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BOOK REVIEW

THE FUTURE OF THE NET—COMMENTS ON LAWRENCE LESSIG'S *CODE AND OTHER LAWS OF CYBERSPACE* AND *THE FUTURE OF IDEAS**

Reed Hundt[†]

In his perceptive and pessimistic *The Future of Ideas*, Stanford Law Professor Larry Lessig claims that the Internet can inaugurate a golden age of creativity in arts, business models and ideas of all kinds. In this book, Lessig builds upon ideas developed in his first great book, *Code and Other Laws of Cyberspace*.¹ In *Code*, Lessig asserts the power of software architecture, or code, to shape the economy and society. Lessig captured this movement in his epiphanic phrase, "*Code is law*."² Both books are shrouded in balefulness. In Lessig's view, software architects, or code writers, will erase "important aspects of privacy and free speech,"³ and "the innovation commons [of the Internet] will . . . be[] carved up and sold."⁴

Larry Lessig and his admirers should not despond, at least not for the reasons he articulates. In the 1990s government managed to encourage the marvelous potential of the Internet to stimulate economic growth, improve education, better health care and a revivify democracy—not only in the United States, but around the globe. We need only learn (or admit) how the legal culture successfully shaped the Net's

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¹ LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999) [hereinafter *CODE*].

² *Id.* at 6.

³ *Id.* at 233.

⁴ LAWRENCE LESSIG, *THE FUTURE OF IDEAS* 267 (2001) [hereinafter *IDEAS*].

prodigious growth. The starting point is the recognition that *market structure is law*.

During the Internet's salad days, early users declared the independence of their new "commons" from the law, regulation and even the jurisdiction of the old, geographically definable world. If software architecture substituted for law, perhaps the Internet could be forever "unregulated." They either did not know, or did not care, that laws and regulations encouraging innovators to attack entrenched incumbents had positively shaped the Net's inception and dissemination.

Professor Lessig has never been naïve. In *Code* and *The Future Of Ideas* he views the Net in the context of law, markets, software architecture and social norms.⁵ But in *Code*, he hopelessly concluded that "[c]ourts are disabled, legislatures pathetic, and code untouchable."⁶ He argued that "government might regulate code" to good ends,⁷ but despaired that "our sense of the failure of government,"⁸ would deprive us of the will to do so—even at the cost of losing the Internet's freedoms.

In *The Future of Ideas*, Lessig urges regulations to protect the content of the Internet from the anti-innovation precepts of copyright and patent. He proposes that the government interfere with code writing by firms with market power. Regulations that ensure open source, shared software and content will nurture what Lessig considers the Net's essential character: Freedom. Yet, irony confounds him: "We win the political struggle against state control so as to re-entrench control in the name of the market."⁹ The "tools" of the First Amendment are "turned over to the arsenal of those who would control speech."¹⁰ We "move through" a halcyon period of costless innovation to a new era of monopoly power, not over mere products, but of ideas. The old incumbents of communications markets are to blame: "Those threatened by this technology of freedom have learned how to turn the technology off."¹¹ Saddest of his sentences: "We are doing nothing about it."¹²

⁵ CODE, *supra* note 1, at 87.

⁶ *Id.* at 221.

⁷ *Id.* at 232.

⁸ *Id.* at 233.

⁹ IDEAS, *supra* note 4, at 267.

¹⁰ *Id.* at 268.

¹¹ *Id.*

¹² *Id.*

Code is a particularly complex and insidious product. Monopolists—such as the Bell companies, whose networks serve about 85% of America's on-line consumers, or Microsoft, which controls the personal computer's operating system gateway to the Net—may use software code and law to control cyberspace. However, their power is at bottom no more or less than market power. Where they have that, the essential question is whether we use regulations to try to limit their influence over the future of the Net or instead use regulations to erode that market power by introducing competition.

Regulating those who hold market power is Lessig's choice, as it was the choice of the New Deal that created the Federal Communications Commission ("FCC") in 1934. Ironically, it is also the preference of the market power-holding firms. They typically welcome some behavior regulation in exchange for preservation of market power. They assume that any regulatory agency eventually will fall under their political influence.

Since the 1980s, however, eroding market power by introducing competition has been the preference of Congress, the various Administrations, the Federal Communications Commission, the Federal Trade Commission and the Department of Justice. Introducing competition was the idea behind the 1996 Telecommunications Act¹³ and the 1997 World Trade Organization treaty on telecom.¹⁴ Applied to the Net, the competition policy helped cause this new medium to reach more people more quickly than any communications medium in history. In the United States, narrowband Internet access (the type obtained over a telephone line, as opposed to broadband over a cable modem or a DSL line) achieved 10% penetration in just two years. It now reaches more than 50% of households, which is comparable to cable television's penetration of about 60%.¹⁵ Globally, the number of Net users is already half the number of users of telephony, which had a 125-year head start and a third of television households, which had a fifty-year head start.

¹³ 1996 Telecommunications Act, 47 U.S.C.A. § 251 (1996).

¹⁴ World Trade Organization: Agreement on Telecommunications Services (Fourth Protocol to General Agreement on Trade Services) 36 I.L.M. 354 (1997).

¹⁵ David Simons, *Internet Advertising: Think Small, Grow Big*, Forbes.com, June 13, 2002, at <http://www.forbes.com/2002/06/3simons.html> (last visited Aug. 29, 2002).

Yet, a counter-revolution against the competition paradigm is being mounted in reaction to the threats the Net poses to existing businesses, the market downturn in the information sector of the economy and the frustration at the slowing pace of technological development. At this inflection point in the Internet's history the future of the Net depends upon the course of our legal culture. To preserve the innovative potential of the Net, we must choose either regulation of monopolies or regulation to create competition. We are making a choice between an old New Deal (that Lessig says will not work) and a Newer Deal that did work, but is now at risk. And if we make neither choice, the pessimism of Larry Lessig will be warranted.

Lessig, who well understands the importance of the choice, appears to believe that a few firms are destined to dominate most segments of the economy's information sector. Against the face of massive market power, he urges regulations that would assure the continued freeness and openness of the Internet. He would have Congress and relevant administrative agencies enact laws and regulations to guarantee users: (1) low cost, even free, access to the Internet; (2) open source, free software for navigating the Internet; and (3) free use of the content of the Internet.¹⁶ These are the three layers, or dimensions, of the Net.

Nothing in American politics today suggests that Lessig's program could be put in place. However, other regulatory policies have promoted the freedom and creativity of the Internet. The two key dimensions of the 1990s Internet policy were creating multiple users of the existing telephone and cable networks and building the largest possible constituency of Net users. The purpose was to convert the Net from an academic instrument and computer users' hobby into a mass medium that would eventually subsume broadcast and cable. This policy was a departure from the New Deal approach, embodied in the 1934 Communications Act, which formed the FCC.¹⁷

The New Deal's legacy to the information sector was regulation that supported, and supposedly made efficient, monopolies or oligopolies in all market segments: telephony, cable, wireless, satellite and broadcast. Non-competitive

¹⁶ IDEAS, *supra* note 4, at 85-86.

¹⁷ 1934 Communications Act, 47 U.S.C. § 151 (1934).

market structures were a function of the New Deal approach of encouraging businesses to combine into large, non-competing entities. The purpose was to avoid repeating the alleged mistake of the Crash of 1929—too many firms creating overcapacity in a world of underdemand. The response of policy was Roosevelt's creation of the alphabet agencies (FCC, SEC) that, in conjunction with the agencies spawned in the Progressive Era (FTC, FDA), would regulate these big businesses toward the goals of social policy and economic efficiency. Big government would match up against big business to produce the right result for the society and economy.

In the last quarter of the twentieth century, academics, drinking from the cup of economics, lost faith in the ability of either regulatory agencies or monopolists to produce efficient or cost-justified results. Most thinkers concluded that unregulated competition allocated resources more efficiently than regulated monopolies. More importantly, theorists like Harvard's Michael Porter also concluded that competition stimulated innovation.¹⁸ In other words, unregulated and robust competition was best for static markets, but even better for dynamic markets. Innovation, in turn, was essential to obtain the elixir of productivity gains from technology. And productivity is the factor that makes an economy competitive in global markets and richer at home. As academics changed their minds about the New Deal approach to big business, a groundswell of political thinking led to the introduction of competition in all markets, even including utilities. The result in the information sector was the Telecommunications Act of 1996,¹⁹ which repealed the pro-monopoly precepts of the 1934 Communications Act.²⁰

A change-of-mind within the legal culture, and the emergence of new technologies, fueled the switch to the competition paradigm in communications. In a speech at the Yale School of Management in 1993, cable giant John Malone predicted that digitization, microprocessors and optical transmission of bits of information would transform the communications industry. Even as he spoke, the combination of Marc Andreessen's browser, Mosaic and Tim Berners-Lee's

¹⁸ MICHAEL E. PORTER, *COMPETITIVE STRATEGY: TECHNIQUES FOR ANALYZING INDUSTRIES* 3-33 (1980).

¹⁹ 47 U.S.C. § 251.

²⁰ 47 U.S.C. § 151.

World Wide Web software were producing the experience we know now as the Internet. This network of networks, using shared, free and open-standards software to communicate, manifested the power of the inventions Malone identified. Now, and with increasing speed and quality in the future, everyone, everywhere can get everything embodied in pictures or words or voice at almost zero incremental cost. That makes for a revolution in distribution and communication, in business and in society, in politics and in law.

The Internet then became the tool of attackers against incumbents in many businesses, ranging from auctions to watches, from art to wine. Congress and the FCC, by coincidence of timing, opened the door to attackers in the historically monopolized or oligopolized communications markets at almost the same time that technology created unprecedented disruption in those markets.

What occurred was extraordinary. The most significant social and economic source of upheaval since the fall of the Soviet Union turned out to be the Internet. In only ten years more than 400 million people came to jointly use and develop this new medium that merges text, pictures, music and (soon) voice. This disruptive technology:

- Substituted cheap data communication for relatively expensive voice communication, giving consumers great benefits and potentially destroying the business models of the global telecom industry;
- Generated electronic commerce that bypasses sales taxes, and erodes state and local government's funding;
- Undercut numerous retail businesses by fostering new business models (buying airline tickets at prices suggested by buyers, for example, on Priceline.com);
- Permitted everyone on-line to download music and—when Net transmission speed increases—movies, thereby threatening the business models of the entertainment sector;
- Posted more than three billion pages of text and pictures, shaking the knowledge hegemony of the major university centers; and
- Created more productivity gains for wired economies than any other single technology in recent history (so says Alan Greenspan).

This disruption attracted massive investment to attackers and incumbents both. The stock market result was,

as one venture capitalist said, "the greatest lawful creation of wealth in history."²¹ That was the boom.

Now we have the bust. The reactionary impulse that Lessig bemoans is grounded in the reality of capital loss—the reciprocal of the freeness Lessig celebrates and consumers enjoy. In the last two years, telecommunications investors have lost more than \$2 trillion of stock market value. More than 100 start-up telephone companies have gone bankrupt in the United States in this time period, taking down to almost zero about \$100 billion of contributed capital. In wireless, equipment, software and chips businesses, these are the worst of times.

The tremendous over-investment that followed the 1996 Telecommunications Act explains part of the misery. When the law invited competition in this historically profitable sector, investors poured billions of dollars into start-up firms. Existing firms responded by raising billions more to rebuild their networks. The NASDAQ soared for years. But the business cycle was not repealed. Eerily echoing the Great Crash of 1929, capacity was suddenly revealed to outstrip demand. A recession hit the sector. For many, bankruptcy, not code, is now law.

However, innovation in technology and the new Net-based business models not over-investment have had the greatest impact on the information sector. Schumpeterian "creative destruction" is at work.²² Investors' losses and job losses in old businesses are prices we pay for an ever-wealthier, job-creating economy.

The American embrace of competition and technological change has probably doomed many mainstays of the economy. For instance, by lowering the variable cost of communication toward zero, the Net and its associated data networking technologies (everything John Malone talked about) threaten to extinguish the long distance voice industry. At some point, local voice may not be the core service of the Bells in this country.

²¹ L. John Doerr, *Investing in the New Nomads*, N.Y. TIMES, Oct. 1, 1992, at C11.

²² Joseph Schumpeter described the process as "[t]he opening of new markets, foreign or domestic, and the organization and development from the craft shop and factory . . . illustrate the same process of industrial mutation . . . that incessantly revolutionizes the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one." JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM, AND DEMOCRACY 82-85 (1942).

The Net challenges every incumbent firm in the information sector. Broadcasters may be doomed. Cable can survive in the long run only by becoming an access pipe to the Internet. Wireless can be profitable in the fullness of time, but only if it moves from voice to Internet communication. And Hollywood will make no money at all if the Internet and a laptop combine, like some grandiosely magnified Xerox machine, to enable anyone to copy and share every song and movie at no cost. In all these cases, the freedoms of the Net stem from innovation and competition, not from regulatory mandates.

Just as a baseball umpire calls either a strike or a ball, the legal culture either encourages or discourages innovation and competition. On some matters there is no neutral compromise. In Japan, for example, the most salient reason for the recession of most of the 1990s was the legal culture's resistance to innovation in information technology, marked most pointedly by the unwillingness to take sufficient steps to instigate competition against the national telephone firm, NTT.

The counter-revolutionaries have a larger strategic goal than establishing property rights over Net content. They primarily seek to maintain market power against the challenges of firms that attack with the new tools of Net-based technology. Copyright and patent laws are only two of the many weapons in their armory. However, their most powerful weapon is the army of lobbyists, who they deploy to entrench their market power.

Already, the Bell telephone companies have responded to competition by persuading the House of Representatives to repeal the core of the 1996 Telecom Act.²³ They do not want to be obliged to share their networks with their start-up rivals that have taken a one-third share of the small business telephony market. The opposing start-ups have suffered tremendous casualties, although they still represent a primary means by which the Internet is introduced to small business. But market structure is law. If Congress repeals the 1996 Telecom Act or if the FCC declines to enforce its provisions seriously, then the incumbents will likely reemerge as the monopoly providers to small, as well as big, business. The community of small business customers will be shepherded into

²³ The Internet Freedom and Broadband Deployment Act of 2001, H.R. 1542, 108th Cong. (2001).

the closed, pricey, non-creative Internet future that Lessig dreads.

The judiciary has provided substantial aid and comfort to the counter-revolutionaries. Many courts of appeals have slowed or thwarted regulatory changes aimed at promoting various innovative start-ups. Even now, more than six years after the passage of the 1996 Telecom Act, the Supreme Court is considering whether to raise the prices attackers must pay to rent and connect to incumbent networks.²⁴ For five years, courts stymied FCC efforts to introduce new airwaves or spectrum to promote new wireless data innovation. The key wireless case is on certiorari only now, after the Court denied two previous writs.²⁵

The entertainment capital of the world, eponymous Hollywood, wants Congress to pass a bill requiring computer and microprocessor companies to design their products so as to bar the user from copying content downloaded from the Internet for free. This would be like ordering Xerox not to make machines that could replicate this article. The level of government intrusion involved boggles the mind. But as Lessig points out, the Digital Millennium Copyright Act of 1998 lays the groundwork for this measure.²⁶ It already dictates that, apparently for a thousand years, the law should protect software copyrights from the predations of the Internet.²⁷

Similarly, the distribution media are moving to eliminate the FCC's historic barriers to consolidation both within and among the cable, broadcasting, newspaper and radio industries. These barriers have created opportunities for start-up media emanating from cyberspace, such as Yahoo or AOL. Media consolidation is a way to circle the wagons around advertising revenue and to build the capital that would permit acquisition of plausibly successful attackers from the Net world. Conservative columnist William Safire has called the current FCC chairman "round heeled" and "terminally feckless" in his failure to enforce regulations against cross-media consolidation.²⁸ More serious in the long term, if unchecked by

²⁴ Verizon Communications, Inc. v. FCC, 122 S.Ct. 1646 (2002).

²⁵ Nextwave Pers. Communications, Inc. v. FCC, 254 F.3d 130 (D.C. Cir. 2001), cert. granted, 122 S.Ct. 1202 (Mar. 4, 2002) (No. 01-653).

²⁶ Digital Millennium Copyright Act, 112 Stat. 2860, Pub. L. No. 105-304 (1998) (codified in scattered sections of 5, 17, 28, and 35 U.S.C.).

²⁷ *Id.*

²⁸ William Safire, *The Urge to Converge*, N.Y. TIMES, Mar. 7, 2002, at A31.

regulation, media combinations would have the power over consumers and elected representatives to win any number of legal and regulatory battles. In the absence of market place competition, the new media mega-firms could have vast capability to alter the consumer's ease of, access to, communication through, and use of the Internet.

Lessig, however, is not so concerned with consolidation. For him, the future of ideas is already kaput because lawyers are extending property rights over the domain of the Net. As examples of protected ideas he cites the images of Mickey Mouse or a can of Coke.

It could be that if all of Hollywood's immensely distracting output were reduced in volume by enforcing copyright, perhaps free and important ideas, otherwise choked by entertainment, would be more likely to thrive in the gardens of the mind. But Lessig is right that the Internet imparts immense energy to the world of creativity, as expressed in new business models, new software, new hardware and even new content. The Internet makes it much easier for content to attract specialized audiences. Additionally, new microprocessor and software innovations lower creation costs. As production and distribution costs drop, the price of content may consist primarily of advertising and fees for artists.

Lessig devotes a great part of his argument to an appeal for the value of freeness. Although he fears the strangling effects of commercial interests on the Net's development, he is "fanatically pro-market."²⁹ He believes that "if the twentieth century taught us one lesson, it is the dominance of private over state ordering [of the allocation of resources]."³⁰ He calls Richard Posner, *en passant*, "perhaps the most . . . influential judge of the last hundred years . . ."³¹ (Perhaps he is thinking that Supreme Court Justices like Brandeis, Harlan and Warren are not "judges.") Lessig concludes that it is part of the "character of [our] era" to believe that property rights are "what makes prosperity work."³²

Yet, Lessig repudiates this line of pro-market thinking, and raises a "question" about "whether control [the privatization or ownership of aspects of the Net] is best."³³

²⁹ IDEAS, *supra* note 4, at 268.

³⁰ *Id.* at 12.

³¹ *Id.* at 202.

³² *Id.*

³³ *Id.* at 15.

Seeking the solid ground of wealth-based argument, Lessig says, "free resources . . . *sometimes* create more wealth and opportunity . . . than . . . [if the same resources are] held privately."³⁴ Lessig has no "proof" of this point,³⁵ but he offers four assertions and a vision. First, fairness requires that all be able to share in the Net.³⁶ Second, efficiency, meaning the optimization of wealth creation, will be best achieved by our shared, free use of the "innovation commons."³⁷ Third, businesses with market power over any or all of the three layers of the Net (access, code and content) naturally will be antagonistic to innovation, because leading firms are not innovators. Lessig acknowledges his debt to Clay Christensen's *The Innovators Dilemma* and says, "[w]e as a society should favor the disrupters."³⁸ Fourth, some leading firms may close, instead of open, the Net and extract rents for ownership of bottlenecks, because they are "malevolent."³⁹

As the Progressives would put it, bigness may be bad. In today's language of management theory, Lessig says that if we do not "favor the disrupters,"⁴⁰ we might lose the benefits of the technological revolution that has "produced the most powerful and diverse spur to innovation of any in modern times."⁴¹ He sees the freeness of the Internet as the wellspring of innovation.

However, on the first, or access, layer of the Internet, cable and telephone lines are not cost free for the provider. Lessig grants that providers incur a cost for these "resources," so users have to pay something.⁴² But, he says, "access" over them should be regulated "neutrally,"⁴³ meaning that different service providers should be able to use the cable pipe or telephone line. That was the approach of the FTC to the AOL-Time Warner merger. Similarly, the 1996 Telecom Act permitted competitors to lease the dominant telephone network to compete with the Bells in offering communications services.

³⁴ IDEAS, *supra* note 4, at 86.

³⁵ *Id.* at 87.

³⁶ *Id.*

³⁷ *Id.* at 85-86.

³⁸ *Id.* at 92.

³⁹ IDEAS, *supra* note 4, at 91.

⁴⁰ *Id.* at 92.

⁴¹ *Id.* at 5.

⁴² *Id.* at 13-14.

⁴³ *Id.* at 14.

As to this first layer, competition policy produces much the same outcome as Lessig's approach.

As to the second, or software protocol, layer of the Internet, Lessig worries that cable companies may not use the common, free, software of the Internet if and when they get a firm hold on the consumer market.⁴⁴ Nor does he trust the intentions of AOL, which intends to use the Time-Warner cable system, as well as the telephone company networks, to access consumers.⁴⁵ If only a monopoly offered Net access, then consumers might value Net content so highly that they would submit to the provider's limits on web browsing, or its decision to prioritize its own content, or even to alter the code that makes the Internet work. Therefore, government should order that "no major player in the Internet space is able to architect [employ software code] to empower its own strategic behavior."⁴⁶

However, no agency of the current Administration would seek, or be able to implement, this remedy. Nor does it seem likely that courts could resolve quickly or fairly litigation over such a standard for liability. By contrast, as long as consumers can choose among competitive access providers, we might reasonably hope that consumers would demand open and low cost methods of accessing the Net. The best and most practical antidote to the risks posed by a monopoly over access is a competitive access market, not a government agency that would supervise software writing.

As an alternative form of competitive access, Lessig rightly suggests that the government could and should grant free (or so-called unlicensed) spectrum so that personal computer makers can design laptops that find a wireless connection to the Net through a new technology called wi-fi, or, even less euphoniously, "802.11."⁴⁷ In brief, your laptop will get on the Net when you are in Starbucks, or an office building or an airport, i.e., anywhere that the building owner puts up a small box giving you a connection that speaks over the air to your laptop. This would presumably cost the laptop owner little or nothing per minute. So this wireless access to the Net would appear to be free.

⁴⁴ IDEAS, *supra* note 4, at 156.

⁴⁵ *Id.* at 166.

⁴⁶ *Id.* at 247.

⁴⁷ *Id.* at 242.

The right goal is not to mandate free access to the Net, but to promote low cost, innovative, competitive access. To this end, the FCC should put into the private sector enough airwaves, or spectrum, so as to lower the cost of acquiring the spectrum close to zero. Lessig correctly makes much of the importance of the FCC's grant of more unlicensed or free spectrum. But the cost of using unlicensed spectrum is not zero. Equipment manufacturers would be obliged to design devices that negotiated with each other to avoid interfering with each by sending conflicting radio signals over unlicensed airwaves. These devices have costs. Nevertheless, to promote innovation, the FCC should make spectrum available to the private sector on both a licensed and unlicensed basis, through both auctions and an allocation of free airwaves for all users. So much should be turned over to private use that any wireless innovator could obtain low cost access to spectrum to experiment with a new business model or technology.

As to the third, or content, layer of the Internet, Lessig asserts that patents and copyrights should be limited in terms of years and scope.⁴⁸ Compulsory licenses should be mandated for file sharing.⁴⁹ Current legislative proposals generally move in the opposite direction. The Supreme Court has granted certiorari to a key case here, and Lessig may prevail.⁵⁰ But again, the highest and best way to unleash the power of creativity is to insist upon robustly competitive markets in content generation. In this respect, the government needs to set limits on consolidation in the content-creation business. As long as the world of Internet content is competitive, we can be optimistic that creativity will be as expansive as imagination permits.

The central political idea of the American government in the 1990s about the Internet was this: spending and regulation should be employed to make the Net widespread and cheap. The "information highway," as the concept of distance communication was called before we recognized it was the Internet, was supposed to connect everyone in the world to everyone else. It would thereby permit an exchange of information that would stimulate global economic development and the spread of democracy.

⁴⁸ *Id.* at 258, 261..

⁴⁹ IDEAS, *supra* note 4, at 255.

⁵⁰ *Eldred v. Ashcroft*, 239 F.3d 372 (D.C. Cir. 2001), *cert. granted* 122 S.Ct. 1062 (Feb. 19, 2002), *amended by* 122 S.Ct. 1170 (Feb. 25, 2002) (No. 01-618).

Given the lack of federal spending in the era of balanced budgets and the willingness of the private sector to invest (on the bet of deregulation of the information economy), in the 1990s private investment could achieve this vision. Moreover, there already was at hand an existing network that could be used for the Net. This was the largest machine ever built: the world-wrapping telephone system. To promote rapid expansion of the Net over the telephone network, the FCC classified Internet Service Providers ("ISPs") as business users who had the right to purchase telephone service at reasonable, flat rate prices. Therefore, AOL and the 5,000 other ISPs that sprung into existence in that golden boom decade could pay a fixed fee per month for use of the network. Yet, the service they built on the phone company platform competed with telephone company ISPs and, in the long run, would disrupt the telephone monopolies.

At the same time, the consumer could use the telephone line, also purchased for a flat fee, as a connection to the Internet. As a result, the Internet became an all-you-can-eat affair, and usage boomed. The American government policies helped lower prices for Internet access to a price that, in the early years of the Net, was as low as a tenth of the access prices in Europe and a hundredth of the access prices in Asia. It was so cheap that penetration soared in America far faster than on other continents. And as the Internet became a mass market, its users became a political constituency prepared to resist attempts by commercial interests to charge high prices for what consumers have gotten used to getting for low cost.

Lessig praises these regulations but says they had an "unintended [positive] effect on the Internet and its growth."⁵¹ He asserts: "The regulators . . . did not have in their head the idea that this might create a kind of competition *with* telephone service."⁵² He further says, "[t]hey did not imagine the birth of the Internet as a product of their accidental regulation."⁵³

But this "idea" was in our head at the FCC in the 1990s.⁵⁴ Andy Grove, then CEO of Intel, cemented it there. Being a midwife to the Internet, both in classrooms and in

⁵¹ IDEAS, *supra* note 4, at 149.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ REED E. HUNDT, YOU SAY YOU WANT A REVOLUTION 57 (2000).

commerce, was a government goal in Congress, the White House and the FCC. The policy assumed that widespread and cheap Net access would promote open content. A robustly competitive and low cost access business was expected to produce open and free code for communicating among the Internet access companies. This happened; the Internet protocols became the lingua franca for access providers. As long as no one or two firms dominates access, it is less likely that anyone will have the market power to alter these protocols. We already see that in file sharing, or music swapping, firms like Real Networks and Morpheus have been compelled to offer open software.

The governmental assumption was that, if access was widespread and cheap, the broad new audience of users would attract a rapidly multiplying number of Internet content providers. The ability of users to come together from all over the country and the world has encouraged providers to generate niche content that would be unappealing to a traditional mass media audience. So a progressive magazine called *comondreams.org* has materialized on the Net, whereas it would not be able to attract a print-on-paper audience due to distribution and marketing costs. A broad base of e-consumers has stimulated *slashdot.com* to change consumer reporting. Day traders catalyzed the creation of *thetstreet.com* and *motleyfool.com*, which in turn have contributed to stability in individual investor confidence that has mitigated the severity of the recession. Despite Hollywood's initiatives against file sharing (also known as music "downloading"), never in history has so much new content been created so quickly. As a billion people join the world of Net users in this decade, no end is in sight for content creation.

Consistent with the policy of making the Internet the new mass medium, government should, over time, phase out subsidies of voice telephony and instead provide the funds necessary to make Internet access a universal service. For example, under the e-rate or Snowe-Rockefeller Amendment, which was part of the 1996 Telecommunications Act, the FCC issued rules that extended the Net into every classroom in every school in the United States.⁵⁶ The program for Internet in classrooms costs consumers about \$2 billion a year, and has raised classroom access from 6% in 1996 to about 84% today. It

⁵⁶ 47 U.S.C. § 254(h)(2)(A) (2001).

built a constituency for openness: children. Most important, the FCC rejected the familiar model of ordering service providers to connect classrooms. Instead of regulating the monopoly firm's conduct, the e-rate funded the buyers (school districts) and let them choose among competitors for networking solutions. The school districts even had to match the federal contribution on a 40% to 60% basis. More than nine out of every ten school districts participated, suggesting the value of stimulating buy-side initiatives in subsidy programs.

The constituency for a low-priced, if not necessarily free, Net showed its political muscle against the forces of reaction in a crucial battle in 1997. In that year, the telephone companies pushed the FCC to impose the same sort of per-minute charge local phone companies place on every long distance call, then roughly five cents a minute. For half an hour of Internet access per day, that charge would have raised an AOL subscription from about \$20 a month to about \$65 a month. At that price not more than about 20% of Americans would be on the Net now. That figure is about the same as the European audience in the late 1990s, who suffered roughly the same pricing as the Bell companies implicitly proposed here. With low penetration, the political power of the Internet would be reduced, and correspondingly the counter-revolutionaries' hand would now be strengthened.

In response to the telephone companies, AOL engineered what may have been the first e-mail lobbying campaign in history. It organized about 200,000 emails to Congress in support of the FCC's rule against per-minute charges by local telephone companies on Internet traffic. With Congress kept at bay by this e-blitz, the FCC proceeded, in effect, to permit ISPs to enjoy a very low base of input costs as they borrowed the telephone company network and competed with each other at the retail level. Now e-lobbying often shows a happy ability to organize grass roots constituencies. For instance, U2 lead singer Bono stimulated about 20,000 e-mail messages from his fans to the Treasury Department in support of his successful effort to encourage more Administration funding for the fight against AIDS in Africa.⁵⁶ Voters, after all, are law.

⁵⁶ Joseph Kahn, *A Star Close to the Heart of Aid Policy*, N.Y. TIMES, Mar. 15, 2002, at A8.

Presumably voters should espouse the various measures urged by Lessig. Yet, putting aside the major exception of music downloading, most patent and copyright issues are obscure to consumers. And even the downfall of Napster is politically noteworthy only in that it appears to have spawned a generation of scofflaws, not political activists. It seems that the "freeness" issues have less impact on voters than the price or availability of choice for communications services. Indeed most politicians will report that hardly anything affects voters more than the price of regulated cable TV! A focus on competition, rather than the price of content or the protocols of software, perhaps would best attract the support of voters.

A century ago Teddy Roosevelt criticized those Progressives (Brandeis, Wilson) who believed that the ideal vision of American enterprise was the small businessman tackling big problems in robustly competitive markets.⁵⁷ Instead, he urged the embrace of big business suitable in scale and scope for a big country, but checked by big government. That latter vision animated at least the aspects of the New Deal that included the creation of the FCC and other quintessential big government solutions to big business' domination of certain sectors of our economy.

The Internet can carry us at least some distance back toward the Brandeis-Wilson model. After all, the 1990s did see the biggest boom of mom-and-pop communications stores ever, as thousands of new firms were started. The stock market bust has meant that most investors have not had their dreams of riches come true, but their creative disruption remains. However, the current government does not put much emphasis on regulations that would sustain opportunities for start-ups. Congress, the White House and the agencies no longer propose new means by which start-ups can be catalyzed. The era of digitizing the Library of Congress and placing government on the Net seems to be last century's story. State and local regulators charge the rivals of incumbents high prices for using telephone poles or rights of way, or renting pieces of existing telephone networks to complete their own networks. Local building codes and other regulations make it expensive for start-ups to get connections to offices. The obstacles to building alternative access methods are many; brushing them away is a

⁵⁷ See, e.g., Theodore Roosevelt, Address Before the Convention of the National Progressive Party (Aug. 6, 1912), in *N.Y. TIMES*, Aug. 7, 1912, at 8.

job for the federal government. In the '90s that was the thrust of FCC policy; in this decade the opposite view prevails. Now government favors bigness, but coupled with deregulation—meaning the FCC does not seek to regulate big business so as to create the openness that Lessig seeks.

Nor would any agency in any Administration likely succeed in the mission Lessig's political science would assign it. Big businesses generally outgun the big government solution. That is the long and simple lesson of "agency capture"—the phenomenon of an administrative agency perpetuating the interests of the firms under its jurisdiction instead of promoting creative destruction in the industry for which it is responsible.

Moreover, the information sector is not just any industry, but the part of our economy that makes democracy possible. A regulatory approach to assuring openness—versus a structural approach—means that government must constantly monitor the software and the pricing of the companies that mediate between government and the voters. The history of broadcast regulation indicates that in such a relationship, the industry inevitably gains the upper hand over the lawmakers.

Perhaps the ultimate demonstration of broadcast TV's dominance over government is the Congressional decision, embodied in the 1996 Telecom Act, to give TV stations new spectrum (or airwaves) for high definition television.⁵⁸ Even today there is essentially no consumer demand for high definition digital TV over the air. Virtually everyone who wants digital TV wants it over cable, where it comes not only in sharp high definition but also with hundreds of channels, instead of the average three broadcast channels per city. At the time, William Safire and John McCain said that the spectrum giveaway was worth \$70 billion.⁵⁹ This was the largest grant of public property to an industry since the federal government gave about 10% of the public domain to three dozen railroad companies in the late nineteenth century to stimulate the building to the West. That same spectrum is what Lessig now believes (rightly) should be used for essentially free access to the Internet. But as long as we embrace regulating the

⁵⁸ 47 U.S.C. § 336(b)(2) (2001).

⁵⁹ Statement of Senator John McCain on the Conference Report to the Commerce, State, and Justice Appropriations Bill, October 27, 2000, *available at* <http://mccain.senate.gov/dccjs01.htm> (last visited Aug. 29, 2002).

behavior of those who have market power, instead of regulating to assure competitive markets, industries like broadcasters will have the persuasive power to cause regulations to be written that close, not open the Net.

There are three key steps that the government must take to secure the future of the Net. First, the FCC should flood the market with cheap or even free spectrum. It should also adopt and enforce more pro-competitive regulations to open up telephone networks that were closed in significant part because of network effects and economies of scale. In addition, the FCC should deregulate over time virtually all retail price regulation, to promote efficient competition. In a competitive market, it is highly likely that all will adopt the lingua franca of open code. Competition is a good method of assuring open code; proprietary codes are more likely to survive in non-competitive markets.

Second, the United States should insist on the globalization of the competitive paradigm for building the Net. That was the purpose of the World Trade Organization Telecom Treaty of 1997.⁶⁰ However, pivotal questions remain. Will the existing Administration seek to enforce this treaty? Or will such issues as steel subsidies drive us away from that forum? Will the government pursue through treaty, law and regulation the goal of a truly competitive global information sector? Will other nations respect our views in light of the calamities in our corporate governance?

Third, government should set comprehensive, inclusive social goals for the Internet. For example, broadband should be universally affordable. Health care, education and politics (especially voting) should be delivered fairly and efficiently over the Net. On a global level, the Net can be a tool in promoting democracy, stimulating economic development in poor countries and attacking the ignorance and hatred that may spawn terrorism. To pursue these social goals, competition among providers seeking reasonable government subsidies is the ideal approach. The champions of freeness do not normally address the costs involved in connecting children, the poor and rural people to the Net. By contrast, believers in pro-active government focus on developing reasonably efficient subsidies that stimulate competitors to offer Net access to everyone.

⁶⁰ 36 I.L.M. 354 (1997).

The model lawyer of the Progressive movement sought to "reclaim the power that he himself had abdicated, refashioning where necessary the instruments of government."⁶¹ The Progressive mentality was to "see that the proper remediable laws be passed and . . . existing laws be enforced."⁶² If we could revive the century-old Progressive spirit, Lessig's vision would be the future of the Net, and none need despair the future of ideas freely developed and freely shared. But, for now the "proper . . . laws" to be "enforced" are the pro-competitive statutes and regulations of the 1990s, similar to the antitrust laws enacted by the Progressives. If *antitrust were law*, we might capture technology's benefits of innovation and the Net could remain forever young.

⁶¹ RICHARD HOFSTADTER, *THE AGE OF REFORM* 202 (1960).

⁶² *Id.* at 203.