WHY HAVE A TELECOMMUNICATIONS LAW? ANTI-DISCRIMINATION NORMS IN COMMUNICATIONS

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 I have benefited from discussions of these ideas with Chris Libertelli, Scott Marcus, Lawrence Lessig, Phil Weiser, Molly Shaffer Van Houweling and Kevin Werbach. Versions of this idea were presented at the 2005 Silicon Flatirons conference, and presented at the 2005 TPRC conference. I thank Wayne Hsiung for research assistance.

INTRODUCTION

Since the late 1990s academics and policymakers have advanced various ideas for fundamental telecommunications reform in the United States. The immediate challenge for any proposed reform, however, is understanding what the point of a telecommunications law is in the first place. Communications networks are part of the nation's infrastructure, and a locus of innovation that inspires visions of a better society. Yet the industry also has a long history of competition problems, monopolization and outright corruption that drives a history of regulatory oversight. Over the years the reasons for the law have varied with regulatory fashion. The law today reflects a pastiche of values popular at one time or another, like "localism," "fairness," "innovation," and "competition."

This paper describes a vision of what telecommunications laws' central goals should be in coming decades, and what kind of legal instruments will serve those goals. The telecommunications law, I suggest, has been preoccupied with three projects: allocating rights, managing discrimination, and achieving various social goals, like indecency regulation. This paper argues that in the future the main point of the telecommunications law should be as an anti-discrimination regime, and that the main challenge for regulators will be getting the anti-discrimination rules right.

The view advanced here, while much popularized over the last decade, has deeper roots reaching back to the origins of telecommunications and common carriage itself. It views information networks as a form of public infrastructure that is most valuable as a general purpose input into *other* activities—a catalyst. This is at the center of what might be called the infrastructure view of network theory, and is at the heart of "innovations commons" theories.[1] This single presumption affects the goals of communications policy. It makes it not the maximization of the value of the infrastructure for its own sake, but maximization of its value as a catalyst for other activities.

The link between the utility of a network and anti-discrimination rules has appeared frequently over the history of telecommunications regulation. From the early days of the telegraph and Bell interconnection through today's network neutrality rules, many (though not all) of the regulatory challenges in communications law have featured a network owner who conditions or bans carriage. The regulatory responses have been varied and inconsistent. For example, Western Union's network favoritism helped give Associated Press a nearly unchallenged monopoly

1. For an overview of this point, *see generally* Tim Wu, *The Broadband Debate, A User's Guide*, 3 J. ON TELECOMM. & HIGH TECH. L. 69 (2004).

over American news late in the 19th century, with no response from government. Conversely, the FCC rules blocking Bell's discrimination against third-party network attachments, like non-Bell phones, are widely seen as a great success, while efforts to combat "discrimination" by forcing the sharing of cable lines and local lines in the 1992 Cable Act and 1996 Telecom Act, widely seen as failures. As discrimination rules almost certainly become central to the future of telecommunications law, there is much to learn from these various uses and abuses of discrimination norms.

While of central importance, as the history shows, getting anti-discrimination rules right is exceptionally challenging. The first challenge is to categorically ascertain what types of information networks merit anti-discrimination rules in the first place. The oldest and hardest question in the field of common carriage is what exactly constitutes a "business affected with a public interest."[2] On today's networks, that usually means distinguishing private from public information networks.

The second challenge is devising anti-discrimination rules that broaden the utility of the network without destroying any incentive to build it in the first place. Regulators using anti-discrimination norms are in practice creating rules of market entry, where the challenge is to provide sufficient controls on incumbents' power to block market entry without destroying the incentives to become an incumbent.[3]

The third challenge is devising rules that do not themselves become tools of incumbent power, the fate of many if not most well-intentioned telecommunications regimes.

For purposes of discussion this paper outlines a "one rule" proposal, a hypothetical, single anti-discrimination rule that would form the center of telecommunications law. The rule should be (1) a general norm that is technologically neutral, (2) in the form of an ex ante rule with ex post remedies, and (3) anchored on a model of consumers' rights.[4] The form of the rule recommended here is hardly radical. Instead, it is something of a restatement of the best of telecommunications practice based on decades of telecommunications experience.[5] It borrows from what, as best we can tell, has worked, while shunning the regimes with the greatest tendency toward corruption.

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2. Chas. Wolff Packing Co. v. Court of Indus. Relations, 262 U.S. 522, 535 (1923).

3. *See* Ilya Segal & Michael Whinston, *Antitrust in Innovative Industries* (Stanford Law Sch. John M. Olin Program in Law and Econ., Working Paper No. 312, 2005).

4. *See* James B. Speta, *A Common Carrier Approach to Internet Interconnection*, 54 FED. COMM. L.J. 225 (2002).

5. It is like some of the layered models, based on two of U.S. telecommunications law's greatest successes: the Computer Inquiries, and the Part 68 Rules for network attachments. Its centerpiece is a rule of antidiscrimination and a two-layer transport/applications distinction that is an import of the enhanced/basic service dichotomy from Computer Inquiries.

Many caveats are necessary. While the point of the proposal is to accomplish as much as possible with as few rules as possible, it obviously cannot capture everything. It leaves out at least one other essential function of a telecommunications regime: the licensing and the assignment of property rights, or the prior selection of who may *be* a market entrant. The discussion here deliberately leaves out the social aspects of telecommunications regulation that serve very different goals, including indecency regulation, progressive redistribution and technical standard setting. It would also be impossible to specify, in full detail, how an anti-discrimination regime might handle every conceivable case. I explain, instead, what an evolving system of anti-discrimination telecommunications law might look like.

Part 1 provides background on telecommunications reform. Part 2 discusses the importance, history, and operation of anti-discrimination regimes in telecommunications regulation. Part 3 suggests the different ways an anti-discrimination regime might operate.

I. PROPOSALS FOR TELECOMMUNICATIONS REFORM

Over the last two decades, many have advanced various ideas for fundamental telecommunications reform. All of the proposals have been reactions to the current legal structure, which few have praised publicly or explicitly.[6]

The question exists: what does the current telecommunications law look like, and what values does it serve? As telecommunications lawyers know well, the current law regulates on the basis of network type. Each of broadcasting, telephones, and cable television get their own regime. The first assumption is that transport and services are integrated. That is to say, that both the services provided on the network, and the infrastructure itself, are owned by the same company, as in today's telephone and cable television networks. The second assumption is that each type of network has separate regulatory concerns.

A scattered set of values reflecting the fashions of various eras can be found expressed through law in the current system. Concerns of monopoly pricing have meant price-setting for telephone and cable service. Interests of localism and the public interest have led to franchising and licensing requirements for cable operators and broadcasters of all kinds. In the name of universalism, the telephone companies and a few others contribute to a multi-billion dollar universal service fund which subsidizes rural telephony.

The general impression is that the actual programs lying behind

6. As is often the case in communications policy, some parties implicitly praise the current system by resisting any manner of reform to it.

each of these values, whether or not ever honorable, are now corrupted and perverse. Broadcasting licenses designed to protect localism and free television effectively destroyed any competition in local broadcasting. Worse, they let broadcasters occupy highly valuable public spectrum, preventing higher uses than say, UHF broadcasting. Though parts of the universal service fund are used to fund technology in schools, large amounts go to subsidize rural phone companies, as if it were 1909 and telephones might otherwise be beyond the financial reach of farmers. While price-setting regimes are perhaps useful for preventing certain types of customer abuse, they also force entrants to negotiate with the government before getting started. These problems are well known, yet most public officials are quick to voice support for these entitlement programs, for opposition can be political suicide. The regulated firms themselves are stuck in a strange logical contradiction—they constantly agitate for deregulation for themselves, based on principles like "competitiveness." Yet since they know the system well, and how to make use of it, they tend to resist real or radical change. They also have the capacity to become high regulationists, at least when there is some chance to stick market entrants and rivals with onerous duties. In the year 2005, for example, the cable industry, despite years of opposition to the duties of local franchising, began discussing how well the local franchising system works, inspired by the possibility that the telephone companies might enter the cable market.

The larger structure of the resulting system is sometimes called a "vertical" or "silo" regulatory system, and it reflects the fact that lawmakers simply wrote a new law for each new network as it arrived. The result is the pile of network-specific laws we know as the Telecommunications Act.

Both the absurdity and technological infirmity of the system have led to important proposals for reform. The proposals can be placed into two groups: "layered" proposals, and "European" or "antitrust" proposals. What these proposals have in common is that they ask regulators to discard the Telecommunications Act's assumptions of vertically-integrated services (cable, telephone, etc.). Where they differ is over whether *function*, or findings of *market power*, ought be the guiding principle of telecommunications law.

A. Layered Models

Proposals for a "layered" telecommunications law suggest getting rid of or supplementing the current system and replacing it with a regulatory structure that regulates on the basis of function as opposed to his-

torical contingency.[7] Since network functions are generally organized in horizontal layers, such proposals are sometimes called "horizontal" models of telecommunications regulation. Kevin Werbach, author of one of the first layering proposals, writes that a layered model "is most useful in framing questions, helping policymakers identify hidden tension points and giving them a better vocabulary to craft solutions."[8]

In their basic forms, horizontal models are calls for the reform of classification. Proponents of horizontal models want to reform how the FCC decides whether it will apply either one rule-set or another to a given activity (A). Today, as just discussed, the FCC makes that decision based on a "service" approach: by deciding whether activity A is a "cable service," "information service," "telecommunications service," and so on. This decision depends on statutory criteria for defining services that can be malleable, outdated, or both. One consequence is that similar, competing services may end up being regulated differently, like cable and DSL broadband. Another consequence is long delays and litigation over the FCC's classification decisions, typified by the *Brand X* litigation.[9] A third is that the FCC itself is organized by service type, with separate bureaus for wireless, wireline, and "media" services, which reinforces the separation.

The reforms suggested by advocates of horizontal models argue that classification decisions should follow from function, not service type. Regulators, in other words, should decide which rules to apply depending on what *network layer* Activity A is—not what service type it is. For example, using a simplified TCP/IP protocol stack as an example, they should consider whether the activity is at the application layer, network layer, or the physical/transport layer, and regulate accordingly.

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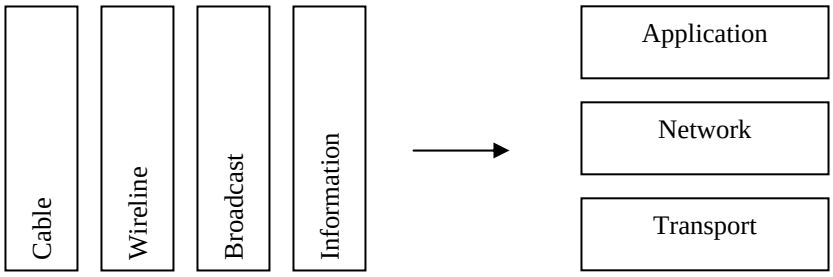
7. *See* Tim Wu, *Application-Centered Internet Analysis*, 85 VA. L. REV. 1163 (1999); Kevin Werbach, *A Layered Model for Internet Policy*, 1 J. ON TELECOMM. & HIGH TECH. L. 37 (2002); Douglas Sicker, *Further Defining a Layered Model for Telecommunications Policy* (2002), http://tprc.org/papers/2002/95/LayeredTelecomPolicy.pdf; Lawrence Solum & Minn Chung, *The Layers Principle: Internet Architecture and the Law*, 79 NOTRE DAME L. REV. 815 (2004); *cf.* Mark 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); Richard S. Whitt, *A Horizontal Leap Forward: Formulating A New Public Policy Framework Based on the Network Layers Model*, 56 FED. COMM. L.J. 587 (2004); Joshua L. Mindel & Douglas C. Sicker, *Leveraging the EU Regulatory Framework to Improve a Layered Policy Model for US Telecommunications Markets*, 30 TELECOMM. POL'Y 136 (2006); Robert Frieden, *Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach*, 55 FED. COMM. L.J. 207 (2003). An important antecedent was David Isenberg, *The Rise of the Stupid Network*, http://www.rageboy.com/stupidnet.html (last visited October 2, 2006).

8. Kevin Werbach, *Breaking the Ice: Rethinking Telecommunications Law for the Digital Age*, 4 J. ON TELECOMM. & HIGH TECH. L. 59, 95 (2005).

9. *See, e.g.*, Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967 (2005).

Figure 1. "The Horizontal Leap Forward"



Why bother making the change from vertical to horizontal? Advocates give two sets of reasons for why layered regulatory models are attractive.[10] The first is *descriptive* coherence. Since the 1970s, telecommunication networks have actually been built on horizontal models.[11] It is important to realize that the Internet, while an important example, is not the only example. Cable television networks and even dedicated phone networks have long been conceptualized and built on horizontal architectures. The vertical regulatory silos are more out of touch than many lawyers may realize. They reflect practices abandoned in the engineering world decades ago. As Rick Whitt, then at MCI, wrote, "the layers model represents a shift in thinking that successfully mirrors the way that networks and markets actually operate."[12]

Greater descriptive coherence is closely related to another heavily stressed advantage: that the same types of services be treated similarly, and that the right rules apply to the right types of behavior. For example, applications and transport services present fundamentally different regulatory problems. Yet at the same time, different types of application services, whether labeled "voice," "video" and so on, present similar regulatory problems, and ought to be treated similarly. In the words of Robert Cannon of the FCC, "[b]y conceptualizing the policy as layers, the analyst is capable of grouping and segregating issues."[13] He can "identify markets, clarify issues, create boundary regulations that are effective, and, in so doing, target solutions where issues reside without interfering with other industries and opportunities."[14]

10. What follows is a summary. A survey of arguments in favor of a horizontal model can be found in Richard Whitt, *A Horizontal Leap Forward, in* OPEN ARCHITECTURE & COMMUNICATIONS NETWORKS 292, 312-317 (Mark Cooper ed., 2004).

11. *See* ANDREW TANNENBAUM, COMPUTER NETWORKS 30 (4th ed. 2002).

12. Whitt, *supra* note 7, at 317.

13. Robert Cannon, *The Legacy of the Federal Communications Commission's Computer Inquiries*, 55 FED. COMM. L.J. 167, 195 (2003).

14. *Id.*

Much of the criticism of layered models has been based on the charge that layered models tend to be either too complicated or inconclusive for regulatory purposes.[15] While this paper draws heavily on the layered proposals it takes a slightly different tack. This paper questions whether a classification system, horizontal or vertical, is actually necessary to communications regulation at all. It asks whether the right answer is really to transform the silos, when it may be classification itself that is the problem. The point is that the task of creating regulatory classifications has often led to delays, litigation and other costs of administering such a complex system, ultimately for no apparent reason.

It is true that there is some necessary minimal complexity in any conceivable scheme. Nonetheless if the impact of a regulatory model creates the need for classifications and rulings on classifications, those are additional costs, and it must be asked whether the costs are justified.

True to what advocates have said, the layered proposals are most important in the minds of the regulator. As Timothy Denton put it, "[h]ow regulators act invariably depends on how they see the world. The most important thing about a layered model is that it can rearrange the 'mental furniture' with which regulators act."[16] The question becomes whether a classification system is necessary to ensure that regulators understand that networks operate on a horizontal model. The real effort should be to ensure that FCC regulators understand modern networks and use a *de facto* layered model in their analysis. There are promising signs. Bryan Tramont, former Chief of Staff to former FCC Chairman Michael Powell, for example, explained the FCC's approach to regulation as follows: "The main difference for us is between how we regulate the *infrastructure*, and *services*. Each has its own concerns and priorities."[17] Moreover that distinction, as Robert Cannon writes, was a critical matter in the *Computer Inquiries*.[18]

As developed later, the one-rule proposal has no specific classification scheme, though it requires some general jurisdictional limit on what constitutes a communications network at all. However, it does direct regulators to consider whether discrimination is (1) between transport infrastructures, (2) between transport infrastructures and application services, or (3) between application services. As such, it recommends an

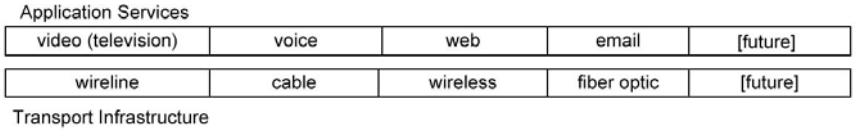
15. *See, e.g.*, David P. Reed, Comments at the Silicon Flatirons Conference: The Rise of Cable and its Future (Oct. 18, 2005); New Millenium Research Council, Free Ride: Deficiencies of the MCI "Layers" Policy Model and the Need for Principles that Encourage Competition in the New IP World (July 2004), http://www.newmillenniumresearch.org/news/071304_report.pdf.

16. Timothy Denton, Comments at Freedom to Connect Conference (March 31, 2005).

17. *See* Bryan Tramont, Comments at the Silicon Flatirons Conference: The Digital Broadband Migration (Feb. 13, 2005).

18. Cannon, *supra* note 13, at 167-205.

implicit, but un-codified two-layer system. In the mind of the regulator, it ought to look something like the following:



A second criticism of layered models is that they focus on function to the exclusion of economics. Stated differently, while layered models may help make function clear, it may be at the cost of ignoring the problems of market power and its abuse, which can take many forms. That point takes us to the European proposals for telecommunications reform.[19]

B. European Proposals

European or "antitrust" proposals for telecommunications reform begin from the position that the central problem in telecommunications law is market power and its abuse. The stronger version says that the FCC should be replaced altogether by antitrust courts,[20] a milder approach speaks to the attractions of Europe's telecommunications regime.[21]

Here is a brief description of how the scheme created by the European Directives works.[22] The European Commission was given the task of defining the relevant telecommunications markets in existence. Next, the "National Regulatory Authority," or telecom regulator, in each market uses economic methods to assess whether "Significant Market Power" exists in any of the markets within its borders. If it does, the regulator is to impose one of various ex ante remedies, such as a duty to offer wholesale unbundling, price controls, or anti-discrimination rules. If, conversely, the regulator does not find market power, it is obliged to get rid of any extant rules for that market.

The European proposals put an important concept front and center, also pushed by American academics: that telecommunications law presents economic questions identical or similar to those faced in antitrust

19. Sicker, *supra* note 7, at 10 ("[W]e should not confuse the technical implementation of the Internet with the policy goals of a layered model. What we should take away from the protocol design is its design philosophy; including things like decentralized control, autonomy, efficiency, etc.").

20. *See* PETER HUBER, LAW & DISORDER IN CYBERSPACE 3 (1997).

21. *See* J. Scott Marcus, *The Potential Relevance to the United States of the European Union's Newly Adopted Regulatory Framework for Telecommunications* (FCC Office of Plans & Policy, Working Paper No. 36, 2002).

22. *See* Council Directive 2002/19, 2002 O.J. (L 108) 19 (EC); Council Directive 2002/20, 2002 O.J. (L 108) 20 (EC).

regulation.[23] The economic problems in telecommunications, in this view, are caused by discrete types of market failure—like network effects, economies of scale, and monopoly leveraging. Telecommunications law should therefore premise its actions on the same criteria as modern antitrust, where findings of market power play the starring role.

As with the layered proposals, there is much to praise in the European approach. The European approach represents the world's most ambitious effort to make telecommunications law generalized to the problems of 21st century technology.[24] Additionally, if the Europeans are right that most, but not all, agree that telecommunications law faces problems similar to antitrust, one may ask if there is any real disagreement.

There are two grounds for disagreement. The first criticism of European-style reform may not be so much a substantive disagreement as a procedural one. In a world of perfect information, all regulatory action would be premised on exact findings of market power. Furthermore, in such a world, market players would be able to predict in advance that such action would be forthcoming. However, in this world and in the United States, gathering information with respect to market power means time, errors, and some manner of adversarial process. The result may be unduly weak protection for potential market entrants and their investors.[25]

Some support for this contention comes from the experience with the American branch of market-power dependent telecommunication law, which is better known as the antitrust law. While writers like Peter Huber have argued that antitrust courts would be an appropriate replacement for the FCC,[26] no one doubts that antitrust action is expensive and slow. James Speta writes of the most aggressive and extensive use of antitrust in telecommunications law history, against the AT&T monopoly:

> MCI's litigation against AT&T, which was based upon serious and repetitive anticompetitive activities by AT&T, did not by itself result in any substantial change in AT&T's behavior. AT&T did agree to divest itself of the Bell companies as the result of government antitrust litigation, but that result came eight years after the government instituted the case and thirty-three years after the government originally tried by antitrust means to control AT&T's anti-competitive be-

23. *See* JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, DIGITAL CROSSROADS 1 (2004) (discussing use of antitrust and telecommunications law for similar purposes); *see also* Tim Wu, *Copyright's Communications Policy*, 103 MICH. L. REV. 278, 286 n.24 (2005).

24. Some critics argue that giving telecommunications law an antitrust orientation neglects other, non-qualitative values.

25. *See* Segal & Whinston, *supra* note 3.

26. HUBER, *supra* note 20.

havior.[27]

In the language of American telecommunications policy, invoking antitrust as an alternative is often a polite code word for doing nothing. If the European approach transported to American soil means anything like an antitrust process, the results could be too ineffective to serve any goal of communications policy, other than doing nothing. In particular, if significant barriers to entry are blocking competitive entry, a long antitrust-style process may be cold comfort to investors in market entrants.

But even if antitrust principles could be affected there is a second criticism of the European approach that is more fundamental. The focus on market power may neglect some of the social benefits of general purpose networks, independent of market power concerns. Stated in economic terms, while market power can create one form of market failure in telecommunications, there is another problem: externality problems. Non-discriminatory networks may be valuable and worth preserving even in the absence of significant market power because of the independent economic value as a source of spillovers for other activities. Public infrastructures, in this view, are a collective good that some minimal government action preserves.[28] This point will be developed further in what follows, and in the discussion of common carriage.

To be fair, European telecommunications law, but not necessarily U.S. antitrust practice, is partially sensitive to both of these criticisms. While often presented as here, as anchored to findings of market power, part of the European law (the Access Directive) requires "operators of public communications networks" to interconnect regardless of any findings of market power.[29] In addition, as opposed to the lengthy ex post antitrust process used in the United States, the European approach imposes ex-ante regulations on firms based on findings of market power without evidence of abuse of their market position.

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The discrimination-centered approach elaborated in the remainder of this paper borrows heavily from the two proposals just described. While premised on the same economic principles that motivate the European proposals, it advocates a discrimination system that is premised on an implicit two-layer model. It also draws strongly on and further devel-

27. Speta, *supra* note 4, at 277.

28. A related argument is made by Barbara van Schewick, who points out that the fact that a network operator faces competition in its primary market may make it want to capture additional exclusive revenue in complementary markets. Barbara van Schewick, *Towards an Economic Framework for Network Neutrality Regulation*, 5 J. ON TELECOMM. & HIGH TECH. L. (forthcoming 2007), *available at* http://ssrn.com/abstract=812991.

29. Council Directive 2002/20, art. 4, 2002 O.J. (L 108) 20 (EC).

ops earlier proposals by Eli Noam and James Speta, both of whom have advocated some form of new anti-discrimination norm in different ways.[30] The point of the one-rule proposal is to try to capture some of the advantages of the horizontal regulatory models in a workable, practicable, and simple fashion.

II. ANTI-DISCRIMINATION RULES

It might be useful to return to the subject of the introduction and discuss what the purpose of telecommunications policy should be in the first place, and how that connects to the law itself.

I see the regulators' task as trying, as best as possible, to foster the vibrancy and health of the part of the nation's public infrastructure called its information networks. Information networks make possible a large range of activities—commercial, such as corporate meetings; political, such as news distribution; and purely personal; such as the planning of birthday parties and happy hours. Networks also catalyze innovation, both in the network itself, and in activities that depend on the transport network, from voice communications through online travel agents. A chief goal of telecommunications policy, in this view, is to maximize the value of the information networks as a catalyst for all these activities.

Both network ideology and government policies can affect how valuable the networks are as a catalyst or input into other activities. The more general-purpose the network is, the more generally valuable the network is. That is the essence of the infrastructure theory of networks, and also what motivated the "end-to-end" principle of network design. The essence of the end-to-end principle is that the most valuable network is that which supports the broadest number of uses.

The analogy to urban planning is obvious but worth repeating. A street and a sidewalk have a value that in part derives from their multiplicity of uses. Stores on Fifth Avenue can sell hats, coats, toys and coffee. The urban planner doesn't need to decide the use, and does better by not deciding.[31] A dedicated network is like a street designed from the outset to sell, say, top hats. Surely the dedicated network, in the beginning, is not useless, but less useful than perhaps it could be. It is also a street that could face a serious problem when top hats go out of fashion.

If the goal is to maximize the value of the information networks as a catalyst for commercial, political, and personal activities, it would be useful to speak of the dangers that face the telecommunications regulator. The first is over planning, both public and private. Government has

30. *See* Speta, *supra* note 4; Noam, *infra* note 60.

31. *Cf.* JANE JACOBS, THE DEATH AND LIFE OF GREAT AMERICAN CITIES 222 (1961) ("Intricate minglings of different uses in cities are not a form of chaos. On the contrary, they represent a complex and highly developed form of order.").

sometimes had success planning the future, usually by funding scientists who then build what they think the future should be (the story of the internet's origins.[32]) But unless they give money to scientists, regulators' and legislative efforts to plan the future, influenced by what today's powers think that future should be, have a storied history of failure. In the 1960s television broadcasters managed to convince the FCC that UHF was the technology of the future, cable a trifle and threat to localism. That was then, yet today the FCC and Congress remain officially committed to a planned second-coming of broadcast television, akin to the resurrection of UHF, known as broadcast digital television. It is scheduled to arrive sometime in the 2010s and seems likely to be dead on arrival. Were it to succeed, billions of dollars in public money will have been spent to make televisions slightly larger. Whatever the result, far more money has been and will be spent on the project of enlarging televisions than on something called the internet and the technology of broadband.

Such tales may give rise to libertarian twitching and thoughts of total deregulation, but the flip-side of government inaction is no less serious. The non-hypothetical danger is that private network owners will individually destroy the collective value of the public networks. Of course, the value of activities that depend on a network also make the network valuable, leading to a natural incentive to support a network with varied and valuable uses.[33] However, we also know network owners may have good reason to deviate from what is in the collective interest. Consider two persistent reasons. First, it is no secret or surprise that incumbent firms act first and foremost to preserve their existing investments and to nullify competitive threats. To the extent activities facilitated by the network challenge the incumbent firm's existing investments, firms try to block them. This is particularly a threat to dramatic innovation that threatens to take over vested interests. Stated otherwise, no firm plans on its own death, even if the downfall of the firm is actually in the public interest.

Second, firms cannot internalize or capture all of the public benefits of an infrastructure they own, particularly those benefits that are hard to commodify. As Brett Frischman and Mark Lemely observe, infrastructures are a form of good that tend to create spillovers.[34] Consider urban planning again. How possibly could the owner of a sidewalk capture the

32. *See generally* KATIE HAFNER & MATTHEW LYON, WHERE WIZARDS STAY UP LATE (1996).

33. This point is explained carefully in Joseph Farell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 HARV. J.L. & TECH. 85 (2003).

34. Mark A. Lemley & Brett M. Frischmann, *Spillovers* (Stanford Law & Econ. Olin Working Paper No. 321, April 2006), *available at* http://ssrn.com/abstract=898881.

value of conversations held walking along, or thoughts that ramble, or the joys of window-shopping? The problem is that incumbent firms may make sad efforts to capture some of the value of what their infrastructure inspires. In the process of trying to capture for themselves more of the public value of what transpires on their network, firms can lessen or destroy the value of the network as a catalyst for other activities. This is the great tragedy of badly executed "value-added" network models. By trying to extract side payments for services usually otherwise available and better provided elsewhere, the risk is diminishing the real value of the network.

The challenge in dealing with the previously described behavior is the usual pitfall of unintended consequences. We have seen that so many seemingly well-motivated regulations become twisted to serve new and perverse ends. In some way, they usually end up guaranteeing some stable income to an incumbent, and/or form a barrier either to new networks, or new innovations that depend on access to networks. In other words, one of the gravest perils in telecommunications law is the law itself and its capacity to entrench.

These fears on both sides may make telecommunications policy seem nearly impossible. Additionally, there are problems caused by raw market power that go beyond the scope of this discussion. The following is designed to minimize the various evils identified above. As detailed below, the anti-discrimination norms have historically been among the most effective and least involved of available government remedies. Moreover, an anti-discrimination rule that creates strong ex-ante norms can be an effective measure for preventing private suffocation of what would otherwise be a vibrant information network. It can preserve the health of separate markets that rely on the network as an input, so that the network owner does not become as bad a centralized planner as the government.

A. The Use and Abuse of Anti-Discrimination Rules

There are many excellent histories of American telecommunications policy available, and what follows is not a contribution. Instead the following emphasizes two points. First, telecommunications regulators have been dealing with discrimination problems for a very long time under a variety of labels like "common carriage," "interconnection," and will likely continue to do so. The second point being the techniques used to combat perceived discrimination problems are varied, and the success and failure of measures differ. While it is difficult to be conclusive in drawing from history presented, the following presents several examples

that help frame how discrimination problems arise.[35]

The examples discussed here have several features in common. Consumers have an interest in using their network in a given way, either to reach someone on another network, to attach a given device, or use a given service reachable over the network. Sometimes, though the difference can be subtle, companies are interested in reaching consumers with a given service or content. In response and for a variety of reasons, the carrier blocks or makes difficult either the consumer or the company's access to consumers, often leading to some kind of government action.

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The United States' first electric information network was the telegraph, and with it came a paradigmatic story of network discrimination that can serve as a model for much that has followed. The electric telegraph was developed by British and American inventors, including Samuel Morse, in the late 1830s. In the United States, the first deployments were financed and owned by the federal government, rather like the early Internet. By 1866 a private company, Western Union, through acquiring rivals had consolidated a near-complete monopoly position in telegraph service.[36]

One of the most important early customers for the telegraph was the press. The telegraph made it possible to find out, faster than through land mail, what was happening in other parts of the country. Access to a telegraph network was, for a newspaper, an obvious advantage. After consolidating its monopoly in 1866, Western Union made an exclusive deal with the Associated Press, and granted AP preferential access to its network. In exchange, AP members made the startling promise not to "encourage or support any opposition or competing Telegraph Company." Western Union's actions were a classic, and perhaps defining example of network discrimination.

In this instance we can clearly see the problem presented by network discrimination. Western Union may have helped itself, but the more serious problem was the distortion of competition among newspapers. As telecommunications historian Paul Starr writes, "Western Union had exclusive contracts with the railroads; AP had exclusive contracts with Western Union; and individual newspapers had exclusive

35. For more detailed historical treatments, *see* Glen O. Robinson, *The Federal Communications Act: An Essay on Origins and Regulatory Purpose*, *in* A LEGISLATIVE HISTORY OF THE COMMUNICATIONS ACT OF 1934 (Max D. Paglin ed., 1989); Kevin Werbach, *The Federal Computer Commission*, 84 N.C. L. REV. 1 (2005); PAUL STARR, THE CREATION OF THE MEDIA (2005).

36. For more on the early history of the telegraph, *see* ROBERT L. THOMPSON, WIRING A CONTINENT: THE HISTORY OF THE TELEGRAPH INDUSTRY IN THE UNITED STATES 1832-66 (1947); *see also* DANIEL J. CZITROM, MEDIA AND THE AMERICAN MIND 1 (1982).

contracts with AP. These linkages made it difficult for rival news services to break in."[37] Another problem is that while Western Union's telegraph might have been used for a variety of newspaper types that might have flourished, all was sacrificed to the AP model.

In his work, Starr contrasts the difference between the American telegraph system and the British telegraph, which was run like the postal system, on a neutral basis. "Britain's postal telegraph helped equalize power between the provincial and metropolitan press, whereas Western Union helped stronger papers dominate weaker ones."[38] The influence of the AP monopoly was to have a lasting and well documented effect on national politics. Historian Menahem Blondheim has carefully documented AP's use of its monopoly to influence politics in the late 19th century, and much of it relies on AP's preferential access to the telegraph network.[39] AP, sympathetic to Hayes and the Republican party, simply flooded the telegraph wires with Republican campaign materials, and refused to carry most stories coming from the Democratic party.[40]

Western Union's discriminatory practices were eventually remedied through the device of "common carriage." In 1888, Congress gave the Interstate Commerce Commission the power to regulate subsidized telegraph lines, and in 1910, Congress declared telegraph companies to be common carriers. The "common carriage" concept was preserved in the 1934 Communications Act and still forms the basis for the regulation of telephone carriers, and thus necessitates a close look.

As an anti-discrimination regime, common-carriage is important both historically and conceptually. The concept, as refined in the 19th century, can minimally be described as requiring "businesses affected with the public interest" to offer their services to all without discrimination, at just and reasonable rates, in exchange for certain immunities.

The questions remain who falls within the common-law definition of common-law carriage and what makes a business affected with the public interest? The Supreme Court struggled for decades in the late 19th and early 20th century with these difficult questions in the law of common carriage. Common-carriers were historically defined by their economic function: the carriage of goods or information, open to the public, without substantial transformation of those goods or information. Common carriage is premised on the idea, usually traced to Lord Hale, that special public duties must attend certain types of private business that provided essential social functions, like transportation.

A key to understanding common carriage is that the early defini-

37. STARR, *supra* note 35, at 184.
38. *Id.*
39. *See* MENAHEM BLONDHEIM, NEWS OVER THE WIRES 1844-97 (1994).
40. *Id.*

tions had little to do with market power. Instead, the definition was strictly based on the type of business in question. In the words of a 19th century treatise, a common carrier is a person who "exercise[s] the business of carrying as a 'public employment,' and must undertake to carry goods for all persons indiscriminately; and hold himself out as ready to engage in the transportation of goods for hire as a business, and not as a casual occupation pro hac vice."[41] In other words, it is the role the carrier plays in the economy that necessitates duties of common carriage, not necessarily the potential for abuse of market power.

These conclusions are fortified by the work of Professor Thomas Nachbar, who has carefully studied the historic patterns of common carriage rulings, and tried to understand which businesses were given common carriage duties.[42] He concluded that factors like necessity, the "networked" nature of the business, and market power have always played a role. Yet the clearest point of commonality is affiliation with transportation or communications where the inherent public interest in transportation and communications infrastructure seems to make all the difference.

* * *

The second major discrimination story comes from the early telephone networks. By the early part of the 20th century, AT&T was owner of many local exchange carriers and also the nation's finest long-distance network. AT&T did not, as Western Union had, discriminate so obviously between what kind of end-users might be allowed to use its basic services. AT&T practiced a different form of discrimination. Its competitive strategy was to refuse to allow non-affiliated carriers to connect to its long-distance network, so as to starve local rivals out of existence.[43]

AT&T's behavior posed a different puzzle of network discrimination. Consumers on given networks wanted to reach people on other telephone networks but needed Bell's interconnection to do so, which Bell withheld. That behavior and an aggressive acquisition program which led, among other things, it to owning Western Union, attracted the attention of the Justice Department. Eventually, in a 1913 letter, AT&T agreed to interconnect its long-distance services with independent telephone carriers, a promise now known as the Kingsbury Commitment.[44]

41. THOMPSON CHITTY & LEOFRIC TEMPLE, A PRACTICAL TREATISE ON THE LAW OF CARRIERS OF GOODS AND PASSENGERS BY LAND, INLAND NAVIGATION, AND IN SHIPS 14-15 (1857).

42. *See* Thomas Nachbar, Open Access (2006) (on file with author).

43. *See generally* Adam Candeub, *Network Interconnection and Takings*, 54 SYRACUSE L. REV. 369 (2004).

44. For a discussion of the Kingsbury Commitment, *see* Peter Huber, *Loose Ends*, 4

As an anti-discrimination remedy, the Kingsbury Commitment was partial. It blocked one form of discrimination, long-distance to local, while leaving AT&T free to engage in other forms. At the local-local level, AT&T never agreed to connect to independent local carriers. It also never agreed to interconnect either its long distance or local networks with competing long-distance carriers. Consequently, as many have documented, the Kingsbury Commitment, along with many other strategies, ultimately lead to AT&T consolidating its position in American telephone service as a regulated monopoly.

During the long period of "pure" AT&T monopoly, from 1913 through 1968, telephone service was subject to the common-law anti-discrimination duties of common-carriage discussed above. The duties were codified in the 1934 Communications Act.[45] The overall system for regulating the AT&T monopoly has been heavily criticized. Indeed, criticism of the common-carriage model is the starting point for much contemporary telecommunications writing. The main point is that the FCC's system largely protected AT&T from any serious competition. Yet it is hard to see how it might have been the anti-discrimination duties of common carriage alone, as opposed to other incidents of the law, that are to blame. The anti-discrimination duties were only part of the regulatory regime that AT&T was subject to. AT&T was and still is subject to rate-setting, universal service subsidies, and various other duties. More importantly, potential entrants required FCC permission to begin offering phone service. Given the threat of such entry, AT&T would invariably complain that entrants would "cherry-pick" profitable services and destroy the system of subsidies built into in the universal service system.[46]

The efforts of AT&T to block nearly any kind of market entrant led to a third story of discrimination in telecommunications, the well-known story of network attachments. In the 1950s and 1960s, consumers began to want the freedom to connect devices to their telephone lines. At first, telephone-accessories, and later on, telephones made by companies other than Bell, and later answering machines, fax machines, and modems. Since the FCC at first blocked even the attachment of a simple rubber cup to a telephone, it fell to the D.C. Circuit to suggest a non-discrimination rule for network attachments. It did so in the *Hush-a-Phone* decision, creating the following rule: a telephone subscriber has a

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MEDIA L. & POL'Y 1, 1-2 (1995).

45. The Act states "It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities or services . . . or give any undue or unreasonable preference or advantage to any particular person, class or persons, or locality, or to subject any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage." 47 U.S.C. § 202(a) (1934).

46. *See* CHARLES KENNEDY, AN INTRODUCTION TO U.S. TELECOMMUNICATIONS LAW (2d ed. 2001).

"right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental."[47]

While *Hush-a-Phone* was decided in 1956, it was not until 1981 that the FCC completed the deregulation of consumer network attachments. Along the way, it announced the *Carterfone* principle, leading to the Part 68 Rules, which let users connect whatever they wanted so long as it created no harm to the network or other users.[48] In 1981, in the *Computer II* decision, the FCC enacted a strong non-discrimination rule for consumer network equipment, and even blocked the regional Bell operating companies from offering such equipment other than through an independent subsidiary.

The creation of an anti-discrimination regime for consumer equipment is widely seen as a great success, and is arguably a model for the Telecommunications law generally. FCC economists Jay M. Atkinson and Christopher C. Barnekov describe the impact of banning discrimination against competing consumer equipment providers:

> It is difficult to overestimate the impact of Computer II's decision to give customers the right to purchase CPE [Consumer Premises Equipment] outright, rather than only to buy discrete CPE services from the LEC [Local Exchange Carrier]. We will not attempt to prove this assertion here, but we believe that the recent development of the Internet, and of much of Information Technology, would not have happened if CPE (for example, modems) were still marketed only by LECs. The blossoming of the CPE market into a highly competitive industry offering a wide variety of choice at low cost and rapid technological advances, and enabling previously unknown possibilities such as the increasingly numerous Internet services, is arguably a direct consequence of the deregulation of CPE.[49]

The most prominent feature of the CPE rule is that it completely separated network attachments, as a market, from telephone service and required AT&T to allow any safe usage of its network.

The next example of how network discrimination can arise is the "must-carry" rules. Traditionally, broadcasters originated and cable companies carried television content. In the early days of television, cable channels fought hard for the right to carry broadcast content of ABC, CBS, etc., without permission. Then by the 1980s the tables turned, and

47. Hush-A-Phone Corp. v. United States, 238 F.2d 266, 268 (D.C. Cir. 1956).

48. Use of the Carterfone Device in Message Toll Telephone Service, *Decision*, 13 F.C.C.2d 420 (1968), *reconsideration denied*, *Memorandum Opinion & Order*, 14 F.C.C.2d 571 (1968). *See also* Werbach, *supra* note 8.

49. *See* Jay Atkinson & Christopher Barnekov, *A Competitively Neutral Approach to Network Interconnection* 3 (Office of Plans & Policy, FCC, Working Paper No. 34, 2000), *available at* http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp34.pdf.

Broadcasters fought to require cable operators to carry its content. While there have been many versions of must-carry requirements, the clearest were the rules in the 1992 Cable Act, which required large cable operators to devote channels to essentially every broadcast station operating in the same area as the cable operator.[50]

Must-carry has some similarities and some differences to the other regimes considered here. Broadcast stations argued that they were seeking access to their customers through the cable network. They accused the cable operators of discriminating against local stations in favor of their own, affiliated programmers. The broadcasters went so far as to write this as a Congressional finding in the Act. As the Act states, "cable operators have the incentive and ability to favor their affiliated programmers. This could make it more difficult for noncable-affiliated programmers to secure carriage on cable systems."[51]

Many see the must-carry laws as simply a form of industrial protection for an uncompetitive set of UHF stations. However, were the must-carry laws in any way distinguishable in principle from some of the other non-discrimination rules discussed here? Arguably, yes. The purpose of the law was at no point actually linked to consumer demand, as opposed to the needs of a competing industry. As the Supreme Court wrote, "Congress found that the physical characteristics of cable transmission, compounded by the increasing concentration of economic power in the cable industry, are endangering the ability of over-the-air broadcast television stations to compete for a viewing audience and thus for necessary operating revenues. Congress determined that regulation of the market for video programming was necessary to correct this competitive imbalance."[52] In other words, as the Supreme Court suggested, Congress's primary interest was saving marginal broadcasters from cable. In the stories of the telegraph, the telephone, and later the internet, there is no particular need to discriminate as among users or content providers by the nature of the service itself. Cable service, at least in the 1980s, was still limited in its number of channels and the law was not preserving competition between competing content providers, but giving one class of content providers a permanent advantage.

The last anti-discrimination story is from the early days of broadband regulation. In the late 1990s and early 2000s, consumers began to attach new devices to their internet connections, and use internet services that were not in existence in the mid-1990s. The reaction of many broadband operators was to impose various contractual limits on the activities of their subscribers. In the best known examples, they disciplined

50. 47 U.S.C. §§ 534, 535 (1992).
51. 47 U.S.C. § 521 (1992).
52. Turner Broad. Sys. v. FCC, 512 U.S. 622, 632-33 (1994).

users of Virtual Private Networks. AT&T, as a cable operator, warned users that using a Wi-Fi service for home-networking constituted "theft of service" and a federal crime.[53]

These early instances of broadband discrimination prompted a remedy known as the "network neutrality" regime. FCC Chairman Michael Powell in 2004 first announced the relevant non-discrimination rules, which he called the principles of "Network Freedom."[54] As he explained later, "My approach is like this: we give companies a lot of room to do what they want. But they need to know, when they break the rules, we're going to really slam them."[55] Under pressure from the FCC and consumer groups, the broadband operators generally relaxed their most glaring limits. Later, in the spring of 2005, in the *Madison River* case, the FCC for the first time showed a willingness to enforce its network neutrality rules, fining a local telephone carrier for blocking VoIP service. As then-FCC Chairman Michael Powell stated, "The industry must adhere to certain consumer protection norms if the Internet is to remain an open platform for innovation."[56]

* * *

This very brief look at the history of non-discrimination rules in telecommunications makes clear the challenges and pitfalls of managing network discrimination. An anti-discrimination rule can become part of a larger scheme that is used to deter competitive entry, as in the regulation of AT&T. Purported anti-discrimination rules can be used as merely a form of industrial life-support, as in the must-carry episode. Yet doing nothing at all, as in the early days of the telegraph industry, can lead to serious anti-competitive behavior that distorts not only infrastructure competition, but the economic freedoms of the press.

Alternatively, anti-discrimination rules are essential to the health of telecommunications networks, yet must be used with great care. What follows in the last section is a discussion of what best practices in the administration of an anti-discrimination regime look like.

III. AN ANTI-DISCRIMINATION REGIME

A central challenge for an antidiscrimination-based system and a

53. *See* Wu, *infra* note 61, at n.57.

54. Powell's discussion of "Internet freedom" focuses on users' rights. The "freedoms" relevant here are (1) freedom to access content, (2) freedom to use applications, and (3) freedom to attach personal devices. *See* Michael K. Powell, *Preserving Internet Freedom: Guiding Principles for the Industry*, 3 J. ON TELECOMM. & HIGH TECH. L. 5, 12 (2004).

55. Michael K. Powell, Former Chairman, Federal Communications Commission, Comment at the Silicon Flatirons Conference: The Digital Broadband Migration (Feb. 14, 2005).

56. Jonathan Krim, *Phone Company Settles in Blocking of Internet Calls*, WASH. POST, Mar. 4, 2005, at E2.

central challenge of telecommunications policy is differentiating between "bad" and "justified" discrimination. Should leeway be given to network providers who want to "internalize complementary externalities," or provide their own specialized services? Should a carrier be forced to serve all customers, or only those who can pay? How about treating customers differently based on their needs? Does there need to be a public/private distinction?

Given a general anti-discrimination norm, this section discusses several ways to approach the design of anti-discrimination system. The first focuses on the *type* of or category of discrimination, where the most relevant question is whether the discrimination in question implicates the neutrality of an important public infrastructure.

A. Discrimination Type

One approach is to categorize the types of discrimination problems that emerge. Network discrimination tends to fall into three categories: (1) between rival *transport infrastructures*, and (2) between *transport infrastructures* and *application services*, and (3) between rival *applications services.*

What follows discusses each type separately. However, the general point is that infrastructure-based discrimination should be suspect, including infrastructure discrimination that affects the market for applications.

1. Between Rival Transportation Services (interconnection)

Anti-discrimination remedies as between transport infrastructures are better known as "interconnection" requirements. They have a central place in the history of American telephone regulation, including but not limited to the Kingsbury Commitment, and later in both the 1934 Act's interconnection requirement (now §201) and the various orders related to the 1984 breakup of the AT&T system. As discussed earlier, the European system continues to retain broad interconnection requirements.

The interconnection requirements are historically derived from common carriage rules, and the economic justification as a means of facilitating market entry is strong and well known.[57] Transportation infrastructures have well-known, unusual economics that lead to outcomes like natural monopolies, market oligopolies, and government programs like universal service and subsidization. The usual argument for interconnection is premised on network effects. The argument is that because a larger network is more valuable than a smaller one, without any duty to

57. *See generally* Speta, *supra* note 4, at 251.

interconnect, smaller carriers will have great difficulty entering the market. As James Speta argues, advocating a general interconnection duty for internet providers:

> Where there are network effects, one manner of decreasing the barriers to entry is an interconnection technology or requirement. In this manner, new (and smaller) companies can connect to the incumbent's installed base. It is for this reason that communications law (from the 1934 Communications Act to and including the Telecommunications Act of 1996) has always included interconnection requirements. Without the ability for new companies to promise customers that they will also be able to place calls to and receive calls from subscribers of the incumbent telephone carriers, new entrants would never stand a chance.[58]

As Speta argues in general, the economic case for transportation-level interconnection is strong. It suggests that the absence of an interconnection duty for physical networks other than the telephone network is a mistake. In other words, a foundation of minimal telecommunications regulation is the duty for all transport infrastructure providers to interconnect their networks.

2. Between Applications and Transport

The case for interconnection between transport infrastructures has traditionally been taken as the stronger and more obvious case. Many writers, along with the European Union, consider interconnection remedies an easy case but are more hesitant about policing discrimination as between transport infrastructures and service. This paper argues, to the contrary, that in the coming decades, anti-discrimination rules as between applications and transport services are the single greatest priority for the telecommunications law.

The main reason is this. Applications or "services" have long been closely bundled with given transport infrastructures. Their separation, however, by the design of the internet has led to an explosion of innovation and the creation of a range of new competitive markets for searches, online auctions, and many other services. The importance of anti-discrimination rules in this context is generally to protect the open market in applications services from the well-known distortions and oddities of the physical infrastructure market.

Stated differently, the prevention of the distortion of the applications market is central to making communications networks useful public infrastructures and platforms for innovation. The strongest track record

58. *Id.*

of innovation comes from the network edges, not the center. As previously discussed, one simple reason is simply numerical. Networks have hundreds of millions of users and potential innovations while the number of network owners is limited. Hence, most efforts to control the network from the center, however well intentioned, will intentionally or inadvertently block innovators at the edges. The second problem is that everyone will invariably make mistakes. However, mistakes made by the network centers can persist for decades, and stall the entire economy, while mistakes made by edge innovators simply mean another company dies. In short, telecommunications' central and most important anti-discrimination rule might be understood as the safeguarding of easy-entry service markets from infrastructure economics.

3. Between Applications

A third type of discrimination is between applications services. These problems arise on the internet. Some examples are problems between competing email, instant message, or "talk" services. These problems are conceptually similar to transportation level interconnection. The problems are problems of "horizontal" interconnection as opposed to the "vertical" problems that are seen as between applications and transport.

As with interconnection between transportation infrastructures, we face a familiar problem. Given the network tendency to converge toward a single standard, what kind of government action is necessary? I suggest that application-layer discrimination is presumptively less of a problem or a suspect class than the previous two categories. The reasoning simply derives from examinations of conditions for market entry. So long as entry is not blocked by actors at the infrastructure layer, better technologies ought to be capable of supplanting inferior ones, even given network effects. Factually, this is the track record of network services, various generations of talk programs have entered the market, despite the supposed dominance of AOL or other chat programs.

B. Zoning Discrimination–Private Public Distinctions

A common and useful approach in running an anti-discrimination system is to create zones where discrimination is allowed and disallowed. As discussed above, common carriage law was traditionally occupied with the distinction between "public" business, and the rest, which were presumably "private." The same distinction is central to the anti-discrimination regime surrounding public accommodations in the

United States.[59] As the example, goes, if you operate a restaurant, you must serve customers of all races but you have no duty to invite the man on the street to a dinner party at your house. What discrimination duties attach in either case depends on the extent to which the carrier seeks the benefits of being a public accommodation or carrier.

This same distinction is of great utility for telecommunications regulators. The regulator might map out zones of non-discrimination. The inspiration for this position is a 1994 paper written by Professor Eli Noam. Noam suggested that reform of telecommunications might center on the principle of "neutral interconnection." The idea is to offer carriers a choice: be a fully private carrier, and discriminate as you like, or interconnect with other carriers, and become subject to anti-discrimination requirements. As Noam wrote:

> A carrier can elect to be private by running its own self-contained infrastructure, and having full control over its content, use and access. But if it interconnects into other networks and accepts transmission traffic from them, it cannot pick some bits over other bits. This means that while a private carrier can be selective in its direct customers, whether they are end-users or content providers, it cannot be selective in what it accepts from another interconnected carrier. . . .All of common carriages' free-flow, goals of low transaction cost, and no-liability goals are thus preserved by a system of (a) non-exclusive interconnection (b) neutral traffic acceptance.[60]

Under Noam's approach, the telecommunications world would be divided into zones of discrimination. He calls for something similar to the absolutist position on public networks, but allows total freedom to discriminate in private zones.

This distinction between public and private networks is useful. It recognizes that private, non-connected networks may derive much value from their discriminatory nature. At the same time, it sees the public networks as necessarily more neutral, reflecting society's greater interests in that respect. One way to implement the public/private distinction on modern information networks is called "police what you own."[61] This approach distinguishes between discrimination that is premised on *local* criteria versus *internetwork* criteria. In other words, network providers of all types have the freedom to discriminate on their local network on the basis of criteria that are entirely under the control of the lo-

59. *See, e.g.*, 42 U.S.C. § 12181(6)-(7) (2000).

60. Eli Noam, *Beyond Liberalization II: The Impending Doom of Common Carriage*, 18 TELECOMM. POL'Y 435, 452 (1994).

61. *See* Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. ON TELECOMM. & HIGH TECH. L. 141, 167-71 (2003).

cal network. For example, in the broadband context, a provider may decide what they want to offer such as different types of bandwidth, or even prioritized access to content on their own network. However, once a provider makes that decision they may never discriminate of the basis of internetwork criteria or content and applications from other networks.

C. Justifications

Discrimination regimes also may differ on the degree to which they accept justifications for deviations from neutrality. The analogy to anti-discrimination rules in employment should be obvious. Under Title VII, employers are barred from discrimination unless there exist grounds for discrimination—a "bona fide occupational qualification" in the jargon of employment law.[62] The question is, what should the allowable justifications be in a telecommunications anti-discrimination regime?

1. Absolute Neutrality

The absolutist position argues that neutral public carriage should be taken as an absolute principle that should never be susceptible to case-by-case justification. The absolutist position begins from a core case of the internet and the problem of "bit discrimination." An absolutist would suggest that carriers must, absent the strongest of compelling reasons, treat all bits, all ones and zeros, alike. Data is data and carriers must offer neutral carriage. Carriers should make no discrimination in their carriage on the basis of origin or destination, application type, content, or anything else.

In its strongest forms, for example, the absolutist position insists that Internet service providers should not block known spam sites, based on the proposition that control of spam should be handled by the network ends. It also goes without saying that the absolutist position takes a dim view of a carriers' desire to prioritize certain forms of service over others.

Behind the absolutist position is a strong faith in the importance of neutral public infrastructures as a social good that promotes economic growth and decentralized innovation. A main problem with the absolutist position is that it needs a clear rule on scope. Some problematic questions arise such as, can a carrier practice customer discrimination and discrimination between customers on the basis of ability to pay? Can it practice network discrimination and have no connection whatsoever to, say, the internet? The absolute position must be coupled to clear zoning of allowable discrimination, as in the public/private distinction discussed

62. 29 U.S.C. § 623 (f)(1) (2000).

above, to avoid absurd results.

2. Grounds

A second approach suggests that carrier's discrimination as between content or network points that consumers want to reach is generally illegal, subject to various categorical exceptions. The difference between this approach and the absolutist approach is that it accepts that discrimination may be good in some instances and bad in others. It seeks the development of network discrimination norms that distinguish between the two.

When proposals vary, the bases of justified discrimination are usually two:

1. Prevention of public harms;
2. The provisioning of services for which discrimination is necessary.

As an example, an early version of a House's Draft 2005 Telecom Reform bill included a ban on discrimination that nonetheless allowed carriers to take measures to (inter alia):

1. Protect the security and reliability of its network and broadband Internet transmission services; or
2. Prevent theft of [Internet services] or other unlawful conduct; or
3. Carry or offer a broadband video service or any other service that provides enhanced quality of service to subscribers through the [Internet] provider's utilization of network and routing management or customized hardware, except that such carrying or offering of such services may not block, or unreasonably impair or interfere with, the offering of, access to, or the use of any lawful content, application, or service provided over the Internet may not unreasonably restrict the right of subscribers under subsection to connect and use devices.

While absolutists challenge discrimination even when intended to fight public harms like discrimination against persistent spammers on the internet, the first ground tends to be less controversial. More controversial is discrimination practiced for the purpose of providing services. For example, as discussed above, cable operators currently discriminate between their own video services and the data they carry, favoring the former over the latter to deliver a high quality signal. The various plans for fiber-based television services contemplate reserving wavelengths for

television services.

The argument in favor of allowing such discrimination is simply this: but for the discrimination, a publicly attractive service will not or cannot be offered. Furthermore, but for permission to reserve a wavelength for television alone, telephony carriers won't be in a position to offer television services.

As absolutists point out, the danger is that the exception can quickly swallow the rule. A carrier may begin offering so many "special" services that its service competitors on the public internet suffer by comparison, rather than merit. Moreover, absolutists insist, the services in question can in fact be provided over a public, non-discriminatory channel. One reason a carrier might want to offer television service over a reserved wavelength is to give themselves a means to prevent others from developing effective, competitive services.

3. Like Treatment

A third approach focuses on the concept of "like treatment," a concept central to the anti-discrimination rules used in the international trading system. In the international trading system, as in telecommunications, the premise is that distortionary forms of discrimination are principally those which operate on the basis of *identity*. In trade, if a country bans tomatoes from Italy but not from Spain, the result is a distortion of competition in the tomato market. For that reason, the trading system generally bars country from discriminatory treatment of "like products."

In the telecommunications context, the premise is that treating information from one firm or carrier any differently than from another carrier based only on the identity of the carrier will similarly distort the production market for that information. An inefficient provider may dominate the market not because of a superior product but because of preferential access to the network.

Interestingly this approach continues to allow *some* forms of discrimination on the network. It mandates, however, that the discrimination undertaken must be related to the content in question, and not the source of the information. For example, an internet carrier might decide to speed up the delivery of all video packets on the network, a difference in treatment driven by the differences in the underlying information type. But what the carrier may not do under this approach is to choose favorites, to treat similarly situated packets differently.

A sample of language embodying this approach, as applied to a network carrier, looks as follows: "A carrier may prioritize content, applications, or services within the operator's networks based only on the

type of content, applications, or services and the level of service purchased by the user, without charge for such prioritization."

D. Anti-Discrimination Remedies

Any anti-discrimination system needs a system of remedies. Here there is an important and basic theoretical distinction between negative and positive anti-discrimination rules. A negative rule announces that discrimination is illegal and seeks to punish identified episodes of discrimination on a case-by-case basis. A positive rule, conversely, identifies likely areas where discrimination will be a problem, and creates affirmative legal duties that are intended to remedy either past or the likelihood of future discrimination.

While there is great debate over this matter in other contexts, few can deny that enforcing a negative prohibition puts the government in its more familiar and easier position of forbidding bad behavior instead of trying to compel good behavior. As Charles Fried put the point in another context, "[d]iscrimination . . . should be stamped out whenever it occurs. This, like all the most stringent injunctions of morality, is a negative—not a positive—duty. 'Thou shall not kill' is an injunction at once more absolute, more definite, and more readily enforced than "Love your neighbor as yourself."[63]

In the telecommunications context "love thy neighbor" policies are positive remedies; rules of compelled sharing, particularly those pursuant to government-set rates. As with a positive moral duty, it would be nice if incumbent phone companies would share their lines with entrants, but creating a duty to do so pursuant to government rates has by common consensus proved a disaster. The FCC's role is decidedly simpler when it enforces "thou shall nots." Whenever possible, the Congress and the FCC should rely on a negative anti-discrimination rule.

This distinction between a negative anti-discrimination rule and positive duties may seem slippery when the question of remedies is reached. If the government encounters a discrimination problem and seeks to cure it, it may issue injunctive orders and thereby converts the negative rule into a series of positive duties. But as we shall discuss in this section, administration of an anti-discrimination rule need not necessarily be so complex.

A typical remedy in a telecommunications context is an "interconnection remedy." One carrier has a record or practice of refusing to connect with others like local telephone carriers, for example, that refuse to allow non-preferred long distance carriers to reach their customers. The government, to combat the discrimination, orders interconnection. The

63. CHARLES FRIED, ORDER & LAW 130 (1991).

long-standing assumption is that any such interconnection remedy will require a complex, government administered rate-setting scheme. The government, the argument goes, will have to set the prices for access to the carriers' customers, thereby converting any anti-discrimination rule into an affirmative price-setting schema.

These views are misleading. An anti-discrimination regime need not rely on government price-setting at all or, stated otherwise, it can rely on the setting of prices at zero which is not administratively difficult.[64] In the interconnection context, while there remains debate, economists have persuasively argued, under the mantra of "bill and keep," that an economically efficient interconnection scheme can be maintained without a system of government-set compensation for forced interconnection.[65] The premise is that both ends of any connection benefit from inter-connection and that the best system is to have carriers on both sides collect from their customers for the connection.

Imagine, circa 1980, that long distance firm MCI wants to be able to reach customers on Pacific Bell's local network. One government remedy is to set prices that MCI must pay Pacific Bell for the privilege of accessing its network. Another approach, however, is to simply order that Pac Bell accept MCI's calls, but give Pacific Bell the right to charge its own customers for the connection. In this alternative scheme the government sets the connection rule but is not directly involved in setting prices as between the two carriers.

There are of course arguments against bill and keep, and its efficiency depends on the degree of symmetry of traffic between providers. But the point here is not to advocate bill and keep, but rather reverse the presumption that anti-discrimination rules necessarily require complex price-setting schemes. Restated slightly, the anti-discrimination proposal here envisions as much freedom as possible from complex price setting schemes, coupled with serious injunctive remedies for violation of clear anti-discrimination rules.

IV. CHALLENGES

The main challenge to these proposals and in fact, a typical chal-

64. Gerald Brock points out, for example, that the deregulation of consumer network attachments can also be labeled an interconnection requirement with a price set at zero. *See* GERALD W. BROCK, THE ECONOMICS OF INTERCONNECTION (Teleport Communications Group 1995).

65. *See* Atkinson & Barnekov, *supra* note 49.; Patrick DeGraba, *Central Office Bill and Keep as a Unified Inter-Carrier Compensation Regime*, 19 YALE J. ON REG. 37, 40 (2002); Patrick DeGraba, *Efficient Intercarrier Compensation for Competing Networks When Customers Share the Value of a Call*, 12 J. ECON. & MGMT. STRATEGY 151, 207 (2003); for an good survey of the issues see Adam Candeub, *Network Interconnection and Takings*, 54 SYRACUSE L. REV. 369 (2004).

lenge to anti-discrimination or network neutrality rules is that the rules get the problem of market entry wrong. More particularly, the rules destroy the incentives for the market entry of transport providers. As the Congressional Research Service restates the argument "the physical network providers (local exchange carriers and cable system operators) argue that they will be discouraged from undertaking costly and risky broadband network build-outs and upgrades if their networks are subject to open access and/or non-discrimination requirements that might limit their ability to exploit vertical integration efficiencies or to maximize the return on (or even fully recoup) their investments."[66]

While loudly proclaimed, the salience of this argument against anti-discrimination rules is greatly overstated. There is little question that market entry in any infrastructure market is likely to be challenging. However, that is for reasons having little to do with anti-discrimination rules and everything to do with recovering the considerable costs of infrastructure deployments.

The initial investment necessary to provide any network connection has always been high and remains so today. Consequently, the only instances of successful market entry are either pursuant to government subsidy or in order to provide a radically innovative or improved product. Examples of the later include the original telephone networks, cable television, television broadcasting, and so on. In each instances, the entrant at the physical layer provided the consumer with access to a service that did not exist previously.

The challenge of entry to offer a marginally superior, or competing product are much more profound. It runs into the natural monopoly problem in infrastructure that is familiar across industries. But so too are its chief remedies (1) opening the market to as many potential entrants as possible, (2) government subsidization of one kind or another, and (3) direct government build-outs.

The challenge of encouraging infrastructure deployments is real. Additionally, it is true that an exemption from anti-discrimination rules may, on the margin, encourage some deployment. But the idea that the government's best answer should be an exemption from anti-discrimination rules is bizarre. As stated in the premise, there are good reasons to believe that economic growth depends on open market entry. Why then, among the possible means of encouraging physical infrastructure deployment, allowing the blocking of market entry seems among the worst possible choices. The analogy here is to Ramsay pricing. Government should, when it must regulate, choose its least-distorting of means. Encouraging deployment by allowing operators to block applica-

66. CHARLES B. GOLDFARB, CONGRESSIONAL RESEARCH SERVICE, TELECOMMUNICATIONS ACT: COMPETITION, INNOVATION, AND REFORM 7 (Aug. 12, 2005).

tions seems among the most distortionary choices available.

It is also highly unclear whether discrimination is, in fact, a profitable long-term policy, and so allowing it as a form of subsidy may fail. It is hard to see clearly that the potential revenues that might stem from being allowed to block customers from applications will be enough to encourage companies to invest in the cost of infrastructure deployment absent any other prospect of profit. Instead, it seems that if government wants to promote the construction of new infrastructure, it should do so directly, either by providing direct subsidies, or by doing so itself.

In other respects, the anti-discrimination rules may also promote transport layer market entry. Some anti-discrimination rules protect transport entrants who are protected from horizontal discrimination; that is to say, require physical interconnection with other transport providers. Second, while not yet seen, an ex ante rule may block discrimination practiced by powerful application providers. In other words, the transport layer entrant, as much as anyone else, has reason to want a law that prevents blocking market entry.

CONCLUSION

One way of understanding the communications law is to see it as preoccupied with two main problems: allocating rights, and managing discrimination. The problem of allocating rights, as in spectrum, cable franchising, and other areas, hasn't gone away altogether, but is a diminishing and increasingly hard to justify part of the telecommunications laws. Conversely, the other side of the law, managing problems of discrimination, seems unlikely to go away now, or ever.

Given these developments, this paper presents telecommunications law with a challenge. How much of the present Telecommunications Act's objectives might be accomplished with a focus on a central anti-discrimination rule? The one-rule model provides one answer.