{300}\) Cf. *Turner I*, 512 U.S. 622 (1994) (declining to apply strict scrutiny to regulation of cable operators' bottleneck control over which programming may enter a subscriber's home). With respect to the Internet, though not the proprietary services accessible only by their subscribers, online services do not stand in the position of a company town in the sense that they have no monopoly on the means of access.


Amendment scrutiny of the state's allocation of property rights.\textsuperscript{303} Although in \textit{Hudgens} the Court relied heavily on the portions of \textit{Lloyd} that distinguished \textit{Marsh} based on the range of municipal services provided, in the previous cases in which the Court actually analyzed the fact situation\textsuperscript{304} the decision whether or not to apply First Amendment strictures to the entity relied on the practical implications for the exercise of free speech. Thus, in \textit{Marsh}, the Court argued that "[w]hether a corporation or a municipality owns or possesses the town the public in either case has an identical interest in the functioning of the community in such manner that the channels of communication remain free."\textsuperscript{305} And in the \textit{Lloyd} decision on which \textit{Hudgens} relied, the Court emphasized that "[t]he central building complex was surrounded by public sidewalks, totaling 66 linear blocks. All persons who enter or leave the private areas within the complex must cross public streets and sidewalks, either on foot or in automobiles."\textsuperscript{306} This case is in contrast to the situation in \textit{Logan Valley} "where the store was located in the center of a large private enclave with the consequence that no other reasonable opportunities for the pickets to convey their message to their intended audience were available."\textsuperscript{307} The crucial characteristic of municipalities that trigger First Amendment scrutiny is the construction of patterns of spatial organization and property rights "in such manner that the channels of communication remain free."

Of course, this mandate neatly reflects the constitutional obligation that time, place, and manner restrictions in public forums "must leave open ample alternatives for communication."\textsuperscript{308} The state's discretion to dedicate land to uses other than speech is a function not only of the strength and legitimacy of its purposes in restricting speech in that place but of whether the restriction causes the total array of meaningful speech opportunities to fall below a constitutionally mandated minimum. The ample alternatives standard implies a structural approach to the First Amendment\textsuperscript{309} that, read in conjunction with the application of public

\begin{footnotesize}
\begin{enumerate}
\item[303.] See \textit{Hudgens}, 424 U.S. at 520 ("If a large self-contained shopping center is the functional equivalent of a municipality, as \textit{Logan Valley} held, then the First and Fourteenth Amendments would not permit control of speech within such a center to depend upon the speech's content.").
\item[304.] Indeed, in \textit{Hudgens}, the Court did not undertake an independent analysis of the case at hand but instead rejected the application of the \textit{Marsh} line of cases given its reinterpretation of \textit{Logan Valley} in light of \textit{Lloyd}. See 424 U.S. at 521.
\item[305.] 326 U.S. at 507.
\item[306.] 407 U.S. at 566.
\item[307.] \textit{Id}. at 563.
\end{enumerate}
\end{footnotesize}
forum standards to private entities, suggests that we conceptualize the spatial distribution of public and non-public property and the legally enforceable rules constituting each as a structural time, place, and manner restriction on meaningful opportunities for speech.

Whether or not the maintenance of such a constitutional minimum has been violated, however, requires difficult judgments of degree and qualitative judgments as to what constitutes acceptable equivalents. The central insight of Lloyd is that the existence of meaningful alternatives, and therefore the appropriate balancing of competing interests, may vary with the subject matter of speech, in particular with its place on the general/specific continuum. Unlike the situations in Logan Valley and Marsh, the access-seekers in Lloyd had access to ample public forums outside the non-public entity from which they could engage in the same forms of speech and reach the same audience. When both the subject matter of the speech and its relevant audience are tied to a particular place, forcing speakers into a different place will heighten the negative effect on the adequacy of the alternative. This is the "logical reason to treat differently speech that is related to subjects other than the Center and its member stores" that Justice Marshall could not see in his impassioned dissent in Lloyd, an oversight that the Hudgens Court parlayed into the claim that to adhere to Lloyd while retaining Logan Valley would itself amount to unconstitutional content-discrimination.

Where a particular mode of communication occupies a central place in the life of the community as a primary source of information, access becomes essential to maintaining effective opportunities for general access. In such circumstances, the Constitution requires governments to ensure a meaningful minimum level of access, just as it requires public

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310. See discussion supra Parts III.B.2 and V.B.
312. See Hudgens, 424 U.S. at 520. Accepting the argument that requiring speakers to make do with alternate, more distant places for speech will impose a greater burden on speech more specific to a particular place, does not, of course, settle the question of how great a burden is permissible. In principle, then, one could retain the holding of Hudgens and take it to stand for the position that the opportunities for speech afforded the specific access-seekers by the nearest available public forum in Logan Valley and Hudgens did not fall below the constitutional minimum.
313. See Balkin, supra note 8, at 412 (arguing the Constitution requires "the government to create at least some public forums that provide effective means of communication").
access to streets, parks, and sidewalks, and arguably to cable television as well.\textsuperscript{314} For the moment, however, the Internet has not achieved such a role as to leave free speech values unrealized without government action to preserve modes of general access.\textsuperscript{315}

With regard to specific access, however, for at least some class of cyber-places, would-be speakers are left with alternatives far inferior to those available to the plaintiffs in \textit{Marsh}, \textit{Logan Valley}, \textit{Lloyd Corp.}, and \textit{Hudgens}. There are no nearby public sidewalks from which to deliver their message, not even small public rights-of-way between the highway and the parking lot. There is no way to achieve the temporal proximity that allows such speech to be effective, nor the spatial proximity that allows such speech to be efficient by ensuring that one's intended audience is a substantial fraction of the total.

To the aggrieved customer who wants to picket the skating rink where her son was injured\textsuperscript{316} or the union local trying to reach the customers of a single store,\textsuperscript{317} one could not sincerely insist that their rights to free speech were adequately protected by the options of advertising on national television, or in all the nation's newspapers, or organizing mass mailings or phone banks without a geographic focus. In fact, such speakers can rely on the nearby public sidewalks to provide a forum from which they can reach their audience without paying for communications designed for a much broader sweep. If they sought to address the users of analogous places in cyberspace, however, such speakers would have to go to enormously burdensome lengths to reach a significant fraction of their intended audience, travelers in cyberspace.


\textsuperscript{315} Note that even if access to audiences in cyberspace became indispensable to meaningful exercise of free speech, it is perfectly plausible that the legal rules governing cyberspace and the practices of private parties could yield a situation in which the constitutional minimum would be satisfied without requiring any judicial intervention. Congress, for instance, has on its own initiative mandated the reservation of cable capacity for public access, \textit{see} Turner I, 512 U.S. 622, 622-24 (1994) (discussing Cable Television Consumer Protection and Competition Act of 1992), pre-empting any need for a constitutional challenge to its absence.

\textsuperscript{316} See Jackson v. City of Markham, 773 F. Supp. 105 (N.D. Ill. 1991).

318. In some circumstances, a cyber-place could attract an audience quite concentrated in physical space (and thus reachable by other means) by virtue of the geographically limited nature of interest in its subject matter, even though the feasibility of visiting the electronic place does not vary with physical location. Thus, if one wanted to reach the audience visiting a local mayoral candidate's website, one might well be able to take out ads in the local paper, leaflet in the town square, etc., on the assumption that, in fact, the users would cluster geographically. Of course, a court might still find such options inadequate were they put forward to justify a restriction on handbilling from the sidewalk in front of the candidate's campaign headquarters.

319. See Balkin, supra note 8, at 413.


highest order, [which] promotes values central to the First Amendment.\textsuperscript{322}

Since virtually all activity in cyberspace will be significantly intertwined with interstate commerce,\textsuperscript{323} impinge upon the exercise of federal constitutional rights, and rely on the use of public property,\textsuperscript{324} there seems little reason to doubt an adequate basis of congressional power to intervene. Indeed, reliance on legislative initiative to secure the affirmative side of the First Amendment\textsuperscript{325} is exactly what we should expect when delicate judgments of degree and balancing of conflicting interests are required to secure positive rights.\textsuperscript{326}

The important question will be how much room to maneuver Congress is allowed. Because any regulatory scheme, including a scheme that leaves allocations to the rules of a legally constructed and enforced "market," will necessarily involve trading off the speech interests of some against others, the protection of speech for some may be regarded as an unconstitutional infringement on that of others.\textsuperscript{327} We know from the examples above, however, that there is at least some discretionary realm where extensions of positive speech rights beyond the constitutional minimum for some do not intrude upon the negative rights of others. Since the proposals in this Note are substantially less burdensome than those the Court has already accepted,\textsuperscript{328} there should be no bar to the legislative realization of these free speech values even were it determined that they are not constitutionally required.

Whether the granting of such positive rights is even to be characterized as an intrusion upon owners' use of their property for speech depends itself on how the property rights are defined. Whether the relevant property rights of the creators of cyber-places should be entirely derivative of their ownership of the constitutive computer

\textsuperscript{322} Turner I, 512 U.S. at 663 (1994). The contentious issue for the Court was whether, in pursuing these ends, Congress impermissibly intruded on the speech rights of cable operators. The analogous objection to my "must-carry" rule for cyber-sidewalks is discussed infra Part VII.B.

\textsuperscript{323} One could rely on the transmission of signals across state lines, conceptualizing the use of cyberspace as "travel," the commercial nature of many of the individual sites themselves, or the business of Internet service provision.

\textsuperscript{324} That property may be the public rights-of-way crossed by cables, see Turner I, 512 U.S. at 628, or the broadcast spectrum enabled by wireless technologies, see Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 389 (1969).

\textsuperscript{325} See Emerson, supra note 223.

\textsuperscript{326} See Balkin, supra note 8, at 413.

\textsuperscript{327} This, of course, was the position of the dissenting justices in Turner I, 512 U.S. at 674-85 (O'Connor, J., dissenting).

\textsuperscript{328} See discussion infra Part VII.
VII. CONSTITUTIONAL CHALLENGES TO CYBER-SIDEWALKS

Any proposal to enforce access rights in cyberspace will undoubtedly face a flurry of constitutional challenges, as have Congress' attempts to regulate the cable television industry. Two claims bear the most careful consideration. First, to the extent that the creation of public access is triggered by and relies upon data transmitted by a private party's server, it will be vulnerable to charges of forcing that party to express another's speech. Conversely, to the extent that the creation of public access may require limiting browsers' capacity to filter out public forum speech, it may be accused of forcing users to listen to another's speech. Second, even if there is no forced speech problem, the regulation might nonetheless incidentally burden the server's speech activities, triggering


330. See generally Johnson & Post, supra note 130. Some websites are already leveling accusations that others are "stealing" their content and advertising revenue by offering visitors links to the complainants' sites. See also Seth Schiesel, In Ticketmaster vs. Microsoft, It's Tough to Know Whom to Root For, N.Y. TIMES, May 5, 1997, at D4; Kurt Kleiner, Surfing Prohibited, NEW SCIENTIST, Jan. 25, 1997, at 28.


333. Although browser-based approaches that rely upon the browser to identify its location to a centralized matching service also involve the transmission of data in addition to its receipt, it is implausible to claim that the cyber-traveler is being forced to speak. Whatever privacy concerns may be raised by identifying oneself (here in the limited sense of a location and IP address, not necessarily personal identifying information), they are not based in forced expression.
review under the standards of content-neutrality, government interests, and narrow tailoring developed in the *Turner* decisions. Burdens on servers and audience members aside, if the access principle favors seekers of specific over general access, the latter might invoke the substantially similar standards for review of exclusions from public forums.

**A. Forced Speech**

"[O]ne important manifestation of the principle of free speech is that one who chooses to speak may also decide 'what not to say.'"\(^{334}\) In order to analyze whether a mandatory practice poses such a problem of forced speech, one must determine whether the activity in question is indeed speech\(^{335}\) and whether it is -- or is likely to be perceived as -- the speech of the party bringing the complaint.\(^{336}\)

1. Characterizing the Activities

Not all transmissions of information between computers constitute expression protected by the First Amendment. The expressive character of such transmissions relies on the manner of translation. Determining whether or not an action constitutes expression requires a sensitive analysis of context, including intent. Expression does not inhere in the action itself. That some burning scraps of paper\(^{337}\) or some marching groups of people\(^{338}\) constitute expression can hardly imply that all fires or all walking is expressive. If a hacker breaks into a computer system over a network and transmits signals that cause the remote computer to delete files or turn off the lights, no expression has occurred.


\(^{335}\) See id. at 558 (respondents' "participation as a unit in the parade was equally expressive").

\(^{336}\) See id. at 577 ("Without deciding on the precise significance of the likelihood of misattribution, it nonetheless becomes clear that in the context of an expressive parade, as with a protest march, the parade's overall message is distilled from the individual presentations along the way, and each unit's expression is perceived by spectators as part of the whole.").


\(^{338}\) See *Hurley*, 515 U.S. at 568 ("If there were no reason for a group of people to march from here to there except to reach a destination, they could make the trip without expressing any message beyond the fact of the march itself.").
electromagnetic waves, by integrating technologies of transmission and translation, may be expressive does not imply that every generation of such waves -- by microwave ovens, any electrical motor, or turning on an electric light -- invites First Amendment scrutiny.

Under my proposed cyber-sidewalk approach, the server software and hardware of the targeted cyber-place transmit data for the sole purpose and effect of directing the visitor's browser to establish an additional connection to another site. The transmission does not direct the client browser to generate any communicative message to its user. Instead, it creates a particular spatial arrangement opening a public forum adjacent to the cyber-place from which third parties may speak. The expressive content of that speech, however, originates entirely with the third-party's own hardware and software. If that expression is nonetheless attributed to the owner of the targeted cyber-place, forced speech problems remain. Such problems of forced association with another's speech, however, should be distinguished from situations in which, for instance, the targeted server itself is forced to send out another's expressive content.

2. Whose Speech Is It?

My proposal does not force cyber-places to modify their internal structure and content in order to express the views of others. Not only are they not required to incorporate another's text, audio, or video into the presentation their server initiates on the visitor's computer, they also are not required to incorporate into that presentation any spatial connections to another's site, as would be required by Andrew Chin's "must-carry" rule for links. Because such links require modification of the visual presentation of the Web page and because the inclusion of

339. The amount of data required to accomplish this end is vanishingly small (less than 100 bytes) compared to the total amount of information constituting a typical website. Therefore, it presents such a de minimis intrusion on the server owner's use of his property that it is difficult to imagine any serious Takings Clause problem in the absence of a forced speech problem. Cf. Pruneyard, 447 U.S. at 82-84 (1980) (rejecting takings challenge to California state constitutional right of access). Because any access would be subject to reasonable time, place, and manner restrictions, it would also be easily outside the per se rule for permanent physical invasions of Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982).

340. The access-seeker, therefore, bears all the costs of purchasing, designing, and operating the technology that actually generates the speech, as well as the place in cyberspace provided by acquisition of an Internet connection and domain name. The cyber-sidewalk achieves the creation of spatial and temporal proximity.

341. See discussion supra Part IV.D; Chin, supra note 144.
such a link is clearly attributable to the creators of that cyber-place,\textsuperscript{342} far more serious forced speech problems would arise.

The server that generates the targeted cyber-place is, however, required to initiate a process that leads to expression in close proximity to whatever expression may occur in that cyber-place. The question, then, is what relationship will be attributed between the cyber-place that constituted the visitor's original destination and the third-party speech occurring on the outside cyber-sidewalk. We are not faced with a situation common in cable television, in which one knows that the expressive content of a show is not to be attributed to the franchise operator, \textit{even though} it is transmitted by that operator.\textsuperscript{343} Nor are we faced with the situation in which "each [parade unit] is understood to contribute something to a common theme,"\textsuperscript{344} \textit{even though} "each parade unit generally identifies itself."\textsuperscript{345}

More importantly, though, in an area that is both very new and widely understood to be changing rapidly, the real question is how do we want the law to \textit{shape} those common sense expectations while they still remain extremely flexible. When the law may influence the development of such practices and expectations, it is appropriate to consider the competing interests at stake, interests that as a society we already have resolved in favor of allowing free and sometimes confrontational speech in front of private places, even though it might result in some degree of harm (relative to the absence of speech) to those activities.

In this context there is already considerable weight of common practice and experience \textit{against} assuming a single source for all the cyber-places, and all the cyber-speech, represented by one's computer interface. World Wide Web browsers generally allow users to open connections to multiple cyber-places simultaneously, so users are quite likely to be aware of, and perhaps used to, such a situation. Moreover, the address of each page is generally displayed by the browser while it is active, allowing easy identification of the different sources. The use of separate "windows" to distinguish between distinct software activities -- whether between different documents or the work of entirely separate software packages -- is so much a part of the common

\textsuperscript{342} As a matter of common practice, web designers often include links in a way that convey the expressive message of a suggestion to visit. \textit{See} Chin, \textit{supra} note 144.

\textsuperscript{343} \textit{See} Turner I, 512 U.S. at 654-55.


\textsuperscript{345} \textit{Id.}
experience of contemporary computer usage that the danger of misattribution seems exceedingly small. 346 Certainly the establishment of such an expectation would be highly consistent with everyday experience and could easily be facilitated by disclaimers displayed by the party receiving access, if necessary. Methods of providing access short of directly opening a window at the speaker's site, whether through a blinking icon or some other approach, would even more clearly be distinguishable from the destination's speech, especially if it reflected a public forum-specific software feature about which the user presumably would be informed.

3. Forced Listening and Privacy

The creation of public forums is designed to allow speakers access to audience members who are not actively seeking their speech. Although there is reason to believe that many audience members might, whether in individual cases or simply on balance, prefer such accessibility, 347 some members of the public may well prefer not to hear uninvited speech, whether across the board, in specific contexts, or on particular topics. The question then arises whether the creation of cyber-sidewalks, and in particular mechanisms that limit individuals' ability to avoid them by regulating the options that may be offered in browser software, might infringe on an audience's right to be left alone even as it attempts to realize the right to speak.

The Supreme Court has never struck down state action on the grounds that it forced speech on an audience member, facing the question directly only in Public Utilities Commission v. Pollak 348 where it found that no "freedom to listen only to such points of view as the listener wishes to hear" had been violated by broadcasting music into publicly-run buses. 349 Even when the state has attempted to restrict speech in order to prevent forced listening, the Court has been cautious to permit such restrictions only when the audience cannot reasonably escape the speech, for example, is "captive," or when the listener is

346. Indeed, the expectation of such unity within individual windows is the basis of objections to the use of "framing" and "inlining," whereby a single window is subdivided into "frames" or incorporates images that may originate with different servers. See Kleiner, supra note 330; Quick, supra note 296.
347. See discussion supra Part II.B.3.
349. Id. at 463.
within the presumed privacy of her own home.  350 When not intruding into a recognized zone of privacy, "the burden normally falls upon the viewer to 'avoid further bombardment of [his] sensibilities simply by averting [his] eyes."  351 Even within such a zone, the burden will remain on the audience to avoid unwanted speech when such avoidance is easy to accomplish and does not implicate the protection of children.  352

The speech encountered in a cyber-sidewalk is a very poor candidate for a forced listening challenge because of the public nature of its location and the ease of audience avoidance. As the Supreme Court recently recognized in *Reno v. ACLU*, the Internet is unlike the broadcast media that have been treated with special regard for privacy concerns because the affirmative steps required to use the Internet eliminate the "invasive" character sometimes attributed to radios and televisions that may simply be left on while content streams in.  353 Indeed, entry into cyberspace is best understood as, at least with respect to what one encounters in the course of one's travels, a foray out of the home (or office) altogether.  354 The privacy interests of cyber-travelers are no stronger than those of any individual who deliberately leaves behind domestic expectations, and protections, of privacy in order to seek the benefits of other places, triggering instead the "limited privacy interest of persons on the public streets."  355 Equally important, the technology of cyberspace gives audience members extensive abilities to terminate unwanted communication, more so than in traditional public forums. Even under the most robust forums of access discussed above, the audience can always terminate the speech encounter with a simple

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351. *Id.* at 210-11 (quoting *Cohen v. California*, 403 U.S. 15, 21 (1971)).
354. Cf. *Pacifica*, 438 U.S. at 764-65 (Brennan, J., dissenting) ("[A]n individual's actions in switching on and listening to communications transmitted over the public airways and directed to the public at large do not implicate fundamental privacy interests, even when engaged in within the home. Instead, because the radio is undeniably a public medium, these actions are more properly viewed as a decision to take part, if only as a listener, in an ongoing public discourse.").
355. *Erznoznik*, 422 U.S. at 212.
When asked to balance the privacy interests of a majority against the interests in communication of a few, the Supreme Court has consistently forbidden privacy and forced listening considerations to limit speech to wider audiences, as long as zones of privacy are not invaded and the audiences are not captive. While these considerations suggest no constitutional fault in the creation of the technological and regulatory infrastructure of cyber-sidewalks, including mandatory inclusion of enabling capabilities in server and browser packages, more difficult issues would be raised by attempts to limit individualized evasions of public forum speech. Could the state, in order to preserve audience access by speakers, forbid the sale or use of browser software or other means to limit audience exposure to speech in public forums? Such methods would not implicate the listening opportunities of other audience members but would raise squarely a conflict between the speaker's interest in being heard and the audience member's interest in being let alone.

In such circumstances, even if the balance might tip more toward the unwilling listener than in cases where all audience members must be exposed or protected alike, the same guiding considerations of publicity and captivity should apply. As the Court stated in an early decision recognizing privacy and disruption limitations on speech in public forums, "[t]he right of free speech is guaranteed every citizen that he may reach the minds of willing listeners and to do so there must be opportunity to win their attention." This right of overture is indispensable to a meaningful individual right to communicate, a right in which all citizens share an interest because it is "necessary for a democracy to survive." While reluctant listening must be cabined by our respect for individual privacy and conscience, it is indispensable to a democratic polity in which we each, as individuals, are in part our neighbors' ruler. In a constitutional order where government is of, by,
and for the people, the right to demand from the state a redress of grievances\textsuperscript{361} implies the right to make such a demand directly upon fellow citizens. As Thomas Emerson explained the public forum doctrine, "[i]t forces the relevant community to listen to the expression of grievances, rather than allowing them to be swept under the rug."\textsuperscript{362}

In order to reconcile our obligation to listen with competing values, the scope of speech is limited by considerations of time, place, and manner. Our obligations, like our opportunities, to participate in the give and take of democratic life are strongest in the realm of public space, specifically in our public forums. In upholding a postal service regulation requiring the Postmaster General to order a mailer to remove an addressee from mailing lists upon request, the Supreme Court made clear that "[t]he asserted right of a mailer, we repeat, stops at the outer boundary of every person's domain."\textsuperscript{363} Outside that boundary, however, it is inevitable, and indeed desirable, that in a society that prizes the freedom of speech and democratic process "we are often 'captives' outside the sanctuary of the home and subject to objectionable speech."\textsuperscript{364}

Even in \textit{Rowan v. United States Post Office Department}, an addressee could ask to be removed from mailing lists only \textit{after} receiving mail deemed offensive.\textsuperscript{365} In the public forums of cyberspace, as in our traditional public places, a speaker should be entitled to at least as significant an overture. As a matter of policy, a difficult balance will have to be struck somewhere between the reasonable time, place, and manner restrictions we wish to impose on our public forums and the imperative of maintaining meaningful opportunities for speech. No constitutional concerns, however, should stand in the way of limiting the ease with which cyber-travelers can evade speech in public forums in the first place, so long as no speaker may hold them captive.

\textsuperscript{361} See U.S. CONST. amend. I.

\textsuperscript{362} Emerson, supra note 223, at 809. See also Thomas M. Scanlon, Jr., \textit{Freedom of Expression and Categories of Expression}, in \textit{FREEDOM OF EXPRESSION: A COLLECTION OF BEST WRITINGS} 471, 478 (Kent Middleton & Roy M. Mersky eds., 1981) ("There is significant benefit in being exposed to ideas and attitudes different from one's own, though this exposure be unwelcome.") \textit{quated in Hammond, Regulating Broadband, supra note 156}.

\textsuperscript{363} Rowan v. United States Post Office Dep't, 397 U.S. 728, 738 (1970).

\textsuperscript{364} \textit{Id}.

\textsuperscript{365} See \textit{id.} at 730.
B. Regulating Proprietor’s Speech and Third-Party Access

Even if a regulation does not force speech upon a speaker, it may nonetheless burden her ability to speak. Thus, in *Turner I*, the Court scrutinized the "must-carry" regulations because they reduced the number of channels over which cable operators exercised control and intensified competition among cable programmers for those remaining channels.\(^{366}\)

The proposed forum creation approaches requiring that servers "must-carry" the transmissions necessary to establish cyber-sidewalks have dramatically less burdensome effects. Unlike the situation where the cable operator has a finite number of channels and must exclusively dedicate up to one-third of them to "must-carry" stations,\(^{367}\) the Web-operator must dedicate less than 100 bytes out of a document that may run into the hundreds of thousands, not even counting the size of the other documents that help constitute the website. Moreover, even this dedication of a trivially small fraction of the transmission does not mean that the operator must, nonetheless, transmit 100 bytes less information than she would absent the regulation. Unlike cable television systems limited by technology to a finite channel capacity, there is nothing to prevent the Web-operator from simply transmitting 100 more bytes to visitors and storing 100 more bytes on her hard-disk or other storage device. With even the slowest transmission rates at about 1,000 bytes per second and rapidly rising,\(^{368}\) the regulation would at worst cause a one-time increase of a fraction of a second in the course of a visit. Any burden on the operator's total storage capacity would be at least as insignificant.

Even if the Court were to decide that such burdens nonetheless amount to a regulation of speech, the "must-carry" rule would easily pass muster. The access requirement would not be triggered by the content of the speech occurring in the targeted cyber-place but would apply without regard to the viewpoints, speakers, or subject matter discussed within. At most, one might wish to link access rights to features unrelated to the content of any speech but rather to one's ability to characterize the site as a "place" at all, and if so, as one that does not trigger any special privacy considerations. The argument above -- that we conceive cyberspace as an electronic environment capable of supporting differentiated, structured "places" -- does not preclude


\(^{367}\) See id. at 630-31.

\(^{368}\) A 9600 bps (bit per second) modem transmits 1200 bytes per second.
experiencing some uses of that environment as stable places and others as instead, for example, communication\textsuperscript{369} or transportation,\textsuperscript{370} just as our uses of the material environment can be structured in these various modes. Perhaps we should draw a line somewhere between a website that merely contains the plain text of a statement and one that allows interactive shopping and buying, though arguably we should not make such a distinction and simply conceptualize the former as just a very simple use of space, like planting a sign in the ground.\textsuperscript{371} Such distinctions, however, would not be grounded in differences in expressive content between the cases. Indeed, the Court has allowed some restrictions on speech in public forums out of deference to the private nature of the place outside which they occur.\textsuperscript{372} Such place-based restrictions have been found to be content-neutral.\textsuperscript{373}

While my cyber-sidewalks proposals are clearly content-neutral with respect to the conditions triggering their application to a given cyber-place, it is a closer question whether privileging specific over general access should trigger the strict scrutiny reserved for content-based restrictions of access to a public forum. The distinction between general and specific access rests on the subject matter of the speech -- on how closely the speech is tied to the particular cyber-place outside which the speech is to occur. On the other hand, it makes reference to no particular subject-matter but only to the \textit{closeness of the relationship} between that subject matter and the activities of the adjacent cyber-place. As between two subjects equally related to the particular place, it makes no discrimination.

This emphasis on relevance rather than topic distinguishes the proposed regulation from the cases in which the Court most emphatically rejected content-based exclusions from public forums. In \textit{Police Department of Chicago v. Mosley}\textsuperscript{374} and \textit{Carey v. Brown},\textsuperscript{375} the Court struck down ordinances banning picketing in front of schools and private

\begin{itemize}
  \item \textsuperscript{369} E-mail and point-to-point voice and video communication being the clearest candidates.
  \item \textsuperscript{370} File Transfer Protocol ("FTP") seems to fit this description.
  \item \textsuperscript{371} This seems more plausible than trying to characterize the latter as just very complicated speech.
  \item \textsuperscript{372} See Frisy v. Schultz, 487 U.S. 474 (1988) (upholding narrow limitations on focused picketing which intrude on residential privacy); Madsen v. Women's Health Ctr., 512 U.S. 753 (1994) (upholding narrow limitations on focused picketing which intrude upon medical privacy).
  \item \textsuperscript{373} See Frisy, 487 U.S. at 482; see also Madsen, 512 U.S. at 763-64.
  \item \textsuperscript{374} 408 U.S. 92 (1972).
  \item \textsuperscript{375} 447 U.S. 455 (1980).
\end{itemize}
residences, respectively, unless the place being picketed was involved in a labor dispute. Both statutes were challenged by plaintiffs attempting to protest racist practices by occupants of the targeted places. In both cases, the Court observed that the anti-disruption rationale for the general restrictions did not explain the exceptions.\footnote{376} In Mosley there was no additional justification and so the ordinance was struck down summarily. In Carey, the supplemental rationale was a purported special interest in protecting labor speech, which, as the Court observed, "forthrightly presupposes that labor picketing is more deserving of First Amendment protection than are public protests over other issues."\footnote{377}

No supposition that speech on certain topics is more valuable or more worthy of First Amendment protection is contained in the specific/general distinction. Whether or not the speech will be favored depends on the place in which it occurs, not on its subject matter. The regulation of cyber-sidewalks in cyberspace functions primarily as a time, place, and manner restriction in order to allocate particular topics to particular places thus maximizing the effectiveness with which the forum is used, without using that allocation to disadvantage topics relative to one another. "[S]ome forms of orderly regulation actually promote freedom more than would a state of total anarchy."\footnote{378}

The Court has repeatedly affirmed "that the principal inquiry in determining content-neutrality . . . is whether the government has adopted a regulation of speech because of [agreement or] disagreement with the message it conveys."\footnote{379} Moreover, this emphasis on viewpoint-neutrality is especially appropriate when the forum in question is a designated one. There is no question that the state may create public forums with specific purposes in mind and limit access to the forum to subject matter that furthers those purposes,\footnote{380} so long as neither those purposes nor the subject matter limitation are designed to discriminate among viewpoints.\footnote{381}

The specific/general distinction does not map onto any continuum of agreement or disagreement. Instead, it tracks the degree to which access to the public forum is necessary to achieve the goals of the public forum doctrine. Without making any judgments that some subjects

\begin{itemize}
  \item \textit{See Mosley,} 408 U.S. at 100; \textit{Carey,} 447 U.S. at 469.
  \item \textit{See Carey,} 447 U.S. at 466.
  \item \textit{See id. at} 829-30; \textit{see generally supra text accompanying notes} 34-39.
\end{itemize}
should be promoted over others, it remains the case that access to any particular place becomes more important to ensuring meaningful communicative opportunities as the speech becomes more closely related to that place. This relationship, all other things being equal between potential speakers, determines the extent to which a denial of access will "leave open ample alternative channels for communication of the information." Since this distinction is precisely the one the Court uses to distinguish time, place, and manner restrictions that are content-neutral, governmental reliance on this purpose can hardly itself constitute impermissible content-discrimination. "In short, the must-carry provisions are not designed to favor or disadvantage speech of any particular content," instead, they distinguish between speech based on the relationship between subject matter and the state's substantial interest in ensuring minimum effective opportunities for speech.

Because speakers seeking general access will have far better alternatives than those seeking specific access, ordering access priority along the general-specific continuum will also maximize the narrow tailoring of the regulation. The interests of general access-seekers in minimum meaningful opportunities to speak will always be amenable to vindication by access to some other forum, whether in cyberspace or elsewhere. Although general and specific access impose the same minimal burdens on the targeted cyber-place and attendant audiences, the "narrowly tailored" test looks to both the burdens a particular means imposes and the effectiveness of those means in meeting the government's purposes. Since the creation of specific access is more narrowly tailored to the achievement of the government's interests in creating the forum and thus more constitutionally secure, it is only


384. This is the point implicit in *Lloyd Valley* and then tragically overlooked in *Hudgens* when the Court argued, "[i]t conversely follows, therefore [from content-neutrality], that if the respondents in the Lloyd case did not have a First Amendment right to enter that shopping center to distribute handbills concerning Vietnam, then the pickets in the present case did not have a First Amendment right to enter this shopping center for the purpose of advertising their strike against the Butler Shoe Co." 424 U.S. 507, 520 (1975). *See also* supra text accompanying notes 280-90.

385. *See* discussion *supra* Parts V.A-B.

386. *See Turner I*, 512 U.S. at 662 ("Narrow tailoring in this context requires, in other words, that the means chosen do not 'burden substantially more speech than is necessary to further the government's legitimate interests.'") (quoting *Ward*, 491 U.S. at 799).

387. *See id.* at 661 ("The requirement of narrow tailoring is satisfied 'so long as the . . . regulation promotes a substantial government interest that would be achieved less effectively absent the regulation.'") (quoting *Ward*, 491 U.S. at 799).
sensible that a distinction may be drawn on this basis when it is not motivated by viewpoint or subject matter preferences. 388

VIII. CONCLUSION

Activity once constituted and constrained by our physical surroundings is increasingly moving into the alternate, though intersecting, dimension of cyberspace. As the fixed geographic relations of distance and adjacency are exchanged for the more fluid and complex spatiality of the electronic environment, the principles that underpin our constitutional commitment to accessible public forums require reinterpretation in order to retain their vitality. Public forums rely on the intersection of legal protections with patterned relations of and movement between public and private places, on the legal and technological production of public space. When the technologies of space change, the law cannot rely on its previously unexamined spatial underpinnings and instead must come to treat the production of space, not only the regulation of places, as a matter of constitutional import. Having been pushed to such an examination by the peculiar challenges of creating sidewalks in cyberspace, we might reflect back on the ongoing production of space in our everyday physical environment. Though we may have come to experience its relations of space and principles of property as natural, they are no less constructed by the ongoing exercise of technology, law, and social practice than cyberspace and are no less deserving of scrutiny for compatibility with the First Amendment’s promise of meaningful liberty and substantive democracy.

388. Cf. R.A.V. v. St. Paul, 505 U.S. 377, 388 (1991) (“When the basis for the content discrimination consists entirely of the very reason the entire class of speech at issue is proscribable, no significant danger of idea or viewpoint discrimination exists.”). Indeed, depending on the precise assessment of the burdens imposed by the regulation, at some point along the specific/general axis, the creation of the access privilege may no longer justify the imposition of the burden because the state could no longer show that its purposes would be achieved less effectively by alternate means, for example, subsidizing search engines and directories, providing postal discounts, expanding cable public access, etc.