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I. INTRODUCTION

Dominant search engines (“DSEs”)¹ are becoming a hub of convergence culture.² They provide an ever-expanding array of

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¹ We can provisionally define a dominant search engine (“DSE”) as one with over 40 percent market share. Google clearly satisfies this criterion in the U.S. and much of Europe. See David S. Evans, *Antitrust Issues Raised by the Emerging Global Internet Economy*, 102 Nw U L Rev Colloquy 285 (“European Community law and decisional practice . . . impose special obligations and significant scrutiny on firms that have market shares as low as 40 percent.”). Evans compiles data demonstrating that Google has well above this market share in Europe and the U.S. Id (citing comScore, MyMetrix qSearch 2.0 Key Measures Report (Dec. 2007), available at <<http://www.comscore.com/method/method.asp>> (last visited Aug 28, 2008)). See also Steve Lohr, *As Its Stock Tops \$600, Google Faces Growing Risks*, NY Times C1 (Oct 13, 2007) (remarking that “[i]n September, Google’s share of Web searches in the United States was 67 percent, up from 54 percent a year earlier, reports Compete.com, a Web analytics firm. The Yahoo share was 19 percent, compared with 29 percent a year earlier. And Microsoft had 9 percent, up slightly from a year ago”). But Google would not qualify as a DSE in South Korea, where Naver dominates. See, for example, Choe Sang-Hun, *South Koreans Connect through Search Engine*, NY Times (July 5, 2007), available at <<http://www.nytimes.com/2007/07/05/technology/05online.html?ref=technology>> (last visited Mar 28, 2008) (noting that “[w]eb users in one of the world’s most-wired countries seldom ‘Google’ anything. They ‘Naver’ it”). Since this piece focuses on the law of the United States, and Google is the most dominant search engine in the U.S., I will use the terms “DSE” and “Google” interchangeably.

² Media theorist Ithiel de Sola Pool saw the first glimmers of convergence culture in 1983: “A process called the ‘convergence of modes’ is blurring the lines between media, even between point-to-point communications, such as the post, telephone, and telegraph, and mass communications, such as the press, radio, and television. A single physical means—be it wires, cables, or airwaves—may carry services that in the past were provided in separate ways. Conversely, a service that was provided in the past by any one medium—be it broadcasting, the press, or telephony—can now be provided in several different physical ways. So the one-to-one relationship that used to exist between a medium and its use is eroding.” Ithiel de la Sola Pool, *Technologies of Freedom* (Harvard

services.³ As they amass information about their users, calls for regulation have focused on the threats to privacy they generate. Some of these efforts have been successful; others look more doubtful.⁴ One thing is certain: they are only the beginning of a struggle over the rights and responsibilities of key intermediaries.

While this first generation of privacy regulation centers on accountable use of the personal information amassed by search engines, second generation concerns will focus on search results.⁵ For example, when results appear in response to a search engine user's query, various entities who thought themselves necessarily associated with the query may be disappointed.⁶ Obscurity

1983), in Henry Jenkins, *Convergence Culture* (NYU 2006).

³ Google now organizes websites, text, images, and videos. It is one of the most capitalized companies in the United States, and is likely to grow stronger as its unparalleled "database of intentions" promotes ever more targeted marketing. Consider Oren Bracha and Frank Pasquale, *Federal Search Commission: Fairness, Access, and Accountability in the Law of Search*, 93 Cornell L Rev, 14–19 (forthcoming 2008, available at <<http://ssrn.com/abstract=1002453>>) (last visited March 26, 2008).

⁴ Successful efforts include the European Union's effort to force the anonymization of search queries after 18–24 months. See Electronic Privacy Information Center, *Search Engine Privacy*, available at http://epic.org/privacy/search_engine/ (last visited August 25, 2008) ("[The] European Union Data Protection Directive requires search engines to 'delete or irreversibly anonymise personal data once they no longer serve the specified and legitimate purpose' for which they were collected. This requirement has particular significance for search engines, because European privacy rules classify Internet Protocol (IP) addresses as 'personal data.'").

⁵ Second-generation works here include Frank Pasquale, *Rankings, Reductionism, and Responsibility*, 54 Clev St L Rev 115 (2006) (prepared for Symposium in Honor of Margaret Jane Radin) (proposing legal remedies for those allegedly harmed by search engines); Urs Gasser, *Regulating Search Engines: Taking Stock and Looking Ahead*, 9 Yale J L & Tech 124, 155–57 (2006) (analyzing the emerging law of search engines and positing an analytical framework that may be helpful in considering regulation); James Grimmelmann, *The Structure of Search Engine Law*, 93 Iowa L Rev 1 (2007) (discussing legal issues posed by search engines); Thomas Cotter, *The Role and Future of Intermediaries in the Information Age: Some Observations on the Law and Economics of Intermediaries*, 2006 Mich St L Rev 67 (2006) (considering how law might reduce the social costs of acquiring, evaluating, and managing information). Jennifer Chandler gives a good typology of the types of bias that search engines may introduce. See Chandler, *A Right to Reach an Audience: An Approach to Intermediary Bias on the Internet*, 35 Hofstra L Rev 1095, 1109 (2007) ("[F]orms of bias introduced by search engines includ[e] (1) the removal of websites from the search engine index, (2) the reduction of website ranking, (3) the refusal to accept keyword-triggered advertisements from certain websites, and (4) the practice of providing preferences in indexing or ranking for paying websites.").

⁶ See, for example, Eric Goldman, *Deregulating Relevancy in Internet Trademark Law*, 54 Emory L J 507, 588 (2005) ("Due to search providers' active editorial role—especially where search providers draw a profit from the trademarked keyword—it seems logical that trademark owners would want to hold them liable for trademark infringement."). Goldman proposes a safe harbor for search engines. *Id.* I find such safe harbor proposals desirable only to the extent that search engines adopt enforceable commitments (or submit to laws) requiring the responsible provision of data (and metadata).

hurts. On the other hand, digital “scarlet letters” can be amplified by prominence in search results.⁷

Personalized and stratified search services also promise to be controversial. Just as attorneys who can afford Westlaw have an advantage over those who cannot, searchers may eventually find themselves bidding for access to “premium databases” on DSEs. University libraries that now rely on Google Scholar or Book Search have no guarantee that these services will always be free. Though some might find the tiered provision of data uncontroversial, all should agree that search engines should not be given special privileges or fair use protection on the unwarranted assumption that their current policies of open access will continue indefinitely.

Personalized search capabilities also raise novel questions in information policy. The more DSEs know about users, the more targeted their ads and services will become.⁸ Many scholars have already addressed the privacy problems that such information asymmetries will generate.⁹ Still to be analyzed are the effects of data accumulation on the market for search itself. Will increasingly personalized search tend to lock consumers in to using already favored DSEs? Who controls the data that users and search engines together generate?¹⁰

⁷ See Pasquale, 54 Clev St L Rev at 130 (cited in note 5).

⁸ With personalized search, a search engine can use artificial intelligence and other methods to gradually “learn” what a user is most likely to want given their pattern of responses to past results. For example, if a user habitually searches for recipes, the search engine may weigh food sites more heavily than other sites when confronted with an ambiguous term (such as “cake,” which could refer, inter alia, to a confection or to the rock band Cake). Such a sensitive “learning” search engine would save the user the trouble of typing in longer terms like “cake food” or “cake cooking.” See James E. Pitkow, et al, *Personalized Search*, 45 Communications of the ACM 50 (2002) (discussing methods of personalizing search systems); Elinor Mills, *Google Automates Personalized Search*, CNET News (June 28, 2005), available at <http://www.news.com/Google-automates-personalized-search/2100-1032_3-5766899.html> (last visited Mar 28, 2008) (reporting that Google launched a new version of its personalized search that monitors previous searches to refine future results). Some analysts report that Google plans to help finance cell phone usage by offering phones that record all conversations and then use voice recognition to serve up ads tailored to the user’s interests. See Nate Anderson, *Google, Microsoft Look Beyond Mobile Search for Voice Interaction*, Ars Technica (2007), available at <<http://arstechnica.com/news.ars/post/20070416-google-microsoft-look-beyond-mobile-search-for-voice-interaction.html>> (last visited Mar 28, 2008).

⁹ See, for example, Patricia Bellia, *The Memory Gap in Surveillance Law*, 75 U Chi L Rev 137, 179 (2008) (“The changing architecture of memory raises fundamental questions about the application of well-entrenched rules for communications surveillance.”); Michael Zimmer, *Privacy on Planet Google*, 3 J Bus & Tech L 109, 118 (2008) (assessing privacy threats from complete suite of Google products and services); Daniel Solove, *The Digital Person* 3 (NYU 2004) (discussing the problem of “digital dossiers”).

¹⁰ For example, entrepreneur Auren Hoffman proposes that “[y]our data should be

Cyberlaw scholars have begun to address these concerns within extant legal categories. Trademark law governs consumer associations; defamation law concerns false and harmful statements; and copyright law governs indexing projects like Book Search. However, communications and intellectual property law provide safe harbors that can trump legal claims sounding in each of these areas.¹¹ For example, although immunities from tort liability provided under the Communications Decency Act ("CDA") were designed for carriers regulated by the Federal Communications Commission, they have been extended by courts to cover search engines.¹² That extension provokes the question: should some of carriers' obligations, as well as their immunities, also apply to search engines?

In this Article I contend that the safe harbors that shield dominant search engines from liability also suggest patterns of responsibility for the results they present. The expansion of CDA immunity from carriers to search engines suggests that DSEs and carriers are infrastructurally homologous. Like carriers, DSEs are simultaneously stable conduits, dynamic cartographers, indexers, and gatekeepers of the internet. Some of the

owned by you and be portable anywhere. You should be able to move or copy your data from one location to another location. Essentially, you should be able to export your data from [any given online repository] and import it to a different system. When you join a new social network, you should be able to take your social graph from Facebook or LinkedIn with you and tear down these walled gardens." See Frank Pasquale, *Zero-Sum Reputation Games*, Posting to Madisonian Weblog, available at <<http://madisonian.net/2007/12/08/zero-sum-reputation-games/>> (last visited Apr 15, 2008). Hoffman's service Rappleaf would attempt to solve this data portability problem. *Id.* However, Hoffman's solution might create more privacy problems even as it advances competition online, because it would allow individual users to reproduce data now held by particular companies. See comment of James Grimmelmann on post of Frank Pasquale, *The New Neutralities*, Posting to Concurring Opinions Weblog, available at <http://www.concurringopinions.com/archives/2008/08/competition_in.html> (last visited Aug 25, 2008).

¹¹ See Michael L. Rustad and Thomas H. Koenig, *Rebooting Cybertort Law*, 80 Wash L Rev 335, 371 (2005) ("An activist judiciary . . . has radically expanded § 230 by conferring immunity on distributors. Section 230(c)(1) has been interpreted to preclude all tort lawsuits against ISPs, websites, and search engines."). But see Mark A. Lemley, *Rationalizing Internet Safe Harbors*, Stanford Public Law Working Paper No 979836, *2 (unpublished manuscript) (Apr 10, 2007), available at <<http://ssrn.com/abstract=979836>> (last visited March 27, 2008) (arguing that current patchwork of safe harbors afforded by the Digital Millennium Copyright Act of 1998 does not consistently shield search engines from frivolous lawsuits).

¹² 47 USC § 230(c)(1) (1998); *Parker v Google*, 422 F Supp 2d 492 (E D Pa 2006) (holding that the Communications Decency Act immunized internet service provider from any defamation, invasion of privacy, or negligence liability arising from its archiving of, caching of, or providing access to allegedly defamatory, unauthorized, or threatening usenet postings; operator could not be held liable as publisher or speaker of third-party content under the Communications Act of 1934, § 230(c), (e), codified at 47 USC § 230(c), (e) (2000)).

same common carrier regulations DSEs now insist should govern carriers should also be applied to themselves. Moreover, as the number of joint ventures and alliances between search engines and carriers increases, it will become more and more difficult to give principled grounds for regulating one without also regulating the other.

DSEs now anchor an Open Internet Coalition that advocates for “net neutrality.”¹³ This coalition argues that carriers must not be allowed to discriminate for or against certain clients—for example, that Verizon should not be allowed to speed Yahoo search results to its customers ten times faster than Google results (in exchange for, say, a share of Yahoo’s profits). Such proposals have sparked a spirited legal debate, including the carriers’ contention that Google is a much more threatening bottleneck than the carriers.¹⁴

This Article clarifies and extends that debate by explaining how DSEs’ own advocacy for transparency and accountability for carriers suggests broader principles for regulation of search engines generally. Part II defines these internet nondiscrimination principles in the context of a broader debate over network neutrality. Part III explores more concretely how these principles could be applied to dominant search engines. Part IV concludes with some reflections on the normative appeal of a common commercial ethic for dominant platforms online.

II. THE NETWORK NEUTRALITY DEBATE

The “network neutrality” debate has raged in telecommunications law for over a decade.¹⁵ The debate has recently focused on the degree to which network operators who provide information services can discriminate in favor of or against certain content providers and applications. Dominant search engines have pressed for rules that create a “level playing field” online.

¹³ See *A Guide to Net Neutrality for Google Users*, Google, Inc, available at <<http://www.google.com/help/netneutrality.html>> (last visited Mar 27, 2008) (“In our view, the broadband carriers should not be permitted to use their market power to discriminate against competing applications or content.”).

¹⁴ See Saul Hansell, *AT&T Mulls Watching You Surf*, N. Y. Times Bits Blog, Aug 14, 2008 (available at <http://bits.blogs.nytimes.com/2008/08/14/att-wants-to-watch-you-read-ads/>) (last visited Aug 28, 2008) (noting that an AT&T spokesman had taken a “took a rather combative approach toward Google and other Internet advertising firms. Their targeting methods, she said, ‘are as effective as any technique that an I.S.P. might employ at creating specific customer profiles and enabling highly targeted advertising.’”).

¹⁵ See Tim Wu, *Network Neutrality FAQs*, available at <http://timwu.org/network_neutrality.html> (last visited Mar 27, 2008).

Net neutrality has become a *cause célèbre* among legal academics and technologists. Many fear that powerful carriers will effectively tax innovation and culture by auctioning off a “fast-track” and degrading the quality of service of those who cannot afford it.¹⁶ Such actions would have been highly suspect before broadband arose, but now appear possible given the FCC’s deregulation of its provision. In the absence of common carriage rules, several problematic possibilities may arise. For example, HBO programs may be delivered ten times as fast as Univision ones, and wealthy churches’ programming may be transmitted with crystalline clarity (leaving poorer churches consigned to a grainy obsolescence).¹⁷ Users may find their connection to YouTube suddenly lost whenever they try to watch something that has not been pre-approved by a consortium of content owners. Indeed, in many cases carriers are also content owners or distributors, and have a vested interest in diminishing the attractiveness of free services vis-à-vis their own offerings. In response to such possibilities, leading activists have lobbied the FCC to impose “net neutrality” rules on major carriers designed to assure nondiscrimination in the delivery of bits.¹⁸

Yet there are sometimes good business reasons to provide more access to some users and less to others.¹⁹ To what extent should broadband providers be able to discriminate among different applications on their networks? Should all packets of data on the net be trackable, and if so, should companies that control

¹⁶ Barbara Van Schewick, *Towards an Economic Framework for Network Neutrality Regulation*, 5 J Telecommun & High Tech L 329 (concluding that “increasing the amount of application-level innovation through network neutrality regulation is more important than the costs associated with it”).

¹⁷ For a general discussion, see Bill D. Herman, *Against Bottlenecks: On Behalf of Mandated Network Neutrality*, 59 Fed Commun L J 103, 121–23 (2006) (noting that network operators can block or otherwise degrade the service for specific types of applications, and reserve the right to censor content uploaded/downloaded by consumers).

¹⁸ See, for example, Barbara A. Cherry, *Misusing Network Neutrality to Eliminate Common Carriage Threatens Free Speech and the Postal System*, 33 N KY L Rev 483, 502 (2006) (“[T]o advocate primary reliance on antitrust principles ignores important historical facts. Common carriage regulation, both under the common law and statutorily, evolved prior to antitrust regulation. Thus, antitrust law subsequently evolved to augment—that is, to address issues and situations not already encompassed by—common carriage. . . . Advocates of a regime based solely on antitrust fail to explain how the issues pertaining to the provider-to-customer relationship, that have been governed by the ex ante rules of industry-specific common carriage regulation, will be adequately addressed by antitrust ex post remedies.”).

¹⁹ See Christopher Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J Telecommun & High Tech L 23 (2004). A user who pays more helps the company invest in its personnel and infrastructure.

the network also be able to prioritize certain packets on the basis of their source? Questions like these are at the center of network neutrality debates.

Even many of those in favor of net neutrality now agree that congestion-based pricing is acceptable—heavy users take up more space on the network, and ought to be charged accordingly.²⁰ Furthermore, since any network design has some inherent bias, the debate has now turned away from the ideal of a wholly neutral network, to fundamental principles of nondiscrimination within crucial conduits.²¹

Though a full investigation of the merits of these principles is beyond the scope of this paper, technical, economic, and cultural perspectives on the controversy should inform future discussions of search engine regulation. Information policy expert Edward Felten contends that “relatively few people understand the mechanics of network discrimination” and urges that any discussion of network neutrality clearly lay out “technical motivations for discrimination, the various kinds of discrimination and how they would actually be put into practice, and what countermeasures would then be available to users and regulators.”²² His précis “Nuts and Bolts of Network Neutrality” provides such background; here I focus on the points especially relevant to nondiscrimination principles generally.

²⁰ Christopher Yoo, *What Can Antitrust Contribute to the Network Neutrality Debate*, 1 Intl J Commun 493, 518 (2007) (arguing that “most recently, network neutrality proponents have conceded the validity of access tiering and have simply argued for nondiscrimination within tiers”); Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J Telecommun & High Tech L 141, 154 (2003) (acknowledging that mainstream antitrust analysis views this type of price discrimination as uncontentious); but see Susan Crawford, *The Internet and the Project of Communications Law*, 55 UCLA L Rev 359 (2007) (arguing for more expansive view of net neutrality).

²¹ Jonathan Zittrain, *The Generative Internet*, 119 Harv L Rev 1974, 1978 (2006) (noting that current cyberlaw literature “focuse[s] on network openness to the exclusion of endpoint openness,” and recognizing applanization as threat to generativity); Tim Wu, *Network Neutrality, Broadband Discrimination* (cited in note 20).

²² Ed Felten, *Nuts and Bolts of Network Neutrality*, Princeton University 1 (July 6, 2006), available at <<http://itpolicy.princeton.edu/pub/neutrality.pdf>> (last visited Mar 27, 2008). Felten is widely considered a moderate voice on these matters. He believes “[t]he present situation, with the network neutrality issue on the table in Washington but no rules yet adopted, is in many ways ideal. ISPs, knowing that discriminating now would make regulation seem more necessary, are on their best behavior; and with no rules yet adopted we don’t have to face the difficult issues of linedrawing and enforcement. Enacting strong regulation now would risk side-effects, and passing toothless regulation now would remove the threat of regulation. If it is possible to maintain the threat of regulation while leaving the issue unresolved, time will teach us more about what regulation, if any, is needed.” Id at 10.

Felten makes the following observations about the structure of the internet:

The Internet consists of a set of end-user computers connected by infrastructure that carries data between those computers. This infrastructure is basically a set of routers (think: metal boxes with electronics inside) connected by links (think: long wires). Packets of data get passed from one router to another, via links. A packet is forwarded from router to router, until it arrives at its destination.²³

Felten explains that the routers can manage the traffic they receive in many ways. If the wires are uncongested, packets of data simply move through the network. However, if congestion is detected by one of the routers, it has several options for addressing the problem. It can simply drop packets, or it can deprioritize them, delaying their transmission until the congestion is alleviated. Felten calls these two responses “blocking” packets and “delaying” packets, and notes that “blocking a packet is harsher than just lowering its priority.”²⁴ Delay may be part of a “minimal discrimination” program that is only aimed at traffic management; blocking suggests “non-minimal discrimination” with ulterior motives.²⁵

For example, internet researchers have recently accused Comcast of secretly blocking some internet traffic.²⁶ They argue that Comcast “interferes with attempts by some of its high-speed internet subscribers to share files online, a move that runs counter to the tradition of treating all types of Net traffic

²³ Id at 1. Compare with Jonathan Zittrain, *Internet Points of Control*, 44 BC L Rev 653, 657 (2003) (“Thus we might think of typical movement of data on the Internet as having five distinct phases. It begins at (1) a source, passes through (2) the source ISP, continues through transit and/or peering through (3) the cloud, is handled by (4) the destination ISP and then arrives at (5) the destination.”).

²⁴ Id at 3.

²⁵ Id at 2–3.

²⁶ Peter Svensson, *Comcast Blocking Some Internet Traffic*, MSNBC.com (Oct 19, 2007), available at <<http://www.msnbc.msn.com/id/21376597/>> (last visited Mar 27, 2008) (“Companies that rely on peer-to-peer technology, and could be affected if Comcast decides to expand the range of applications it filters, include Internet TV service Joost, eBay Inc.’s Skype video-conferencing program and movie download appliance Vudu.”). A majority of the FCC has decided that “The record leaves no doubt that Comcast’s network management practices discriminate among applications and protocols rather than treating all equally.” *In the Matter of Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications*, FCC File No. EB-08-IH-1518, Aug. 20, 2008, at ¶ 41.

equally.”²⁷ They would not object if Comcast adopted a blanket policy of limiting, say, low-paying customers to a certain amount of downloads, and permitting higher-paying customers to download twice as much. Rather, they object to Comcast’s blocking certain applications, such as BitTorrent. To net neutrality advocates, this type of discrimination is a troubling exercise of power that is not connected to protecting the network or relieving congestion. It is too blunt an instrument to be justified on those terms. A carrier has a right to manage traffic when congestion becomes a problem, but such management ought to be based on usage, not on applications.

Another key concern is the transparency of network management techniques. In the example mentioned above, Comcast has also been accused of masking its traffic management methods.²⁸ Under basic principles of transparency, Comcast and other carriers should be required to report on their blocking and deprioritizing practices. Regardless of the particular ways of enforcing a transparency principle, it is important to Google and others that the public and customers understand exactly what broadband service provides.²⁹

Controversies over net neutrality illuminate the delicately layered ecology of mediated communication in the digital age.³⁰

²⁷ Svensson, *Comcast Blocking Some Internet Traffic* (cited in note 26). See also *In the Matter of Formal Complaint of Free Press and Public Knowledge against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications*, FCC File No. EB-08-IH-1518, Aug. 20, 2008, at ¶ 41 (“[B]ecause Comcast’s method, sending RST packets to both sides of a TCP connection, is the same method computers connected via TCP use to communicate with each other, a customer has no way of knowing when Comcast (rather than its peer) terminates a connection.”). But see dissenting statement of Commissioner MacDowell (“[T]he FCC does not know what Comcast did or did not do. The evidence in the record is thin and conflicting. All we have to rely on are the apparently unsigned declarations of three individuals representing the complainant’s view, some press reports, and the conflicting declaration of a Comcast employee. The rest of the record consists purely of differing opinions and conjecture.”). In his brief dissent, Commissioner MacDowell does not attempt to refute the press reports (or studies they were based on) beyond this summary dismissal.

²⁸ Svensson, *Comcast Blocking Some Internet Traffic* (cited in note 26) (“Comcast’s technology kicks in, though not consistently, when one BitTorrent user attempts to share a complete file with another user. Each PC gets a message invisible to the user that looks like it comes from the other computer, telling it to stop communicating. But neither message originated from the other computer—it comes from Comcast.”).

²⁹ See Sascha D. Meinrath and Victor W. Pickard, *The New Network Neutrality: Criteria for Internet Freedom*, 12 *Intl J Commun L & Policy* 225, 227 (2008) (noting that how networks operate has been made “unnecessarily opaque”).

³⁰ See Jonathan Zittrain, *The Future of the Internet—And How to Stop It* 68 (Yale 2008) (describing a physical layer, the “actual wires or airwaves over which data will flow;” an application layer, “representing the tasks people might want to perform on the network;” a content layer, “containing actual information exchanged among the network’s

Market power at any given layer can distort competition at other layers. For example, consider antitrust complaints against Microsoft. European authorities accused the company of using its dominance in the operating system market to foreclose competition at the application layer (for software like browsers and media players).³¹ Microsoft's position is not unique—dominant intermediaries can be just as powerful as dominant operating system owners.

The debate over network neutrality focuses on whether owners of the physical layer can charge certain application and content providers for high-speed access for their packets. The debate is *not* over whether the carriers can charge high-traffic users more than low-traffic users: no one objects if a site transmitting a thousand gigabytes (a terabyte) of information a month is charged ten times more than a site transmitting 100 gigabytes. Rather, the concern is that carriers will strike deals with certain content or applications providers (such as Disney or MySpace) to privilege them over other providers.

Legal and economic factors have pushed network discrimination policies to the top of the communications policy agenda in the United States. While the U.S. was once the global leader in internet access and penetration, it is now middling among OECD countries and falling further behind innovators in Europe and Japan.³² Under Michael Powell the FCC advanced a largely deregulatory agenda that granted carriers increasing power to manage networks without government scrutiny.³³ Though some

users;" and a social layer, "where new behaviors and interactions among people are enabled by the technologies underneath").

³¹ See Debora Spar, *Ruling the Waves: Cycles of Discovery, Chaos, and Wealth from the Compass to the Internet* 302 (Harcourt 2001) (discussing history of antitrust investigations of Microsoft). For background on the American antitrust case against Microsoft, see Andrew Chin, *Decoding Microsoft: A First Principles Approach*, 40 Wake Forest L Rev 1 (2005).

³² Blaine Harden, *Japan's Warp-Speed Ride to Internet Future*, Wash Post A1 (Aug 29, 2007) ("Accelerating broadband speed in [Japan]—as well as in South Korea and much of Europe—is pushing open doors to Internet innovation that are likely to remain closed for years to come in much of the United States. The speed advantage allows the Japanese to watch broadcast-quality, full-screen television over the Internet, an experience that mocks the grainy, wallet-size images Americans endure.").

³³ For a general discussion, see Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (Yale 2006). The trend has started to reverse very recently, given the agency's pro-net-neutrality order in the Comcast/BitTorrent dispute. See *In the Matter of Formal Complaint of Free Press and Public Knowledge against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications*, FCC File No. EB-08-IH-1518, Aug. 20, 2008 ("We require Comcast within 30 days to disclose the details of their unreasonable network management practices, submit a compliance plan describing how it intends to stop these unreasonable management practices by the end of

would argue this agenda simply reflects carriers' outsized political influence,³⁴ major network operators argue that they need to be able to charge more to content and applications providers in order to invest in their networks.³⁵ They believe they can only secure investment capital to install upgrades like fiber optic lines if they can convince investors that they exercise tight control over the content that flows through their conduits.³⁶

Advocates of network neutrality take exactly the opposite approach, and use the case study of Japan to make their point:

In sharp contrast to the Bush administration over the same time period, regulators in Japan compelled big phone companies to open up wires to upstart Internet providers. In short order, broadband exploded. . . . [T]he story of how Japan outclassed the United States in the provision of better, cheaper Internet service suggests that forceful government regulation can pay substantial dividends.³⁷

the year, and disclose to both the Commission and the public the details of the network management practices that it intends to deploy following termination of its current practices.”).

³⁴ Preston Gralla, *AT&T and Verizon: We Own Your Congress*, Networking and Telecom Blog (Apr 17, 2006), available at <http://techsearch.cmp.com/blog/archives/2006/04/att_and_verizon_1.html> (last visited Mar 27 2008) (“The Center for Public Integrity compiled a list of the top 100 money-givers to Congress between 1998 and 2005, and telcos dominate the list: Verizon Communications: \$81,870,000, SBC Communications: \$58,035,037, AT&T Corp.: \$53,349,499, Sprint Corp.: \$47,276,585, BellSouth Corp.: \$33,732,827, Qwest Communications: \$24,523,480.”).

³⁵ A telecom CEO colorfully expressed his views on net neutrality as follows: “How do you think [applications and content providers are] going to get customers? Through a broadband pipe. Cable companies have them. We have them. Now what they would like to do is use my pipes for free, but I ain’t going to let them do that because we have spent this capital and we have to have a return on it. So there’s going to have to be some mechanism for these people who use these pipes to pay for the portion they’re using. Why should they be allowed to use my pipes? The Internet can’t be free in that sense, because we and the cable companies have made an investment and [for] a Google or Yahoo! or Vonage or anybody to expect to use these pipes for free is nuts!” Patricia O’Connell, ed, *At SBC, It’s All About “Scale and Scope”*, BusinessWeek (Nov 7, 2005), available at <http://www.businessweek.com/@n34h*IUQu7KtOwgA/magazine/content/05_45/b3958092.htm> (last visited Mar 27, 2008).

³⁶ Barbara A. Cherry, *Misusing Network Neutrality to Eliminate Common Carriage Threatens Free Speech and the Postal System*, 33 N Ky L Rev 483, 506 (2006) (“Telecommunications carriers assert their economic interests—the need to attract investment capital in a competitive broadband market—as the basis for eliminating ex ante rules of common carriage [for] their broadband service.”).

³⁷ Harden, *Japan’s Warp-Speed Ride to Internet Future* (cited in note 32) (“In the United States, a similar kind of competitive access to phone company lines was strongly endorsed by Congress in a 1996 telecommunications law. But the federal push fizzled in 2003 and 2004, when the Federal Communications Commission and a federal court ruled

To counter stories like this, advocates of deregulation have done extensive economic modeling designed to prove that a *laissez-faire* approach will ultimately be more efficient. Though some in the academic community share their enthusiasm for reducing regulation, many others have found the economic arguments wanting.³⁸

that major companies do not have to share phone or fiber lines with competitors. The Bush administration did not appeal the court ruling. 'The Bush administration largely turned its back on the Internet, so we have just drifted downwards,' said Thomas Bleha, a former U.S. diplomat who served in Japan and is writing a history of how that country trumped the United States in broadband."). See also Bob Bell, *Broadband Deregulation: A Comparative Look at the United States and the European Union*, 10 Tulane J Tech & Intel Prop L 77, 110 (2007) ("Government antitrust regulation of anticompetitive behavior in the telecommunications sector [in the United States] has been relatively nonexistent [compared to Europe] . . ."); Thomas Bleha, *Down to the Wire*, Foreign Affairs May/June 2005 ("[T]he United States is the only industrialized state without an explicit national policy for promoting broadband. . . . The Department of Commerce [has] insisted that the market, not the government, should drive the rollout of broadband."). According to Bleha, this lack of governmental initiative has "doomed broadband in the United States to remain much slower and more expensive than in Japan." Id.

³⁸ See Barbara Van Schewick, *Towards an Economic Framework for Network Neutrality Regulation*, 5 J Telecommun & High Tech L 329, 332 (2007) ("appl[ying] insights from game theory, industrial organization, antitrust, evolutionary economics and management strategy to analyze network operators' incentives to discriminate, the impact of potential discriminatory behavior on innovation and social welfare, and the costs of regulation"). For a general discussion, see also Brett M. Frischmann, *An Economic Theory of Commons and Infrastructure Management*, 89 Minn L Rev 917 (2005) (suggesting economic arguments for open access); Brett Frischmann & Barbara von Schewick, *Network Neutrality and The Economics of an Information Superhighway*, Jurimetrics (forthcoming 2007) available at <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1014691> (last visited Mar 4, 2008) (offering a critique of Chicago-style arguments against network neutrality); Tim Wu, *Why Have a Telecommunications Law*, 5 J Telecommun & High Tech L 15 (2006) (suggesting that non-discriminatory networks may be valuable and worth preserving even in the absence of significant market power due to economic value of other related activities); Mark A. Lemley & Lawrence Lessig, *The End of End to End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L Rev 925 (2001) (arguing against excessive control on internet service providers by cable companies); Nicholas Economides, *'Net Neutrality', Non-Discrimination and Digital Distribution of Content Through the Internet*, NET Institute Working Paper No 07-03 (March 2007) available at <<http://ssrn.com/abstract=977096>> (last visited Mar 27, 2008) (discussing implications of the absence of network neutrality and non-discrimination principles); Spencer Weber Waller & Brett M. Frischmann, *Essential Facilities, Infrastructure, and Open Access* (November 2, 2006) available at <<http://ssrn.com/abstract=942074>> (last visited Mar 26, 2008); Wu, *Network Neutrality, Broadband Discrimination*, 2 J Telecommun & High Tech L at 173-74 (cited in note 20) (rejecting argument that network neutrality will prevent providers from making a return on investments in infrastructure); Daniel J. Weitzner, *The Neutral Internet: An Information Architecture for Open Societies* (June 19, 2006), available at <<http://dig.csail.mit.edu/2006/06/neutralnet.html>> (last visited Apr 6, 2008) (arguing that preserving the neutral, nondiscriminatory essence of the Internet and future growth are not mutually exclusive); *Preserving the Essential Internet*, Center for Democracy & Technology, June 20, 2006, available at <<http://www.cdt.org/speech/20060620neutrality.pdf>> (last visited Apr 8, 2008) (advocating for internet neutrality).

Sidestepping that controversy, Jerry Kang has opened up the network neutrality debate by demonstrating that economic concerns are only one of many considerations in this policy space.³⁹ These concerns include the importance of media diversity, independent gatekeepers, and “distribution of communicative power and opportunities among private actors.”⁴⁰

Both application and content providers believe that they would have to compete unfairly with larger corporations (or, worse, subsidiaries of carriers) in the absence of net neutrality rules. For example, the Future of Music Coalition raises this possibility:

What would happen if Sony paid Comcast so that sony-music.com would run faster than iTunes or, more important, faster than cdbaby.com—where over 135,000 indie artists sell their music. Would a new form of Internet payola emerge, with large Internet content providers striking business deals with the dominant Internet service providers?⁴¹

Lest this appear to be mere speculation, Bill D. Herman lists a number of recent examples of content and application blocking.⁴² During a bitter labor dispute, the Canadian carrier Telus blocked access to a union website. AT&T censored the rock group Pearl Jam’s anti-Bush lyrics. Comcast has blocked BitTorrent, and some service providers have scuttled service directed to competitors Vonage and Skype. While carriers try to trivialize each incident individually, the pattern suggests a willingness to tilt the digital playing field against disfavored content and applications.

Extant incidents involving carriers blocking access to content they disapproved of and applications that competed with their own proprietary services suggests the inadequacy of a purely economic perspective on net neutrality. For example, it is

³⁹ Jerry Kang, *Race.Net Neutrality*, J Telecommun & High Tech L *9–10 (forthcoming 2008), available at <<http://ssrn.com/abstract=1000042>> (last visited Mar 27, 2008).

⁴⁰ Id. See also Jack Balkin, *Media Access: A Question of Design*, 76 Geo Wash L Rev 101, 101–02 (2008) (responding to Verizon’s decision to block messages from an abortion rights group).

⁴¹ Jenny Toomey and Michael Bracey, *Indie-Rock Revolution, Fueled by Net Neutrality*, The Hill (June 13, 2006), available at <<http://hill6.thehill.com/op-eds/indie-rock-revolution-fueled-by-net-neutrality-2006-06-13.html>> (last visited Mar 27, 2008).

⁴² Bill D. Herman, *Opening Bottlenecks: On Behalf of Mandated Network Neutrality*, 59 Fed Commun L J 103, 119–25 (2006).

possible that carriers might have seen a surge in revenue in 2003 if they “patriotically” decided to ban criticism of the Iraq war on the network. That may have led to more spending on their services and more investment in the network, but no one committed to democratic values could endorse such stifling of dissent. There is a reason why former FCC Chair Mark Fowler’s characterization of TV as “just a toaster with pictures” provoked a backlash.⁴³ Economic models tend to miss the cultural importance of media consolidation. FCC rules here ultimately govern a “battle for mindshare”⁴⁴ and cannot be resolved solely by economic analysis alone.

III. APPLYING INTERNET NONDISCRIMINATION PRINCIPLES TO SEARCH ENGINES

Advocates of net neutrality have been pleasantly surprised by Google’s advocacy for their cause. The leading U.S. search engine has weighed in on topics ranging from non-degradation commitments to the upcoming wireless auction. As it develops its own “Google Phone,” it has pushed wireless carriers to recognize the types of basic consumer freedoms residents of other industrialized countries take for granted. It has focused policymakers on the dangers of permitting a few dominant carriers to act as unaccountable bottlenecks controlling the flow of information.

As Google has become a leading corporate advocate for net neutrality, the debate has taken an unexpected turn. The carriers now argue that Google itself poses more of a threat of “bottlenecking” than those it is calling to account. Even the *Wall Street Journal* recognizes it as a uniquely powerful hub in the network. In a July 2007 editorial, Holman Jenkins said “Google’s . . . dominance in search and advertising. . . [and] its ability to control which Web sites and Web businesses receive traffic make[] it a far likelier candidate for ‘public utility’ treatment than the . . . players who make up the broadband world.”⁴⁵

Many advocates of net neutrality are uncomfortable with this idea, because they believe that search engines are funda-

⁴³ See Brent Staples, *Just a Toaster With Pictures*, NY Times (Feb 8, 1987), available at <<http://query.nytimes.com/gst/fullpage.html?res=9B0DE1D7113BF93BA35751C0A961948260>> (last visited Mar 27, 2008).

⁴⁴ I borrow this term from Hannibal Travis, *The Battle for Mindshare: The Emerging Consensus that the First Amendment Protects Corporate Criticism and Parody on the Internet*, 10 Va J L & Tech 3, 3 (2005).

⁴⁵ Holman Jenkins, *Sort of Evil*, Wall St J A11 (July 18, 2007).

mentally different than carriers. Consider this view from Public Knowledge⁴⁶ President Gigi Sohn, describing an exchange at a staff briefing of the Senate Commerce Committee staff:

[I]f we require broadband network providers not to discriminate in favor of content, applications and services in which they have a financial interest, should we not require the same from search engines like Google, Yahoo and MSN? . . . [No, because] while Google and Yahoo may be the most popular search engines, there are many others to choose from, unlike the market for broadband network providers. . . . There is also nothing prohibiting a new search engine from starting Conversely, there are numerous obstacles to becoming a broadband network provider—hence the dynamic duopoly that we now have.⁴⁷

Unfortunately, Sohn ignores the many barriers to entry in the search engine market.⁴⁸ As Public Knowledge itself has stated with respect to broadband access, the question is not whether competitors hypothetically can provide new options to consumers. Rather, regulators need to focus on the choices popular and prevalent *now*, and to protect their consumers from the

⁴⁶ Public Knowledge is a public interest group that advocates for consumer rights online. It has lobbied against expansive intellectual property rules, broadband discrimination, and excessive corporate influence in the shaping of FCC policy.

⁴⁷ Gigi Sohn, *Another Red Herring*, Public Knowledge (June 5, 2006), available at <<http://www.publicknowledge.org/node/422>> (last visited Mar 27, 2008); see also Eric Goldman, *Search Engine Bias and the Demise of Search Engine Utopianism*, 9 Yale J L & Tech 111, 118 (2006) ("Like any other media company, search engines simply cannot passively and neutrally redistribute third party content (in this case, web publisher content).").

⁴⁸ In *Federal Search Commission* (cited in note 3), Bracha and I analyzed several aspects of the search market and concluded: "The net result of these structural features of the search market is substantial advantages to large incumbents and very high barriers to entry. It suggests that the current pattern of a handful of significant players and an overwhelming dominance of one firm is not incidental and that it is likely to persist." James Grimmelmann has pointed out to me another reason to predict Google's self-reinforcing dominance: its knowledge of consumer habits is unparalleled. It offers to marketers by far the most targeted advertising capabilities, and the longer it dominates the field, the larger its advantage over others becomes. Like Western Union's stock in the 1860s, Google's stock has skyrocketed in value as investors recognize these advantages. Such success can become a self-fulfilling prophecy, as its capitalization will help reinforce its dominance. See Frank Pasquale, *Spirals, Slippery Slopes, and Self-Fulfilling Prophecies*, Concurring Opinions (Apr 7, 2007), available at <http://www.concurringopinions.com/archives/2007/04/spirals_slippery.html> (last visited March 27, 2008) ("[S]pirals, slippery slopes, and [self-fulfilling] prophecies can evolve from explanatory theories that describe society into normative theories that *critique it*." (emphasis in original)). For the story of Western Union, see Spar, *Ruling the Waves* 108–109 (cited at note 31) ("Between 1857 and 1867, [Western Union's capitalization] grew by roughly 11,000 percent.").

untoward consequences of stealth marketing,⁴⁹ vertical integration of “pipes” and content, and discrimination against content providers either too poor or too controversial to merit priority treatment by powerful companies.

Concededly, search results cannot be entirely neutral due to their inherently hierarchical structure: some site will have to be at the top of the list and others at the bottom.⁵⁰ Whereas physical congestion on a network can be alleviated by new technology, it is difficult to imagine a technical solution to the “mental congestion” occasioned by information overload. Nevertheless, the negative effects of certain types of discrimination would render DSE bias analogous to broadband discrimination in many important respects. Moreover, joint ventures between search engines and carriers foreshadow increasing opportunities for the former to assume the social importance of the latter—or do their bidding.

This Part of the Article will focus on the common intellectual underpinnings of movements for search neutrality and net neutrality. Though net neutrality can have many meanings, for our purposes Google’s demands will provide a stable referent for the term. Section A explores the parallels between dominant search engines and dominant carriers. Section B fleshes out how certain discriminatory practices, if carried out by search engines, would threaten economic efficiency, individual autonomy, and democratic values. Ultimately, internet nondiscrimination principles should be applied equally to dominant players, whether search engines or carriers.

⁴⁹ Ellen P. Goodman, *Stealth Marketing and Editorial Integrity*, 85 Tex L Rev 83, 89 (2006) (describing branded marketing as a business embedding promotional material into media that otherwise appears to be independent content).

⁵⁰ Nico Brooks, *The Atlas Rank Report: How Search Engine Rank Impacts Traffic*, Atlas Institute 3 (2004), available at <www.atlassolutions.com/pdf/RankReport.pdf> (last visited Mar 27, 2008) (“Traffic drops significantly by rank.”); Deborah Fallows, Lee Rainie and Graham Mudd, *The Popularity and Importance of Search Engines*, Pew Internet & American Life Project 2 (Aug 2004), available at <http://www.pewinternet.org/pdfs/PIP_Data_Memo_Searchengines.pdf> (last visited March 27, 2008) (“The average visitor scrolled through 1.8 result pages during a typical search.”); Leslie Marable, *False Oracles: Consumer Reaction to Learning the Truth About How Search Engines Work*, Consumer Reports Web Watch (June 30, 2003), available at <<http://www.consumerwebwatch.org/dynamic/search-report-false-oracles-abstract.cfm>> (last visited March 27, 2008) (describing study involving observation of web searches and monitoring individual perceptions of these searches); Robyn Greenspan, *Searching for Balance*, ClickZ (Apr 30, 2004), available at <<http://www.clickz.com/showPage.html?page=3348071>> (last visited Mar 27, 2008) (“[A]ttaining top-10 rankings in Google is hard work . . . Search marketing today requires that companies address the entire search result page, not just the left or the right side.”).

A. From Net Neutrality to Search Neutrality

From a purely pragmatic business standpoint, it is easy to see why search engines (and many other application providers) favor net neutrality. They do not want carriers to cut into their profits, or to be forced into an unfair competition with the subsidiaries or business partners of carriers.⁵¹ Presently the consumer and producer surplus generated by the use of search engines is mostly shared between users of search engines and search engines themselves. If carriers could discriminate among search engine providers, they could appropriate some of that surplus. More ominously, carriers might shut out some search engines altogether.

Given this possibility, dominant search engines and other application providers have become worried that they may be disadvantaged by carriers. Google's position here is representative, and given its cultural and economic importance it is appropriate to examine its positions particularly closely. In defining its own stance on net neutrality, Google has stated that the following actions by carriers should be presumptively illegal:

- 1) Levying surcharges on content providers that are not their retail customers;
- 2) Prioritizing data packet delivery based on the ownership or affiliation (the who) of the content, or the source or destination (the what) of the content;
- 3) Building a new "fast lane" online that consigns Internet content and applications to a relatively slow, bandwidth-starved portion of the broadband connection.⁵²

⁵¹ See Andrew Odlyzko, *Network Neutrality, Search Neutrality, and the Never-Ending Conflict between Efficiency and Fairness in Markets*, available at <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1095350> (last visited Aug 25, 2008) ("It is possible to argue that the best outcome might be to have Google defeat AT&T in the battle over net neutrality, but then (and likely in any case) society might have to get ready to regulate Google.").

⁵² Richard Whitt, *What Do We Mean by Net Neutrality?*, Google Public Policy Blog (June 16, 2007), available at <<http://googlepublicpolicy.blogspot.com/2007/06/what-do-we-mean-by-net-neutrality.html>> (last visited Mar 27, 2008). Google has further proposed specific methods of enforcing the commitments it proposes for carriers, including: "(1) some incremental fixes (like requiring carriers to submit semiannual reports with broadband deployment data, and mandating that carriers provide clear and conspicuous terms of service to customers); (2) structural changes (various forms of network-based competition, such as interconnection, open access, municipal networks, and spectrum-based plat-

Each of these proposed applications of net neutrality principles deserves some explication.

First, Google fears that carriers may try to punish content providers that fail to, say, purchase internet access from them. Both web users and content providers must pay for access to the web. Major content providers like Google must pay far more than, say, a small search engine. Without net neutrality provisions, Verizon might decide that if Google chooses another carrier for internet access, it will slow down bits from Google delivered to residential customers who use Verizon for their access. Or it might levy a surcharge on Google to avoid such degradation in quality of service.

The second ideal of nondiscrimination is the mirror image of the first. Imagine that a carrier and a search engine strike a deal whereby those searching on the latter will be routed to their sites twice as fast as those using Google, if the search engine agrees to give the carrier 30 percent of the advertising revenue generated by its business. Google's position is that competition in the search field should be driven by the quality of search services, not by deals between search engines and carriers.

The third application joins a battle of metaphors that has long characterized the debate over network neutrality. As mentioned above, the carriers claim that a ban on a fast lane would be as unproductive as a ban on express mail. They also make economic arguments about the desirability of price discrimination in many transportation contexts. First class travelers can subsidize the rest of the plane; congestion pricing on highways forces individuals to internalize the costs of driving at rush hour. However, these tiered pricing mechanisms are in principle open to any customers; network neutrality advocates worry about certain entities being unduly delayed, or frozen out altogether:

Imagine if you tried to order a pizza and the phone company said AT&T's preferred pizza vendor is Domino's. Press one to connect to Domino's now. If you would still like to order from your neighborhood pizzeria, please hold for three minutes while Domino's guaranteed orders are placed.⁵³

forms); (3) a ban on most forms of packet discrimination; and (4) an effective enforcement regime." Id.

⁵³ Cory Doctorow, *Big Cable's Ridiculous Net Neutrality Smear Video*, Boing-Boing: A Directory of Wonderful Things (Oct 27, 2006), available at <<http://www.boingboing>

Carriers respond that it is disingenuous for Google to analogize its position to that of a local pizza shop. They are the dominant search engine, and some economists claim that other search engines will only be able to compete with Google if they are favored by carriers. Libertarians with a Schumpeterian vision of competition claim that the carriers may be laying the ground for their own destruction if they treat dominant search engines too provocatively.⁵⁴ The highly capitalized Google might try to build its own network to “rout around” the incumbents.⁵⁵

The carriers also challenge other aspects of Google’s professed devotion to an “open innovation environment.” For example, if a site sends out a great deal of spam, the carrier may deter future bad behavior by de-prioritizing “data packet delivery based on the ownership or affiliation (the who) of the content.” The carriers could point to Google’s own practice of warning users of malware or other harmful aspects of sites that come up on search results.⁵⁶ On this understanding, Google is as much a “traffic manager” on the web as the carriers. Yet this would be a bad example for the carriers, because Google has committed to

net/2006/10/27/big-cables-ridiculou.html> (last visited Mar 28, 2008) (quoting Craig Newmark, founder of craigslist.com). See also Wu’s congressional testimony: “Americans are accustomed to basic rights to use the network as they see fit. That’s why there’s been surprise and indignation over plans, advanced by the Bells, to begin deciding what consumers want, by slowing down disfavored companies, and speeding up favored companies. It’s as if the electric company one day announced that refrigerators made by General Electric would henceforth not work quite as well as those made by Samsung. That would be a shock, because when it comes to the electric grid and the internet, people are used to a network that they are free to use as they wish. Second, whatever AT&T and others may claim as motives, the potential for abuse of market power is obvious to everyone. Ninety-four percent of Americans have either zero, one, or two choices for broadband access.” Oversight Hearing on “Network Neutrality: Competition, Innovation, and Nondiscriminatory Access” before the House Committee on the Judiciary Telecom & Antitrust Task Force, 109th Cong. (Apr 25, 2006) (testimony of Tim Wu, Columbia Law School Professor), available at <<http://judiciary.house.gov/oversight.aspx?ID=233>> (last visited Mar 27, 2008).

⁵⁴ For an explanation of the Schumpeterian vision, see J. Bradford DeLong, *Creative Destruction’s Reconstruction: Joseph Schumpeter Revisited*, Chron Higher Ed B8 (Dec 7, 2007) (“Schumpeter [believed that] market capitalism destroys its own earlier generations. There is, he wrote, a constant ‘process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in, and what every capitalist concern has got to live in.’”).

⁵⁵ See Evan Hansen, *Google Wants ‘Dark Fiber’*, ZDNet News (Jan 17, 2005), available at <http://news.zdnet.com/2100-1035_22-5537392.html> (last visited Mar 27, 2008) (considering whether Google is trying to build a fiber-optic network).

⁵⁶ See Zittrain, 119 Harv L Rev at Part II (cited in note 21) (describing the gravity of security threats online and how different “layers” of online life (at the carrier, operating system, and application levels) could help alleviate them).

making the process of identifying malware transparent and open to the public. It has partnered with a nonprofit organization (StopBadWare.org, based at Harvard Law School's Berkman Center) to assure that some kind of due process is available to owners of sites that are labeled as harmful. Carriers like Comcast would prefer to have the ability to manage traffic surreptitiously.

Yet when we look behind the reasons for carriers' aspirations for an untrammelled right to control traffic, a more compelling analogy between their own position and that of Google emerges. Carriers fear that once they begin discriminating among packets, their retail customers, software manufacturers, and application providers will begin countermeasures.⁵⁷ For example, if BitTorrent knows that Comcast is slowing down its users' packets, it may start masking them, sending them from proxy sites, or strategies pioneered by post-Napster peer-to-peer file-sharing sites online. Just as the content industries' digital rights management ("DRM") methodologies have been hacked repeatedly,⁵⁸ the carriers might worry that their own network management schemes could be evaded.

Google offers a similar rationale for keeping its search results a tightly guarded trade secret. DSEs are afraid that indexed entities who want to be prominent in highly ranked results will "game" the system.⁵⁹ The practice of "Google bombing" provides a straightforward example of the phenomenon.⁶⁰ For example, at one point liberal activists began to link the words

⁵⁷ See Marvin Sirbu, et al, *Scenarios for the Network Neutrality Race 2*, paper presented at the 34th Research Conference on Communication, Information Internet Policy, TPRC 2006 (Sept 2006), available at <http://web.si.umich.edu/tprc/papers/2006/561/TPRC2006_Lehr%20Sirbu%20Peha%20Gillett%20Net%20Neutrality%20Arms%20Race.pdf> (last visited Mar 27, 2008) (suggesting that "end-users (and upstream providers) have a range of technical and market-based strategies for responding to discrimination. . . . The outcome of the resulting network neutrality arms race is uncertain and reflects the dynamic nature of the Internet."); Felten, *Nuts and Bolts of Network Neutrality* at 7 (cited in note 22) ("If the network discriminates by sending misleading signals about congestion, and sending them preferentially to certain machines or certain applications, the incentive for those machines and applications to stick to the social contract and do their share to control congestion will weaken.").

⁵⁸ See Nichelle Nicholes Levy, *Method to Their Madness: The Secure Digital Music Initiative, A Law and Economics Perspective*, 5 Va J L & Tech 12 (2000).

⁵⁹ "Gaming" search engines algorithms has evolved into the business of "search engine optimization." Search engine optimizers are companies or individuals that specialize in getting a client's web page ranked highly for certain search queries.

⁶⁰ Frank Pasquale, *Political Google-Bombing*, Concurring Opinions (Oct 27, 2006), available at <http://www.concurringopinions.com/archives/2006/10/political_googl.html> (last visited Mar 27, 2008) (discussing phenomenon of "google-bombing").

“miserable failure” to President Bush, and soon the President’s official White House biography became the top result whenever “miserable failure” was entered into Google.⁶¹ Conservative blogs soon retaliated by elevating Michael Moore to the second search result through their own manipulation of hyperlinks.

Though google-bombing is not a major problem presently, “black hat” search engine optimization is.⁶² Search engine optimization (“SEO”) boils down to the commodification of salience:⁶³ SEOs configure their clients’ sites (and those linking to them) in order to assure that the optimized site is highly ranked in response to certain queries. In the SEO community, “white hat” tactics are those known to have the imprimatur of DSEs; “black hat” tactics are known to be *verboten*. “Black hat” tactics include efforts to raise clients’ PageRank with “link farms,” “splogs” (spam blogs), and other practices that clutter the web.⁶⁴ To the extent such companies reverse engineer page-ranking algorithms, they can more easily engage in these tactics.

⁶¹ See Noam Cohen, *Google Halts ‘Miserable Failure’ Link to President Bush*, NY Times (Jan 29, 2007), available at <<http://www.nytimes.com/2007/01/29/technology/29google.html>> (explaining the “miserable failure” Google bomb and Google’s subsequent change to its search methodologies to avoid that result).

⁶² See Shari Thurow, *Black-Hat Myths about White-Hat SEO*, ClickZ (Jan 31, 2005), available at <<http://www.clickz.com/showPage.html?page=3465751>> (last visited Mar 7, 2008) (“a white-hat search engine marketing (“SEM”) firm, commonly known as an ethical SEM firm, follows all the guidelines, terms, and conditions set forth by the search engines. A black-hat SEM firm doesn’t follow all the search engines’ rules.”); Erik J. Heels, *The Brand Wars Are Coming, the Brand Wars Are Coming!: How to Defend Your Brands on the Internet*, Erik J Heels (July 1, 2007), available at <<http://www.erikjheels.com/p=777>> (last visited March 27, 2008) (“Don’t think that you can use search engine optimization (“SEO”) or other tricks alone to improve your standing with Google. If you try to trick Google, then you run the risk of having your organic search results demoted (graylisting) or removed entirely (blacklisting). So if Google says that paying for other sites to link to your site is bad, then you may have to listen, at least until a viable competitor to Google steps up to the plate.”).

⁶³ For more on the commodification of salience, see Frank Pasquale, *Reclaiming Egalitarianism in the Political Theory of Campaign Finance Reform*, 2008 Ill L Rev 599 (2008); Pasquale, 54 Clev St L Rev at 130 (cited in note 5) (“Economists have explored how positional dynamics in a number of different markets . . . have led to socially wasteful ‘arms races’ for positional advantage. In ordinary markets, the presence of high-spending consumers will draw more producers so that, eventually, supply will approach demand. However, there can only be one ‘top-ranked’ site. Tactics to influence unpaid listings and prices for paid listings are sure to escalate, but it is not clear that this competition creates much utility.”).

⁶⁴ See Grimmelmann, 93 Iowa L Rev at 13–14 (cited in note 5). This prospect is particularly troubling because of the growth of the SEO industry and the obscure and shifting line between “black hat” and “white hat” SEO tactics. The result of substantial transparency could be degradation of the quality of search and its usefulness to users. Moreover, widespread and effective gaming tactics may exacerbate the structural biases of search engines in favor of commercial and well-financed players.

In response to SEO that they deem improper, dominant search engines have kept their search algorithms mostly secret,⁶⁵ and have only begun to reveal how they work.⁶⁶ According to one of its court filings, "Google takes extraordinary measures to protect its trade secrets and confidential commercial information."⁶⁷ Like FICO scores⁶⁸ and much proprietary voting machine software,⁶⁹ the algorithm that generates Google's search results is a zealously guarded trade secret.⁷⁰

Despite the risks of gaming, there is a strong social interest in transparency and accountability here.⁷¹ Suspicion about FICO

⁶⁵ The actual algorithm that Google uses to obtain its search results is a closely guarded trade secret. See Frederick Townes, *SEO Versus Marketing: The Fine Art of Copyrighting*, W3Edge (Feb 15, 2006), available at <<http://www.w3-edge.com/weblog/seo-versus-marketing/>> (last visited Mar 27, 2008) (discussing the value of search engine algorithms); Saul Hansell, *Google Keeps Tweaking Its Search Engine*, NY Times E5 (June 3, 2007) (The "ranking algorithm"—the formulas that decide which Web pages best answer each user's question[—] . . . is a crucial part of Google's inner sanctum, a department called 'search quality' that the company treats like a state secret. Google rarely allows outsiders to visit the unit, and it has been cautious about allowing [the department's head to] speak with the news media about the magical, mathematical brew inside the millions of black boxes that power its search engine.").

⁶⁶ See, for example, *Corporate Information: Technology Overview*, Google, Inc., available at <<http://www.google.com/corporate/tech.html>> (last visited March 27, 2008); Jorgen J. Wouters, *Still in Search of Disclosure: Re-evaluating How Search Engines Explain the Presence of Advertising in Search Results*, Consumer Reports WebWatch, *5, June 9, 2005), available at <<http://www.consumerwebwatch.org/pdfs/search-engine-disclosure.pdf>> (last visited Mar 27, 2008) (noting that "most search engines also appear more interested in following the letter—rather than the spirit—of the FTC's guidelines," and that "many search engines seem to be doing as little as possible to comply with FTC recommendations and as much as possible to camouflage the presence of advertising within their search results"). If the results of this study remain true, enforcement actions by the FTC could lead to an immediate change in search engines' current disclosure techniques.

⁶⁷ Google's Opposition to the Government's Motion to Compel, *Gonzales v Google*, 2006 WL 543697, *11 (ND Cal filed Feb 17, 2006).

⁶⁸ FICO scores are the dominant credit rating scores used in the United States, and they are calculated according to a proprietary methodology of the Fair Isaac Corporation. See <<http://www.fairisaac.com/fic/en/company/>>. For elaboration on one scheme to "game" these scores, see Frank Pasquale, *Black Boxes Bite Back*, Concurring Opinions (June 16, 2007), available at <http://www.concurringopinions.com/archives/2007/06/black_boxes_bit.html> (last visited Mar 27, 2008).

⁶⁹ See David S. Levine, *Secrecy and Unaccountability: Trade Secrets in Our Public Infrastructure*, 59 Fla L Rev 135 (2007); Michael A. Carrier, *Vote Counting, Technology, and Unintended Consequences*, 79 St John's L Rev 645, 652 (2005) (noting that voting machine vendors view their software as a proprietary trade secret).

⁷⁰ See Stacy Collett, *Cracking Google's 'Secret Sauce' Algorithm*, ComputerWorld (Mar 14, 2007), available at <<http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9012943>> (last visited Apr 6, 2008) (noting the value to businesses of rankings in search results). See also Levine, 59 Fla L Rev 135 (cited in note 69) (discussing trade secrets and arguing for greater disclosure for trade secrets involving the public infrastructure).

⁷¹ See Gasser, 9 Yale J L & Tech at 155–57 (cited in note 5) (identifying transparency as a guiding principle for policymaking in this area).

scores has led some states to prohibit their use in insurance rating,⁷² and Finland has prevented employers from using Google results in evaluating potential applicants.⁷³ Such legislation stems from a well-justified suspicion of unaccountable data sources. Many webmasters live in fear of the “Google Death Penalty”—relegation to the bottom of results for a “gray” search engine optimization tactic. The thin and ever-shifting line between “black hat” and “white hat” search engine optimization raises serious questions about DSE arbitrariness. More ominously, DSEs can openly profit from opacity here. If there is no clear route to the top of “organic results” for a given term, the only way to assure one’s association with it is to buy “paid results” from DSEs themselves. Just as DSEs worry that carriers may deliberately impair quality of service in order to force application providers to pay for a “fast lane,” content providers may legitimately worry that DSEs “churn” organic results in order to make paid ads the only guaranteed method of reaching customers.

Such concerns will only grow if DSE’s continue to arrange joint ventures with carriers, or vertically integrate with them. The old narrative of “carrier vs. search engine” may give way to new forms of cooperation that magnify the effects of bias by the collaborating entities.⁷⁴ For example, Google has recently co-invested with Comcast and handset manufacturers to develop a new “Clearwire” network.⁷⁵ In return for its participation, “Google’s search engine [will] get[] its own button on the phones.”⁷⁶ It is hard to imagine a more effective “fast tracking” of

⁷² Liz Pulliam Weston, *Demand Your FICO Score Now!*, MSN Money, available at <<http://articles.moneycentral.msn.com/Banking/YourCreditRating/DemandYourFICOScoreNow.aspx>> (last visited Oct 16, 2007) (noting that a few states, like California and Massachusetts, prohibit FICO scores from being used in insurance ratings). Many other states have proposed such legislation.

⁷³ Act on the Protection of Privacy in Working Life, 477/2001 (June 8, 2001) (Fin).

⁷⁴ Frank Pasquale, *Internet Nondiscrimination Policies for Competition Online*, Testimony before the House Judiciary Committee’s Task Force on Competition Policy, July 15, 2008, available at <<http://judiciary.house.gov/hearings/pdf/Pasquale080715.pdf>>.

⁷⁵ Tom Steinert, *Net Neutrality and Google’s Openness Before The FCC*, ZDNET, <http://blogs.zdnet.com/BTL/?p=9487> (July 30, 2008 9:37 EST) (last visited Aug 25, 2008) (“Google says the network is open and Clearwire will only ‘engage in reasonable and competitively-neutral network management.’ But, from a practical standpoint, is it ‘competitively-neutral’ if the managers of the network favor one of their partners to be the door that customers open to enter the Internet?”).

⁷⁶ Thomas Hazlett, *On a Clearwire, You Can See Everything*, Fin Times, July 23, 2008, available at <<http://www.ft.com/cms/s/0/dac15122-58cc-11dd-a093-000077b07658, s01=1.html>> (last visited Aug 28, 2008). As Hazlett puts it, if this “model, where the carrier extracts payment from mobile apps for a preferred spot on the wireless web, is ‘open’—then ‘open’ all capitalists must be.”

one application provider's site past other competitors' offerings. Another deal in the works would "make Google the default search provider on Verizon devices and give it a share of ad revenue."⁷⁷ As the landscape of internet competition rapidly shifts, DSE's like Google may become less a countervailing force keeping carriers accountable, and more a beneficiary of the very discriminatory tactics they once decried.

As such deals advance, public awareness of their terms is essential.⁷⁸ There is a growing awareness, in a variety of contexts, of the troubling aspects of a "black box society" in which private firms are empowered to lock away information even in the face of strong public interest in disclosure.⁷⁹ In many cases, it is essential that *someone* has the power to "look under the hood." Search engines insist on some degree of transparency in network operators' traffic management practices. As the next section demonstrates, there are many reasons for them to commit to limited forms of transparency as well.

B. Practical Implications of DSEs' Status As Infrastructure

Even if the parallels between search engines and carriers demonstrate the former to be as infrastructural as the latter, the well-trod regulatory path toward carrier accountability does not exist for search technology. The FCC has statutory authority to impose nondiscrimination rules on carriers generally, and anti-trust clearances provide a clear opportunity for their applica-

⁷⁷ Amol Sharma, *Verizon, Google Close to Mobile Search Deal*, Wall St J, Aug 22, 2008, A1, available at <<http://online.wsj.com/article/SB121937308672462691.html>> (last visited Aug 28, 2008).

⁷⁸ At a recent hearing on the proposed Google-Yahoo joint venture, House Judiciary Chairman John Conyers complained that neither he nor other committee members were allowed to inspect the terms of the deal in a practicable manner. See Opening Statement of Chairman John Conyers, House Judiciary Committee, *Competition on the Internet*, Hearing of July 15, 2008, at 5:16-5:20, video available at <http://www.c-spanarchives.org/library/index.php?main_page=product_video_info&products_id=206402-1> (last visited Aug 28, 2008) (Chairman Conyers complained that the members of the Committee were only permitted to inspect the deal if they viewed its terms "at a law firm, with no notes allowed." He stated that the Committee was given "more ready access to documents surrounding the President's terrorist surveillance program."). Clip available at <http://www.c-spanarchives.org/library/index.php?main_page=product_video_info&products_id=206402-1&showVid=true&clipStart=285.86&clipStop=368.60> (last visited Aug 28, 2008).

⁷⁹ For a general discussion, see Tarleton Gillespie, *Wired Shut: Copyright and the Shape of Digital Culture* (MIT 2007); see also Frank Pasquale, *Battling Black Boxes*, Madisonian.net (Sept 21, 2006), available at <<http://madisonian.net/archives/2006/09/21/battling-black-boxes/>> (last visited Mar 27, 2008) (detailing concerns about growing reliance on search engines, and comparing them to suspect voting machines and credit scoring algorithms).

tion.⁸⁰ There is no parallel Federal Search Commission, and the Federal Trade Commission's antitrust investigation in the industry focuses on a narrow economic measure of consumer welfare effects.⁸¹ Nevertheless, current controversies over dominant search engines' practices offer some "pressure points" for applying nondiscrimination principles.

First, the basic business practices of search engines raise difficult questions in copyright law. Publishers have sued Google for copyright infringement for several aspects of its Book Search program, and Viacom has a plausible case that YouTube induces infringement. Section III B 1 below suggests that courts considering each case should condition any outcome in favor of Google (and its subsidiary, YouTube) on their maintaining open access to search results on each platform. Such a condition would help assure that the type of "tiered access" common for legal resources would not further pervade the networked world. If Google's novel extensions of the fair use defense and DMCA safe harbors succeed in each case, such holdings should be limited to current versions of the services that conduce to a common informational infrastructure. To the extent it or other DSEs limit access to parts of their index, their public-spirited defenses of archiving and indexing projects are suspect.

Dominant search engines also face a great deal of controversy over their use of trademarked terms.⁸² For example, if a user queries "Nike," a number of Nike's competitors may appear both among organic and paid results. Is the search engine contributing to trademark infringement or dilution by permitting those competitors to use Nike's own mark to advertise their services? Although it may be difficult to sympathize with Nike when its own paid results and corporate-sponsored sites dominate results for the search "Nike," smaller companies may easily become

⁸⁰ For example, net neutrality principles were included in the merger conditions when AT&T acquired Bell South. Compare US Dept of Justice, Press Release, *Statement by Assistant Attorney General Thomas O. Barnett Regarding the Closing of the Investigation of AT&T's Acquisition of Bell South* (Oct 11, 2006), available at <http://www.usdoj.gov/opa/pr/2006/October/06_at_692.html> (last visited Mar 27, 2008) (stating that the DOJ did not impose these conditions) with Jim Puzzanghera, *FCC Approves AT&T Merger*, LA Times C1 (Dec 30, 2006) (stating that the FCC does impose conditions on the merger).

⁸¹ Frank Pasquale, *Can Antitrust Accommodate Privacy Concerns?*, Concurring Opinions (Oct 23, 2007), available at <http://www.concurringopinions.com/archives/2007/10/can_antitrust_a.html> (last visited Mar 27, 2008) (describing present dialogue on Google's proposed acquisition of DoubleClick).

⁸² For a general overview, see Eric Goldman, *Deregulating Relevancy in Internet Trademark Law*, 54 Emory L J 507 (2005).

“lost in the shuffle” of search engine optimization and ad keyword auctions. Internet nondiscrimination principles help mediate between the interests of trademark owners and dominant search engines by refusing each a monopoly of reference. While trademark owners should not be able to prevent all competitors from using this vital new communications platform to compete, neither should a search engine be able to effectively force small trademark holders to buy ad keywords in order to be visible in a search for a trademark they own.⁸³ Part III B 2 below explores some solutions to the current trademark controversy that might best satisfy what Greg Lastowka calls the public’s “indexical interest.”⁸⁴

Nondiscrimination principles explain current concerns about potentially deceptive trade practices. In 2002, the Federal Trade Commission warned search engines that they should clearly separate paid from organic results. The FTC worried that search engines’ public assurances that organic results were “objective” could be misleading to consumers if they were actually driven by marketing revenue or business partnerships. Internet nondiscrimination principles demand a much more skeptical look at current DSE ranking methods than the FTC has been willing to adopt. Like the big firms that offer both accounting and consulting services to major corporations, Google is increasingly in the position of both (a) evaluating the proper “rank” of an entity among its peers on certain reputational axes and (b) offering business partnerships to such an entity for its marketing, email, and social networking needs. DSEs need to be clear about exactly how their business partnerships (and corporate takeovers) affect organic search results. Though the technical fact-finding here may be difficult, some third party needs to be able to evaluate DSEs current claims (and implicit assurances) that their organic results are “objective” and unbiased by other business relationships.

Each of these proposals is described in more detail below. Table 1 below summarizes how DSEs would apply basic internet

⁸³ AdWords is Google’s primary source of revenue. It allows a business to purchase specific keywords so that when a searcher enters the relevant keyword, the businesses web page appears as a sponsored result. *Google AdWords*, Google, Inc, available at <<https://adwords.google.com>> (last visited Mar 27, 2008); see also Michael Miller, *Googledpedia: The Ultimate Google Resource* (Que Publishing 2007).

⁸⁴ Greg Lastowka, *Google’s Law* (2007), working paper, available at <<http://works.bepress.com/lastowka/4/>> (last visited Mar 27, 2008).

nondiscrimination principles to carriers, and how those principles may be applied to search engines themselves:

TABLE 1

FROM NET NEUTRALITY TO SEARCH NEUTRALITY

Principle	Net Neutrality Commit- ment	Application to Search Engines	Via
1. Universal Service	No blocking of legal content and applications	No denial of access to copyrighted works once they are indexed	Copyright litigation, conditional fair use findings, legislation
2. Transparency	No masked deprioritization of packets	No stealth marketing	FTCA, FTC Rulemaking on Stealth Marketing
3. Level Commercial Playing Field	No "fast track" based on source	Limited right of the indexed to annotate objectionable associations	Lanham Act, FTCA, Revisions of CDA

I have explored the third principle (the level commercial playing field) in a piece entitled *Asterisk Revisited: Debating a Right of Reply on Search Engines*.⁸⁵ Subsections 1 and 2 below explore the first and second principles in more detail.

Both DSEs and carriers are vital platforms for the conduct of life online. Each of these intermediaries should be required to follow basic nondiscrimination norms in order to assure fair competition and innovation in applications and content.

⁸⁵ Frank Pasquale, *Asterisk Revisited: Debating a Right to Reply on Search Results*, 3 J Bus & Tech L 61 (2008).

1. Book Search as universal service.

Google's plans to scan and index hundreds of thousands of copyrighted books have provoked extraordinary public controversy and private litigation.⁸⁶ This project essentially is one of several efforts by DSEs to archive and provide text-based indexing for an enormous number of books. Scanning of copyrighted books is *prima facie* infringement, but Google is presently asserting a fair use defense.⁸⁷ The debate has largely centered on the rival property rights of Google and the owners of the copyrights of the books it would scan and edit.⁸⁸

Given Google's alliance with some of the leading libraries in the world, journalistic narratives have largely portrayed the Google Book Search project as an untrammelled advance in public access to knowledge. However, other libraries are beginning to question the restrictive terms of the contracts that Google strikes when it agrees to scan and create a digital database of a library's books.⁸⁹ While each library is guaranteed access to the books it agrees to have scanned, it is not guaranteed access to the entire index of scanned works.

DSEs' restrictive terms foreshadow potential future restrictions on and tiering of their book search services. Well-funded libraries may pay a premium to receive access to all sources; lesser institutions may be left to scrounge among digital scraps.

⁸⁶ Complaint of McGraw-Hill, Companies, Inc, *McGraw-Hill Companies, Inc v Google Inc*, No 05-CV-8881 (S D NY filed Oct 19, 2005); Complaint of the Author's Guild, *The Author's Guild v. Google Inc*, No 05-CV-8136 (S D NY filed Sept 20, 2005); Siva Vaidhyanathan, *The Googlization of Everything and the Future of Copyright*, 40 UC Davis L Rev 1207, 120 (2007) (arguing that the Google Library project threatens the very foundation of copyright law); Emily Anne Proskine, Note, *Google's Technicolor Dreamcoat: A Copyright Analysis of the Google Book Search Library Project*, 21 Berkeley Tech L J 213, 217-19 (2006) (discussing Google Library Project).

⁸⁷ There is a voluminous literature on the validity of such a defense; my contributions have focused on tweaking the fair use doctrine to better recognize categorizers' alleviation of information overload. Frank Pasquale, *Copyright in an Era of Information Overload*, 60 Vand L Rev 135, 165 (2007).

⁸⁸ For a general discussion, see Hannibal Travis, *Google Book Search and Fair Use: iTunes for Authors, or Napster for Books?*, 61 U Miami L Rev 87 (2006).

⁸⁹ On the Open Content Alliance's position, see Ryan Shaw, *Libraries Look a Gift Horse in the Mouth*, Sindikkaeshin (Oct 21, 2007), available at <<http://dream.sims.berkeley.edu/~ryanshaw/wordpress/2007/10/21/libraries-look-a-gift-horse-in-the-mouth/#comment-21654>> (last visited Mar 27, 2008); Katie Hafner, *Libraries Shun Deals to Place Books on Web*, NY Times A1 (Oct 22, 2007), available at <<http://www.nytimes.com/2007/10/22/technology/22library.html>> (last visited Mar 27, 2008) ("Libraries that agree to work with Google must agree to a set of terms, which include making the material unavailable to other commercial search services. Microsoft places a similar restriction on the books it converts to electronic form. The Open Content Alliance, by contrast, is making the material available to any search service.").

If permitted to become prevalent, such tiered access to information would threaten to rigidify and reinforce existing inequalities in access to knowledge and life chances.⁹⁰ Much information may be used not simply to improve its user's life but also to help its user gain advantage over others in positional competitions.⁹¹ Such tiering divides society into two groups—those who can afford to access the information, and those who cannot. To the extent that the latter group's relative poverty is not its own fault, information tiering inequitably subjects it to yet another disadvantage, whereby others' wealth can be leveraged into status, educational, or occupational advantage.⁹²

Given the diciness of the fair use case for projects like Google Book Search, courts should consider conditioning favorable fair use findings for DSEs' on universal access to the contents of the resulting database. Landmark cases like *Sony v Universal* have set a precedent for taking such broad public interests into account in the course of copyright litigation.⁹³ Given the importance of "commerciality" in the first of the four fair use factors, suspicion of tiered access could also be figured into that prong of the test. A more ambitious (if less likely) solution would require

⁹⁰ Consider Harry Brighouse and Adam Swift, *Equality, Priority, and Positional Goods*, 116 *Ethics* 471, 497 (2006) (suggesting that "demands for inequality in terms of goods with positional aspects are [] distinctively problematic, because being better off than others with respect to such goods has some adverse impact on the absolute position of those others"). For a general discussion, see Jonathan Wolff and Avner De-Shalit, *Disadvantage* (Oxford 2007).

⁹¹ Some close-to-home examples illustrate this idea. Most lawyers don't simply read case law and secondary sources in order to find out the state of the law—they use it to prevail in a dispute. A person may take a drug to cure baldness, not simply in order to approach some platonic ideal of attractiveness, but to appear better than others. An LSAT preparation course does not primarily exist in order to improve students' argumentative and problem-solving skills—one is rarely called upon to arrange lions, tigers, and bears into a series of color-coordinated cages (as one characteristic game asked test-takers to do). Rather, students take the course to help themselves best thousands of other competitors for places in law schools.

⁹² Moreover, even though the group that can afford access to the primarily Position-Enhancing Information ("PEI") is advantaged relative to those who cannot, the development of PEI may be inefficient for that group as well. The benefit of distancing itself from those who cannot afford the information may well be outweighed by the cost of access. And precisely to the extent that this cost is lowered, the positional advantage afforded by the innovation dissipates. In other words, PEI creates inequity when it first arises, and inefficiency as it becomes more universally accessible. See Frank Pasquale, *A Sketch of My Paper on PPEI*, Madisonian.net (Oct 7, 2006), available at <<http://madisonian.net/archives/2006/10/07/a-sketch-of-my-paper-on-ppEI/>> (last visited Mar 27, 2008).

⁹³ For a general discussion of Sony's influence, see Frank Pasquale, *Breaking the Vicious Circularity: Sony's Contribution to the Fair Use Doctrine*, 55 *Case W Res L Rev* 777 (2005).

Congress to set such terms in a legislative settlement of the issue.

2. Ban on stealth marketing.

As a matter of fair use law, the Google Book Search project is a coin toss. Experts have no idea how the courts will rule on it, and the leading precedents are in conflict.⁹⁴ Google may even “win by losing.” If its archiving is not deemed a fair use, its extraordinary market capitalization will still leave it in a good position to license content from publishers, just as it has licensed news from the Associated Press.⁹⁵ Nascent licensing practices or settlements may contribute to the development of legal doctrine that creates substantial barriers to entry for would-be competitors of licensees.⁹⁶ This possibility helps us focus on what is ultimately the most compelling argument for allowing search engines to archive and categorize extant works: the social good inherent in keeping ranking and reviewing systems independent of the owners of the ranked and reviewed content. While Google’s Book Search program promises to advance this value, it also needs to be realized in Google’s own services.

For an example of what can happen when such systems are controlled by the owners of ranked and reviewed work, we need look no further than the facts that led to *Video Pipeline, Inc v Buena Vista Home Entertainment*.⁹⁷ In that case, a company specializing in the business of movie preview compilation and organization sold clips of movies, without permission from the movie copyright holders, to retailers for use on their websites.⁹⁸

⁹⁴ Compare *Kelly v Arriba Soft Corp*, 336 F3d 811 (9th Cir 2003) (finding for search engine), and *Perfect 10, Inc v Amazon.com, Inc*, 508 F3d 1146 (9th Cir 2007) (finding for search engine), with *Video Pipeline, Inc v Buena Vista Home Entertainment, Inc*, 342 F3d 191 (3d Cir 2003) (finding for copyright holder).

⁹⁵ See Frank Pasquale, *Google’s Fight and Flight Response*, Madisonian.net (Aug 16, 2006), available at <<http://madisonian.net/archives/2006/08/16/googles-fight-and-flight-response/>> (last visited Mar 27, 2008) (noting that Google recently licensed feeds from the Associated Press).

⁹⁶ Consider James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 Yale L J 882 (2007) (explaining how the risk aversion that leads a user of copyrighted material to license material from a copyright holder leads to an accretion of rights for the copyright holder, because courts have conflated the fact of past licensing with the legal necessity of future licensing).

⁹⁷ 342 F3d 191 (3d Cir 2003). This paragraph and the two that follow are based on my article *Copyright in an Era of Information Overload*, 60 Vand L Rev (cited in note 87).

⁹⁸ For a fuller discussion of the case and its implications for fair use law, see Andrew Sarrol, *The Copyright Implications of Searchable Databases: A Methodology for Analyzing the Fourth Fair Use Factor*, 3 Seton Hall Circuit Rev 527, 542–49 (2007).

Users could not download the clips, but each time a user viewed a clip on a retailer's website, the retailer paid a fee. The copyright holders of the movies claimed that the use of the clips constituted copyright infringement. The Third Circuit found in favor of Buena Vista (a Disney subsidiary) by focusing on "the potential harm to the market for Disney's derivative trailers,"⁹⁹ determining that Video Pipeline's unauthorized use of the trailers wrongfully denied the plaintiffs the right to charge for that content.¹⁰⁰ The appellate panel did not even consider whether potential positive effects on sales or rentals of the underlying movies might swamp these negative effects.

More importantly, the court played down concerns about how the film studios' control over all uses of trailers would affect the ecology of expression about films. Movie studios have used restrictive licensing agreements to block criticism.¹⁰¹ Disney's license terms are quite clear: those licensed to use its trailers are not to criticize the licensed content, or Disney itself, or even the entertainment industry generally.¹⁰² The Video Pipeline court conceded that "anti-competitive licensing agreements may conflict with the purpose behind a copyright's protection by depriving the public of the would-be competitor's creativity."¹⁰³ However, the court found no real problem here because the defendant was free to criticize Disney films on websites lacking Disney trailers.

Like the "licensed reviewers" whom Judge Posner questioned in *Ty v. PIL*,¹⁰⁴ licensed categorizers may be overly inclined to praise their partners' work, while ignoring the work of others (whatever its relevance or merits).¹⁰⁵ As audiences de-

⁹⁹ 342 F3d at 202.

¹⁰⁰ For a critique of this style of fair use analysis, see Pasquale, 55 Case W Res L Rev 777 (cited in note 93).

¹⁰¹ See, for example, Brett M. Frischmann and Daniel Moylan, *The Evolving Doctrine of Copyright Misuse* (July 2006), *26–28 available at <<http://ssrn.com/abstract=914535>> (last visited Apr 6, 2008) (discussing these consequences of Video Pipeline).

¹⁰² License terms included the following assurance: "The Website in which the Trailers are used may not be derogatory to or critical of the entertainment industry or of [Disney] (and its officers, directors, agents, employees, affiliates, divisions and subsidiaries) or of any motion picture produced or distributed by [Disney] . . . [or] of the materials from which the Trailers were taken or of any person involved with the production of the Underlying Works. Any breach of this paragraph will render this license null and void and Licensee will be liable to all parties concerned for defamation and copyright infringement, as well as breach of contract . . ." *Video Pipeline*, 342 F3d at 203.

¹⁰³ *Id.* at 204.

¹⁰⁴ For background on this and related cases, see William M. Landes, *Posner on Beanie Babies*, 74 U Chi L Rev 1761 (2007).

¹⁰⁵ *Ty, Inc v Publications International Ltd*, 292 F3d 512, 520 (7th Cir 2002). Ty's

mand more video content online, licensed categorizers will have an advantage over the unlicensed. Large content owners like Disney can give “take it or leave it” ultimatums to categorization sites via license terms, forcing them to “say nothing but good” of the content they index and comment on. If rights clearance becomes a major barrier to entry in the categorization field, we can expect the diversity of such sites to decline quickly. It is doubtful that any of these outcomes would promote copyright’s constitutional purposes.

In *Copyright in an Era of Information Overload*, I presented Google as a company that could break the dominance of concentrated cultural industries on distribution networks and reviewing capabilities.¹⁰⁶ However, as Google becomes more of an online conglomerate,¹⁰⁷ it may create problems in new areas similar to the ones it is helping to solve elsewhere. Consider the complexities caused by Google’s purchase of YouTube. Does the fact that a company does business with Google lead Google to make it more salient in search results than a company that (*ceteris paribus*) does not? How well are YouTube’s rivals doing in searches on Google for videos? Will Google compensate participants in its

licensing terms forbade criticism of Ty by a licensee. Ty’s terms also insisted that “house organs” themselves proclaim their independence from the very group managing their content, raising stealth marketing concerns.

¹⁰⁶ Pasquale, 60 Vand L Rev at 165 (cited in note 87).

¹⁰⁷ Google, Inc. now offers the following services (and records the following data from each):

1. Google search: any search term a user enters into Google;
2. Google Desktop: an index of the user’s computer files, e-mails, music, photos, and chat and web browser history;
3. Google Talk: instant-message chats between users;
4. Google Maps: address information requested, often including the user’s home address for use in obtaining directions;
5. Google Mail (Gmail): a user’s e-mail history, with default settings set to retain emails “forever”;
6. Google Calendar: a user’s schedule as inputted by the user;
7. Google Orkut: social networking tool storing personal information such as name, location, relationship status, etc.;
8. Google Reader: which ATOM/RSS feeds a user reads;
9. Google Video/YouTube: videos watched by user;
10. Google Checkout: credit card/payment information for use on other sites.

EPIC Complaint and Request for Injunction, Request for Investigation and other Relief, In the Matter of Google, Inc and DoubleClick, Inc, before the Federal Trade Commission (Feb 10, 2000), available at <http://www.epic.org/privacy/ftc/DCLK_complaint.pdf> (last visited Mar 27, 2008) (urging the FTC to address the increasing collection of personal data by internet advertisers).

Android open handset alliance with more salience in search results?¹⁰⁸ Just as Google wants the carriers to be open about how they manage traffic, it should be transparent about exactly how its commercial relationships affect the ranking of its business partners and customers. Without such transparency, regulators will not be able to assess whether the company is engaged in stealth marketing, a deceptive trade practice.¹⁰⁹

As Ellen Goodman has observed, "American mass media law has long been hostile to stealth marketing. It is illegal . . . for a record company to make secret payments to radio stations to play music . . . or for an advertiser or organization to pay broadcasters to feature products . . . without identifying the sponsor."¹¹⁰ The Federal Trade Commission has made some tentative steps toward recognizing the potential for consumer deception here.¹¹¹ In 2002, it sent a letter to various search engine firms recommending that they clearly and conspicuously distinguish paid placements from other results.¹¹² The letter was sent in response to a complaint by the organization Commercial Alert¹¹³ that requested FTC investigation of whether paid placements practices of several search engines constituted unlawful deceptive advertising.¹¹⁴ The deception argument as applied to search engines is a variant of the more general criticism of stealth mar-

¹⁰⁸ For background on the Android project, see <<http://code.google.com/android/>> (last visited Mar 27, 2008).

¹⁰⁹ Goodman, 85 *Tex L Rev* at 89 (cited in note 49) ("Stealth marketing [can take the form of] conventional payola, where the sponsor promotes a media experience, such as a musical work, by purchasing audience exposure to the experience as a form of advertisement. Pay-for-play in broadcasting is similar to the use of slotting fees in the retail industries to obtain preferential shelf space in supermarkets and book stores. Online retail outlets also use slotting fees of a sort when portals like Amazon and Google accept payments for exposure of a particular product or service.").

¹¹⁰ *Id.* at 84. See the Federal Communications Act of 1934, 47 USC § 317(a)(1) (2000) (requiring broadcast stations to disclose the identity of sponsors when "any type of valuable consideration is directly or indirectly paid or promised, charged or accepted").

¹¹¹ This paragraph is drawn from Bracha and Pasquale, 93 *Cornell L Rev* (cited in note 3).

¹¹² Letter from Heather Hipsley, Acting Associate Director of the Division of Advertising Practices, Re Commercial Alert Complaint Requesting Investigation of Various Internet Search Engine Companies for Paid Placement and Paid Inclusion Programs (June 27, 2002), available at <<http://www.ftc.gov/os/closings/staff/commercialalertattach.shtml>> (last visited Mar 27, 2008) (urging search engines to clearly delineate paid ranking results).

¹¹³ Letter from Gary Ruskin, Executive Director of Commercial Alert, Re Deceptive Advertising Complaint Against AltaVista Co, AOL-Time Warner Inc, Direct Hit Technologies, iWon Inc, LookSmart Ltd, Microsoft Corp and Terra Lycos SA (July 16, 2001), available at <<http://www.commercialalert.org/PDFs/SearchEngines.pdf>> (last visited Mar 27, 2008).

¹¹⁴ Federal Trade Commission Act, 15 USC § 45(a)(1) (2008).

keting in the media.¹¹⁵ Users, the argument goes, are misled to believe that “search results are based on relevancy alone,” when in fact they are based on other grounds.¹¹⁶

Of course, those aware of the YouTube merger may assume that Google is going to elevate results from its subsidiary, and may diversify their search custom accordingly. They can use other search engines, or consult the second or third search pages for the results they seek. However, given searchers’ documented inertia and unsophisticated understandings of extant search results, it is unlikely that these “self-help” measures will do much to level the playing field.¹¹⁷ Though consumer education may be helpful here, given search’s status as a credence service, it cannot entirely supplant regulation.¹¹⁸

Another objection centers on the trade secrecy concerns briefly discussed in Part III A. above. For Google to demonstrate that it did not unfairly privilege subsidiaries or business partners, it may need to give away trade secrets about the way its rankings work. For example, a rival video search site might challenge the fact that YouTube’s results always appear as the first thirty results in response to certain video queries for which it has demonstrably more relevant content. Google might respond with the following data:

- 1) The content on YouTube has more comments and therefore is weighted higher in search results.
- 2) The content on YouTube is clicked on more by searchers.
- 3) The content on YouTube has been through a copyright filter and therefore is less likely to infringe copyrights

¹¹⁵ Goodman, 85 Tex L Rev at 89, 108–12 (cited in note 49) (describing branded marketing as a business embedding promotional material into media that otherwise appears to be independent content).

¹¹⁶ Letter from Gary Ruskin at 1 (cited in note 113).

¹¹⁷ Andrew Sinclair, Note, *Regulation of Paid Listings in Internet Search Engines: A Proposal for FTC Action*, 10 BU J Sci & Tech L 353, 357–64 (2004) (discussing which regulatory body is best suited to regulate search engines, and concluding that the FTC is the appropriate arm of government, and concluding “[c]onsumers . . . are unaware that they are not getting the most relevant search results”).

¹¹⁸ Alejandro M. Diaz, *Through the Google Goggles: Sociopolitical Bias in Search Engine Design* 147 (Stanford 2005) (“The complexity and opacity of search technology makes it almost impossible for users to notice what is ‘missing’ from their search results.”). For more on search engines as a credence service, see Bracha and Pasquale, 93 Cornell L Rev at 36–37 (cited in note 3).

owned by large media conglomerates that partner with Google.

- 4) The opposite of 3: slowing down or de-prioritizing the content of companies like Viacom that sue the search engine for copyright infringement.

Responses (1) and (2) may both provoke gaming of Google's system. Once rival video sites know that comments or clicks directly increase PageRank and salience, they can try to artificially inflate those numbers. The fourth option could make the assertion of copyrights an inevitably Pyrrhic enterprise, as judicial victories might appear trivial compared to the prospect of losing a vital distribution channel. In either case (3) or (4), private lawmaking by search engines and copyright holders may supplant statutory duties in counterproductive ways.

Note that a public avowal of (3) may lose Google customers who flee to less restrictive sites (just as Napster lost many users to upstart P2P sites when it started installing filters for copyrighted content). The more responses Google has to make public, the more plausibly it may claim that the trade secrets embodied in its ranking algorithm are being eroded.¹¹⁹ Nevertheless, as Oren Bracha and I have argued in *Federal Search Commission: Fairness, Access, and Accountability in the Law of Search*, there are methods of litigating such cases without exposing trade secrets.¹²⁰ For example, Burk and Cohen propose to give "rights management keys" to trusted third parties who can determine when applicants who want to make fair use of a copyrighted work should be permitted to access the work by circumventing security measures implemented by the copyright holder.¹²¹ Disclosure of these keys could be released to users applying for access to make fair use, a decision akin to a declaratory judgment for non-infringement on a patent.¹²² Burk and Cohen note that

¹¹⁹ In response to a government subpoena, Google has even claimed that it should be able to conceal the number of searches it receives each day—that this is a trade secret whose confidentiality is important to its commercial prospects. *Gonzales v Google, Inc.*, 234 FRD 674, 688 (N D Cal 2006) (holding that Google must provide the Government with an index of its search results, but that the individual search logs would be duplicative).

¹²⁰ Bracha and Pasquale, 93 Cornell L Rev (cited in note 3). See also Michael D. Scott, *Scott on Information Technology Law* 2–27 (Aspen Pub 2007) (treatise section on trade secrets in software litigation). This paragraph and the next are drawn from Bracha and Pasquale, 93 Cornell L Rev (cited in note 3).

¹²¹ Bracha and Pasquale, 93 Cornell L Rev at 14–19 (cited in note 3).

¹²² Dan Burk and Julie Cohen, *Fair Use Infrastructure for Rights Management Sys-*

the trusted third party will be “subject to regulatory oversight for compliance with its escrow and privacy obligations.”¹²³

Stalwarts of deregulation may well complain that such procedures would still risk compromising the secrecy essential for search engines’ operation and put an undue burden on their legal departments. However, Google has already complied with a government request for information about its search process and a judge has ruled that a protective order in that dispute adequately protected its trade secrecy interests.¹²⁴ Such limitations on secrecy are in order. If search engines are to be accountable at all, if their interest is to be balanced against those of the various other claimants involved in search-related disputes,¹²⁵ and if social values are to be given any weight, some governmental agent should be able to peer into the black box of search and determine whether or not illegitimate manipulation has occurred.¹²⁶

IV. CONCLUSION

Unaccountable power at any “layer” of online life can stifle innovation elsewhere. Microsoft’s antitrust woes arose in part because it tried to manipulate complementary products to maintain its dominance in the operating system market. Now DSEs rightly worry that carriers will use their own power at the physical layer of Internet infrastructure to “pick winners” among content and application providers. DSEs have been much less quick to recognize the threat to openness and fair play their own practices may pose.

There are many parallels between dominant search engines and dominant carriers: at each layer intermediaries accumulate great power over the structure of online life. Concededly, paral-

tems, 15 Harv J L & Tech 41, 55, 58–65 (2001).

¹²³ Id at 63.

¹²⁴ *Gonzales*, 234 FRD at 687 (“As trade secret or confidential business information, Google’s production of a list of URL’s to the Government shall be protected by protective order.”).

¹²⁵ See Grimmelmann, 93 Iowa L Rev at 11–14 (cited in note 5).

¹²⁶ Danny Weitzner of MIT has proposed that “regulators should appoint an independent panel of technical, legal and business experts to help them review, on an ongoing basis the privacy practices of Google.” Danny Weitzner, *What to Do about Google and Doubleclick? Hold Google to It’s Word with Some Extreme Factfinding about Privacy Practices*, Open Internet Policy, Oct 8, 2007, available at <<http://people.w3.org/~djweitzner/blog/?p=95>> (last visited Aug 28, 2008). Weitzner has helped draft technology policy for the Obama campaign. See Jim Puzzanghera, *Is Obama a Mac and McCain a PC*, LA Times, available at <<http://latimesblogs.latimes.com/technology/2008/05/is-obama-a-mac.html>> (last visited Aug 28, 2008). I would extend that scrutiny from privacy to the types of “second generation” search policy concerns canvassed in this Article.

lels in and of themselves prove nothing. Deregulationists may portray “search neutrality” as a revealing *reductio ad absurdum* of internet nondiscrimination principles: “Start with the carriers, and where will it end?” Those committed to the accountability of dominant platforms will draw the opposite conclusion.

Though such differences of opinion may not be amenable to reason,¹²⁷ some practical examples of search engine accountability can draw the sting of “slippery slope” arguments against regulation. Advocates for complete search engine autonomy tend to call their opponents utopian, too eager to force an idealized model of communicative processes on commercial entities. However, the types of practical accountability that flow from internet nondiscrimination principles may both clarify current legal uncertainty about search engines’ practices and assure that their services develop in a way most likely to serve the public interest.

Just as DSEs fear an unfairly tiered online world, they should be required to provide access to their archives and indices in a nondiscriminatory manner. If DSEs want carriers to disclose their traffic management tactics, they should submit to regulation that bans stealth marketing and reliably verifies the absence of the practice. Finally, search engines’ concern about the applications and content disadvantaged by carrier fast-tracking should lead them to provide annotation remedies to indexed sites whose marks have been unfairly occluded by the search process. Fair competition online demands common commercial ethics for both dominant search engines and dominant carriers.

¹²⁷ See, for example, David G. Post, *What Larry Doesn't Get: Code, Law, and Liberty in Cyberspace*, 52 Stan L Rev 1439, 1442–48 (2000) (suggesting that libertarians will have a difficult time finding common ground with Lawrence Lessig's regulatory proposals due to a fundamental divergence in values). Many current debates in cyberlaw are not amenable to empirical research and instead reflect rival and incompatible visions of the ideal development of online space.

