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Digital Divide: Myth, Reality, and Responsibility

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Digital Divide: Myth, Reality, Responsibility*

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I. Symposium Opening Remarks and Introduction

I come to you from the entertainment capital of the world, Washington, D.C. On March 24th, this coming Sunday, Russell Crowe will *not* win the academy award for "Best Actor." Though I predict that Mr. Crowe, who won last year for his role in *Gladiator*[1], will be edged out this year for the Best Actor award by Denzel Washington, Crowe's portrayal of Princeton mathematician John Nash offers a very useful insight into the subject of today's incredibly important 14th

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1. Crowe played the Roman General "Maximus" in *Gladiator* (Universal and DreamWorks 2000) (motion picture).

Annual Hastings Computer Law Symposium[2]. You will recall perhaps, in the movie *A Beautiful Mind*[3], the scene in a college bar when Nash gets his big, original idea. Nash, a faltering graduate student, rather boldly and arrogantly states that Adam Smith's economic theory about maximizing social welfare, serving the common good by serving one's self interest, is only *partially* correct. Nash explained to his drinking buddies that it is only possible to achieve the highest good by pursuing *both* an individual's own self interest and the best interest of the group. To do otherwise, it is not possible to achieve as high a level of satisfaction, pleasure, happiness and good, either for each individual, or for the group. This is the essence of Nash's nascent game theory which ultimately won him the Nobel prize.[4]

Later today, I plan to discuss, as I expect will others, why the effort expended to close the digital divide is in the best interest of every person, every business, every organization, and every institution – it is for the good of each individual and for the common good. Relying, among other things, for some help from Nash's Game Theory, Metcalf's Law, Moore's Law, Zeno the Eleat, Guido Calabresi, and others, I will argue that reducing the digital divide between information "haves" and "have nots," though an infinitely elusive objective, is not only a matter of social conscience, is not only an imperative of democracy, but it also makes fundamentally good, hard-headed economic sense. Working to narrow the digital divide

2. On March 24, 2002 the Academy of Motion Picture, Arts and Sciences awarded the "Best Actor" Award to Denzel Washington at the 74th Academy Awards program for his role in *Training Day* (Warner Bros. 2001) (motion picture).

3. *A Beautiful Mind* (Universal Studios 2001) (motion picture).

4. Put out of your mind that this scene took place in a bar and that the socially feckless Nash supposedly was using his Nobel prize worthy insight, at least initially, to try to pick up women. That's Hollywood. Some of the great "Eurekas" came to people in bathtubs, sitting under apple trees, or engaged in other simple activities that prompt epiphanies. Come to think of it, maybe using game theory to find dates for mathematics graduate students is not a trivial challenge. Archimedes (287-212 B.C.) discovered how to determine the amount of gold in Hiero's crown when he observed water overflowing from his bath. The Columbia Ency., *Archimedes* at 141 (6th ed. 2000). The story about an apple bonking Sir Isaac Newton on the head leading to the discovery of gravity, may be apocryphal. "Sir Isaac Newton: The Universal Law of Gravitation" (available at <http://csep10.phys.utk.edu/astr161/lect/history/ newtongrav.html>) (Nov. 15, 2002). Technically, the word "Epiphany" means divine revelation. The Columbia Ency., *Epiphany*, at 918 (6th ed. 2000). Louis Pasteur put it another way: "In the fields of observation, chance favors the prepared mind." *See*: *Accidental Genius* (available at <http://www.geocities.com/medss/serendipity.htm>) (accessed Jan. 29, 2002) (discussing, for example, the origins of the word serendipity and Alexander Flemings' discovery of penicillin).

should be a matter of selfish self interest for individuals, businesses, social groups, and society as a whole.

I suspect that my views will be both buttressed and disputed by others participating here in the excellent, balanced program assembled by the Hastings Comm/Ent Staff. No doubt you will be treated to a lively and vigorous debate and have a lot of good, hard information thrown your way. The phrase "Digital Divide," has become politically incorrect in some quarters.[5] Indeed, I woke up one morning recently and discovered that we are "A Nation Online."[6] According to the most recent report of the U.S. Department of Commerce, 53.9% of Americans are using the Internet and about half of American households are online.[7] Think of that. Clearly, if only 53.9% of Americans were literate, if only 53.9% of Americans were disease free, would we say we are a literate nation, would we say we are a healthy nation? What if 53.9% of Americans had access to affordable telephone service? Would we be satisfied with that mark of universal service? Whether we, as a nation, should be satisfied with half of our households online, as a matter of public policy, is the central question for today's symposium.

Is there a digital divide? Of course there is. We all know there is a digital divide: 46% of Americans are not online yet. One personal perspective about the nature of this divide, and some anecdotal evidence comes from the considerable time I have spent recently in Kentucky and the entire Ohio River Valley (including the states of

5. *See e.g.* Robert J. Samuelson, *Debunking the Digital Divide,* The Washington Post A33 (Mar. 20, 2002); Adam Thierer, *How Computers Are Filling the Digital Divide*, Backgrounder #1361, The Heritage Foundation (available at <http://www.heritage.org/Research/ InternetandTechnology/BG1361.cfm>) (accessed Apr. 20, 2000); *See also* Benjamin M. Compaine, *Re-examining the Digital Divide*) (MIT Internet and Telecoms Convergence Consortium) (2000). (Research Paper on file with COMM/ENT); *See also* papers published in *The Digital Divide: Facing a Crisis or Creating a Myth* (edited by Benjamin M. Compaine (MIT 2001), hereafter "Compaine, *Digital Divide*"; Neil Seeman, "What Digital Divide?" *National Review Online* (March 16, 2001) available at http://www.nationalreview.com/nr_commentprint031601a.html

6. National Telecommunications and Information Administration, U.S. Department of Commerce, A Nation Online: How Americans Are Expanding Their Use of the Internet (2002), hereafter, "A Nation Online." National Telecommunications and Information Administration, U.S. Department of Commerce, Falling Through the Net, Toward Digital Inclusion (2000); National Telecommunications and Information Administration, U.S. Department of Commerce, Falling Through the Net: Defining the Digital Divide (1999); National Telecommunications and Information Administration, U.S. Department of Commerce, Falling Through the Net II: New Data on the Digital Divide (1998); National Telecommunications and Information Administration, U.S. Department of Commerce, Falling Through the Net: A Survey of the "Have Nots" in Rural and Urban America (1995)

7. *Id.* at 1, 3, 4.

West Virginia, Tennessee, Missouri, Illinois and Ohio). In some parts of those states, a "lap top" is where the kitty cat sleeps. A "mouse" lives in the barn. "Click" is what you do with your gun, and "double click" is what you do when you are really serious. Here is another perspective involving urban examples: You do not have to go too far outside this building to walk around San Francisco's Tenderloin district, or to move up Van Ness Avenue, to see people there who need help, and to understand that fundamentally there is a core of people in this country who do not have access to digital computer networks, much less the ability and knowledge to use them. You might say I am choosing extreme examples, isolated pockets of people who are disconnected, who may even choose to be disconnected, troubled people with problems more pressing than the lack of Internet access. Yet, even the most recent government report that we are going to hear about this morning, a report often cited to discount the existence of a digital divide, contains documentation in the back chapters about some groups, including low income families, Spanish speaking people, and people with disabilities, who remain information technology "have nots," and quite disadvantaged relative to others in America.[8] So the issue is really, not *whether* we have a digital divide. The fundamental issues are: How do we measure the digital divide and what do we do about it, if anything? Is there a crisis, or is the phenomenon of a digital divide a normal, self-correcting evolutionary process? And then the follow up questions: What responsibility, if any, does the private sector have in addressing the digital divide?; and, What responsibility, if any, does the government have to address the digital divide?

Winston Churchill once was confronted in the halls of Parliament by the Women's Temperance League and the head of that delegation was just furious about his lack of support for their cause. Unfortunately, he had already imbibed rather heavily that morning. And the incensed head of the delegation berated Sir Winston saying, "Winston, you are drunk. In fact, in your lifetime you probably have consumed enough brandy to fill this great hall of Westminster up to your waist." Churchill did not disagree. Instead, he looked down at the floor and slowly his eyes moved up to his belt, then slowly up to the high arched ceiling above. Finally, he said rather wistfully, "So much accomplished, so much yet to do." Perhaps it is fair to say that the Clinton Administration did, and now the Bush Administration does, both acknowledge the existence of a digital divide. Their

8. "A Nation Online," *supra* n. 6 at Chapters 7 and 8.

disagreement is over the significance of the digital divide, approaches for bridging the gap, and whether bridging the gap should be a priority of the government. I believe that the Clinton Administration, quite rightly, and quite understandably, was looking at the glass half empty. The Bush Administration is considering what to do with the glass half full, or, more accurately, 53.9% full.[9]

Before moving to the first panel let me thank Dean Martinez for his warm welcome. It is truly always a pleasure to be back at Hastings. I am proud to be a member of the Comm/Ent Advisory Board, and this is my sixth computer law symposium. Simply put, Hastings could not have selected a more timely, thorny, or charged subject. I intend to learn a lot today. On a personal note, I commend the Hastings students and staff who put this symposium together. I have deep appreciation for the amount of work involved to run this program while you are going to school, working at term-time jobs, and in some instances, trying to complete your third year. Pulling the symposium together and publishing the papers, working with authors who sometimes have other priorities; I know it's quite a long haul and my hat is off to you.

My appreciation for Hastings students is long standing. I clerked longer ago than I dare remember with Judge Robert Peckham, who was the Chief Judge of the Northern District of California. My twins are 22, just graduating from college right now, and they were born while I clerked with Judge Peckham, so that is a clue. On the day they were born, he said from the bench during a trial, and it's recorded somewhere for posterity, "Finally my law clerk produced something that is not subject to reversal by the Ninth Circuit." Judge Peckham always made good use of Hastings law students as externs and those students were a Godsend. I hope that the Hastings judicial extern program continues. In chambers, my co-clerk and I shared a framed sign which read: "Making law is easier than looking it up." Accordingly, you can well imagine why Judge Peckham relied heavily on Hastings externs on the landmark cases he handled our year, and through the years, just a few blocks away down Golden Gate Avenue in the federal courthouse. During my time as a clerk with Judge Peckham, Hastings externs worked on the ongoing litigation concerning San Francisco police department hiring and promotions.[10]

9. A Nation Online, *supra* n. 6.

10. In *Officers for Justice v. Civil Service Commission of the City and County of San Francisco*, Judge Peckham kept ongoing jurisdiction over the department's hiring and promotion practices, with the supervision of an "auditor monitor" pursuant to a civil rights injunction, *See e.g. Officers for Justice v. Civil Service Commission*, 473 F. Supp. 801, 22

They contributed to the so-called "Larry P" case which challenged the California education system's process of using IQ tests to place children in special classes for the educable mentally retarded.[11] That year they also worked to help establish Judge Peckham's pet project: the Historical Society of the Northern District of California. Then, there was the eye-blurring, mind-numbing, months long jury trial which I will not mention by name, but I will note that it involved the patentability of the analog-to-digital method of electronic conversion. It was heavy sledding, especially for a lay jury. One poor juror died during the long trial; as the trial wore on, others in the courtroom envied her. Think of it – 22 years ago, we were examining a precursor issue about electronic innovation at a time when we could not begin to imagine fully the impact of digital technology and the Internet on the world we live in today.[12]

II. Panel Discussion: "Digital Divide: Where is it?"

My objective has been to set the table with some of the leading issues you are going to hear about. For those of you who are coming in and out because of obligations to class and work and so on, and for those who are not yet here, or for those who will not be able to attend this conference in person, we are very fortunate that Comm/Ent will be publishing many of the papers and presentations in its upcoming Volume 24 symposium issue. So keep an eye out for it. For those who have just joined us, this first panel is wrestling with the notion of measurement of the digital divide and where we are and where we might be going. The second panel will be addressing values and why we care about it and how we think about this issue. And the third panel is the really sexy panel, that is the law panel. Forgive me, I am a little biased because I will be on that panel. It will be addressing the existing regulatory framework and the interaction between

Fair Empl. Prac. Cas. (BNA) 1704 (N.D. Cal., 1979); 1977 WL 828, 20 Fair Empl. Prac. (BNA) 1309; 14 Empl. Prac. Dec. P. 7549 (N.D. Cal., Jan. 31, 1977)(No. C-73-0657 RFP); 1977 WL 827, 20 Fair Empl. Prac. Cas. (BNA) 1304; 14 Empl. Prac. Dec. P7548 (N.D. Cal., Jan 07, 1977)(No. C-73-0657 RFP)

11. *Larry P.* v. *Riles*, 495 F. Supp. 926 (N.D. Cal 1979). Hastings students had a hand in matters small and large including the consolidated cases brought after the Iranian hostage crisis, *e.g.*, *Wyle* v. *Iran*, 577 F. Supp. 1148 (N.D. Cal 1983); mass tort litigation involving asbestos, *e.g.*, *In re Asbestos Cases* 578 F. Supp. 91 (N.D. Cal 1983) and Nos. C-79-3588, C-812702, C-81-3871, C-81-2693 and C-81-3843, 23 B.R. 523 (N.D. Cal 1982); Antitrust claims filed against a leading fast food chain, *Fast Food Fabrications* v. *McDonald's* 1980-2 Trade Cases P. 63, 552 (N.D. Cal. 1980) and various attempts to enjoin the Panama Canal treaty, among other matters.

12. *See generally Weston* v. *Data Technology Corp*, 64 F.R.D. 100 (N.D. Cal. 1974)

technology, the marketplace, law and regulation. And finally, the fourth panel will offer an international perspective. Increasingly, markets are linked globally, and successful businesses and economic opportunity depends on worldwide networks. So, it is very important that we will have that balance today to consider international aspects of the digital divide. This month the International Telecommunications Union is conducting a world conference on the digital divide.[13] So it is especially important and timely that Hastings is taking that perspective as well.

A. Commentary and Questions for Panel Discussion: Evaluating Approaches for Closing the Digital Divide

A number of noteworthy comments and questions are prompted by the excellent presentations of the first panel:

1. Broadband Deployment Legislation

Can Congress pass new legislation that will offer solutions to the digital divide? I do not know for sure what the Internet Freedom and Broadband Deployment Act, H.R. 1542, the so-called Tauzin-Dingell bill,[14] is really about. I certainly do not know what it is about, thanks to the television ads that both sides are airing. They are even worse, less illuminating, than the massive ad campaign was on these issues in 1996. A dirty little secret is that whole media campaign is really targeted for 535 people, the members of Congress, not you or anyone else in the general public. One thing does seem clear, however, the Tauzin-Dingell bill is not about reducing the digital divide, in my humble opinion. It is about refighting the compromises struck in the Telecommunications Act of 1996 over how and when to deregulate monopoly and to stimulate competition. The bill is a subject of interest I will address later.

2. Bidding Preferences in Spectrum Auctions

Can the FCC solve the problem of the digital divide by creating regulatory preferences and making more spectrum available to minorities? Since Nobel laureate Ronald Coase proposed FCC spectrum auctions,[15] every President's budget contained a proposal to

13. "ITU Conference Set to Take Up 'Digital Divide' Issues," *Communications Daily* 3 (Feb. 20, 2000)

14. The Tauzin-Dingell Internet Freedom and Broadband Deployment Act, H.R. 1542, 107th Cong. 1st Sess.

15. Ronald H. Coase, *The Federal Communications Commission,* 2 Journal of Law

auction off spectrum.[16] Each year during the budget debate, the big elephant in the congressional back room was the broadcasting industry. Even though, the legislative proposals would not have even applied to broadcasting, the most powerful lobby in Washington, D.C. managed to undermine the idea of spectrum auctions, knowing full well that the camel's nose under the tent would point that compelling thought in their direction someday if the practice of assigning spectrum by auctions was ever adopted. This all changed when the fiscal imperative of record federal deficits created an atmosphere, and the political will, to authorize FCC auctions in 1993 as part of the Clinton Budget.[17] Since then, the impact of spectrum auctions has, at best, been mixed. Some would even argue that federal spectrum auctions have been a major cause of the telecomm sector's economic collapse. In my view, auctions are not inherently a bad idea. Indeed, like Churchill's comment about Democracy, auctions are the worst of all systems, until you consider the alternatives. They are superior to comparative hearings and lotteries for assigning spectrum licenses.[18] But, by over thinking and imposing more order and detail on the subject matter than it would bear, and often straining to discern and satisfy Congressional requirements concerning auctions, the FCC designed auctions that were too complicated by a great deal. Rube Goldberg could not have done better than the FCC by way of drawing a more complex apparatus. (I see from the blank stares that I am dating myself by referring to Rube Goldberg cartoons.[19]) Earlier on the panel, Professor Braunstein referred to a program that was designed ostensibly to promote a class of bidders who came to be known as "swimmers;" an inelegant acronym referring to small businesses, women and minority owned

and Economics 1 (1959); Leo Herzel, *Public Interest and the Market in Color Television*, 18 U. CHI. L. REV. 802-16 (1951).

16. *See* Nicholas W. Allard, *The New Spectrum Law*, SETON HALL LEG. J. 13, 30-35 (1993)

17. Omnibus Budget Reconciliation Act (OBRA) Pub. L, No. 103-66, 107 Stat. 312 (1993) containing auction authority at § 6002, 107 Stat. at 388-92 (codified at 47 U.S.C. 309 (j) (1)-(12). Allard, *The New Spectrum Auction Law, supra.* I am especially grateful to Tom Hazlett for insights into the perverse history of U.S. government spectrum policy, and for the political impact of broadcasters on the evolution of spectrum policy. http://www.manhattan-institute.org/html/hazlett.htm or http://www.winlab.rutgers.edu/focus/Focus1998/Hazlett%20Bio.html accessed 2/25/03

18. See discussion of problems with alternatives in *The New Spectrum Auction Law, supra* note 16 at 23-29.

19. Information about Rube Goldberg is available at http://www.rube-goldberg.com/html/gallery.htm

businesses, and rural companies.[20] You know of the aphorisms about the legislative process being akin to the kitchens in fine restaurants and sausage making. Those aphorisms apply to the so-called "swimmers" auction provision. I will save you some research effort about the origin of that particular provision, which you are not going to find in the legislative history. Staff for one key Congressman wanted to have women owned businesses get a preference. Knowing that there was insufficient political support for creating a preference only for women, the staff created out of whole cloth, behind closed doors, without any hearing or other public discussion, the "swimmer" category and added it into the statutory auction language. And so that is the legislative history you will not find *any* place.[21] Interestingly, implementing that "swimmer" provision consistent with the elusive "Intent of Congress" has been one of many troublesome challenges of the FCC in designing and running federal spectrum auctions. Creating preferences for "swimmers" has not, to this point, solved the problem of the digital divide.

3. Are Universal Service Mechanisms Adequate?

Can the FCC use universal service mechanisms to help bridge the digital divide? FCC regulation is often driven by definitions and regulation varies depending on what something is called. The Telecommunications Act of 1996 reinforces this practice by designating key definitions such as those for "telecommunications service" and "information service" to serve as the triggers for regulations and obligations.[22] By defining certain potential Internet services as information services under the 1996 Act, and not as telecommunications services, providers of Internet services do not have the obligation to pay into the universal service funds.[23] So, the

20. OBRA, *supra* note 14, § 6002(a) 107 Stat at 388-389 (47 U.S.C. § 309(j)(3)(B); 47 U.S.C. § 309(j)(4)(D)).

21. Legislative history is discussed in *The New Spectrum Auction Law*, *supra* note 16 at 13-15, 30-39.

22. Telecomm. Act of 1996, Pub. L. No. 104-104, § 6101(a), 110 Stat. 56 (1996) (hereafter "Telecomm. Act of 1996" or "1996 Act"); 47 U.S.C. § 153(46) (defining the term "telecommunication service"); 47 U.S.C. § 153(20) (defining the term "information service"); *See generally* Peter W. Huber, et. al., The Telecommunications Act Of 1996 (Little, Brown 1996); Thomas G. Krattenmaker, *The Telecommunications Act of 1996*, 49 Fed. Comm. L.J. 1 (1996); *Re: Inquiry Concerning High-Speed Access on the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Treatment for Broadband Access to the Internet Over Cable Facilities*, GN Docket 00-185, 17 F.C.C.R. 4798 (separate statement of FCC Chairman Michael Powell discussing the regulatory consequences of different statutory classifications).

23. Telecomm. Act of 1996, § 151.

FCC is deregulating, or more precisely, keeping "legacy" regulation away from new technology. However, it is also taking away or reducing the potential funding that is available for traditional, classic FCC regulated universal service purposes, without addressing universal service issues when traditional services migrate to the Internet. There is significant concern about the Tauzin-Dingell bill and many oppose it because as an ever-growing body of services are designated as "information services," including voice over the Internet, the mechanism of universal service will be undercut. So, the Tauzin-Dingell bill raises concerns in some quarters both about its impact on competition and on its potential for undermining universal service mechanisms. At this time it is clear that the FCC does not intend to use universal service funds as a way of bridging the digital divide.

4. Are We a Nation Online?

Should we be impressed with the extensive focus on growth rates contained in *A Nation Online*?[24] If 100 million Martians are online already, and in one year one million new Martians go online, you then have a total 101 million Martians online and a 1% growth rate. If one million Plutonians are online already and one million new Plutonians go online, at the end of that period of time, we would have two million Plutonians online, and that is a 100% growth rate. Of all of the statistics that could be used, to me, it seems that growth rates tell you the least about what is going on. And frankly, given the low bases of some of the disadvantaged groups in this country (i.e., where they are starting from when growth is measured) it does not seem to me that the percentages of growth reported by NTIA in its 2002 report are actually that impressive. Also, is it important to have a sense about the trend rates for various groups monitored? Is there an acceleration, a deceleration, is it comparable to the growth rate of, say, the white male population when it first started using the Internet? Is it slower than their growth rate? If, in the future, NTIA reports would look at contextual statistics other than growth rates it would give more flesh to the study.

Focusing too much on growth rates, and then declaring that 53.9% penetration means that we are truly a nation online, which I think is a direct quote from the report, is reminiscent of Senator George Akin's (Democratic Senator from Vermont) tongue in cheek solution to the Vietnam War. Akin's advice was to "declare victory

24. *See e.g. A Nation Online, supra* n. 16 at 9-11.

and withdraw."[25] I know that the policy decisions are not the NTIA report authors' and economists' responsibility. I am taking a little of an unfair shot at the isolated quote when the report is chock full of data and a rich source of useful data. I recommend it to everybody. But there are indications already that the current administration is declaring victory and withdrawing, or at least cutting programs designed to close the digital divide.[26]

5. Are Content Issues Delaying Broadband Deployment?

The classic chicken and egg question about content was raised by two of our panelists, Mark Parkin and Professor Braunstein, who both commented on how slow deployment and use of broadband was related to high price and lack of competition. Is there no pipe because there is no content? Or is there no content available at an affordable price to consumers because there is no pipe? And as for the pipe, I am referring not just to the physical facility but also to somebody paying to build and use that pipe whether it's a wire line or wireless pipeline for broadband data transmission.[27]

A related issue is whether there is resistance to promoting new technology that can be used for entertainment as well as "pure" information or educational purposes. I suggest that it is an exceedingly difficult if not impossible task to distinguish between information and entertainment and to try to regulate content. If you do, watch out. One of my former law students provides a provocative example. He asserts that during the French Revolution a driving force towards literacy among the poor was the mass appeal of increasing access to cheap pornography.[28] It was produced on paper sheets and pamphlets, not books, and it actually had no pictures. When the Monarchy and the Church attempted to restrict this pornography it served to mobilize and inflame the mob. It was not

25. Senator Aiken was truly one of a kind. After hospitalization for emergency hemorrhoid surgery he issued a terse, one line press release: "All my troubles are behind me." Sen. George D. Aiken, speech, *Vietnam Analysis - Present &* Future (Oct. 19, 1966). After the Symposium, I read Benjamin Compaine's book which contains a Chapter titled "Declare the War Won." Compaine, *Digital Divide*, *supra* n. 5.

26. Jonathon Kim, *Digital Divide Plan in Peril: Two Tech Programs for Poor Would Die*, The Washington Post E1 (Feb. 5, 2002); *Bush Abandons National Strategy To Bridge the Digital Divide*, Analyzing FY2003 Budget, Benton Foundation Release (Feb. 11, 2002), <http://www.benton.org/press/2002/pr0211.html> (last accessed Feb. 25, 2003). *See* Compaine, *Digital Divide*, *supra* n. 5 (conclusion section).

27. Mark Parkin's and Professor Braunstein's answers available on tape (on file with Comm/Ent).

28. I am obliged to Gerald Stegmaier, George Mason University Law School (J.D. 1999) for this insight.

the only cause of the French revolution by any means, but it was one of the driving forces that helped the mob to become organized against the established government. As Yogi Berra said, "You can look it up."[29] So just a word to the wise in trying to make that distinction or trying to impose content control. Even though we don't have a guillotine in America, look out. My George Mason students discussing this subject drew obvious comparisons with current efforts to restrict cyberporn. They also made subtler observations that older people who learn to use computers in order to gamble online, people who shop online, and children who play games online. These people have motives comparable in some ways to those that led the French mob to learn how to read. It is not a new phenomenon. We have seen it all before. For example, when a new information technology such as the telegraph is introduced, its initial growth is often dominated by popular uses both good and bad.[30]

6. Are Market Solutions Adequate?

We never know what the "killer apps" are until they are here. First of all, we would all be very rich if we could recognize the killer applications, pick the right winners, and invest wisely. The phonograph, radio, television, copying and fax machines were all initially promoted to investors for seed money on the basis that they would be an extension of telephones, a sort of answering service for telephones. Of course, all of these innovations had their own "higher" use, but the initial irresistible development concept seems to be to take the technology that we know, and the use of that technology that we know, and try to find an extension for it, a way to improve it, rather than using an innovation for what is later to be discovered as its other ultimate, highest use. Now, with respect to market solutions, Mark Parkin is like the Tin Woodman with a heart of gold; truly a good guy. So to really get into it with any heat, let's pick on a straw man on the other side of the arguments. To paraphrase from a Heritage Foundation report,[31] author Adam Thierer, who is a very prolific writer and a very compelling fellow, points out that everybody owns a television set.[32] To make his point he cites some astronomical number of Americans who own

29. *See* Roger Chartier, *The Cultural Origins Of The French Revolution*, 38-91 (1991); *see also* Peter Johnson, *Pornography Drives Technology: Why Not to Censor the Internet*, 49 Fed. Comm. L.J. 217 (1996).

30. *See* Tom Standage, *The Victorian Internet* (Walker & Co. 1998).

31. *See* Thierer *et. al.*, *supra* n. 5.

32. *Id.*

televisions as being in in the high ninety percentages.[33] Thierer notes that computers are available for less than the cost of a color television set, and he reasons that if someone does not want to use their money to buy a computer, it should not be a concern of others, and it is not a matter for corrective public policy. That is basically the Heritage Foundation's first point about the digital divide. Point two says technology companies are virtually giving this stuff away. Corporate technology is really, really inexpensive, and because of Moore's law the price is cut in half every 18 months. Moreover, you can actually get free computers if you agree to do X, Y and Z.[34] And free or cheap Internet access is also available out there. Proponents of this view ask, what's wrong with information "have-nots"; we cannot ascertain why they do not want information online, and why should we care if they fail to take advantage of affordable ways to get it? In any event, they believe that the market is going to solve the digital divide. I ask, is there no role for public policy and no responsibility for the government? What's wrong with the Heritage Foundation type analysis? Or what's right with it?[35]

III. Panel Presentation: Technology, the Marketplace, Law and Regulation

This morning I was very glad to see that we agreed on one thing: there is indeed a digital divide. As the famous lawyer Groucho Marx might have said, "*res ipsa loquitar*, baby."[36] We had less agreement and a range of ideas about how we can best define the digital divide. And let's think about that for a minute. I find it very useful as a lawyer and somebody involved sometimes in regulatory and statutory drafting to try to be precise about the terms that we use. In fact, I once proposed in Comm/Ent that the first telecommunications reform law that Congress should enact was a statutory prohibition on the use of the mother of all modern metaphors, "The Information Superhighway."[37] I was spurred on by a poll cited by the FCC chairman that showed that 50% of Americans, at that time, supported the concept of the information superhighway. although two-thirds did

33. *Id.* at 3.

34. *Id.*

35. Professor Braunstein's answer available on tape (on file with Comm/Ent).

36. Actually, the "res ipsa loquitur" line must be credited to my good friend Jennifer Richter, a telecommunications lawyer with Morrison & Foerster in Washington, D.C.

37. Nicholas W. Allard, *Reinventing Competition*, 17 Hastings Comm. & Ent. L.J. 473, 480 (1995).

not know what it was.[38] And that is a true fact. Later, I challenged the Comm/Ent staff to conduct a "Rename the Thing" contest, to find a better, less tired phrase than Information Superhighway, and all its inbred metaphorical progeny.[39] Obviously, my idea did not catch on, and the quest to rename the information superhighway failed.

You know, currently we hear a lot, too much, about electronic Spam. Spam relates to our symposium because it is a form of communication, like entertainment content, that many people do not want to subsidize even indirectly. Closing the digital divide, the argument would go, will only proliferate Spam. Although we do not have to think too hard to dismiss that logic, it is a curiosity to think of why we use the word Spam in this context. Spam, the ersatz meat product, was originally developed in 1937 by Hormel Foods as a pink, spiced ham substitute. The derivation of that word was the first letters of "spiced" and the last letters of "ham." How the term "spam" came to be applied to unwanted, unsolicited junk e-mail remains uncertain. I challenge Comm/Ent to search for or to inspire others to discover the true etymology of Spam as a term for unwanted e-mail traffic. There are some people who speculate that this usage came from the old Monty Python skit involving monotonous, repetitious chanting of the word Spam; but how that relates to email, I, for one, am not sure. Maybe it applies because it is annoying. There are others that have done some research and speculated that the application of the word to electronic email comes because Spam is a spiced lunch meat that splatters on a wall when you throw it. Sort of a visual proliferation, if you will, a dietary "cluster bomb." But both Hormel and the *New York Times* word guru William Safire debunked that idea after performing tests demonstrating that Spam actually bounces off the wall. It does not splatter.[40]

It is now time to try to get a little better understanding of the concept of the digital divide.[41] In order to do that, think back with me to the 5th Century, B.C. and let's consider for a minute the paradoxes that Zeno of Elea, the Greek mathematician, used to pose to his

38. FCC Chairman Reed Hunt, speech, Electronic Industries Association Consumer Electronics Show (Jan. 6, 1995).

39. Nicholas W. Allard, *Commentary: Copyright From Stone Age Caves to the Celestial Jukebox*, Hastings Comm. & Ent. L.J. 867, 869 (1995).

40. William Safire, *On Language: The Way We Live Now*, The Sunday New York Times Magazine 26 (June 11, 2000).

41. Benjamin Compaine's new book, *Digital Divide*, contains very useful discussions about how to think about the concept. *Supra* n. 5.

students.[42] Two of Zeno's most famous paradoxes are actually variations of the same riddle. I think both are particularly instructive when thinking about the digital divide. Think about Zeno's paradox of Achilles and the tortoise, which you all remember, I am sure. The tortoise challenged Achilles, the Greek hero and demigod, to a race on the condition that Achilles give the tortoise a head start. For the purposes of this analysis say it was a head start of 10 meters. Achilles, swift of foot, but not so swift of mind, laughed at the tortoise and said with confidence that he would easily beat the tortoise. However, the tortoise said, "Suppose, Achilles, you cover the 10 meters very quickly, is that correct?" Achilles said, "That is correct: very, very quickly." "Well," said the tortoise, "in the time you would have moved those 10 meters, I will have moved some distance, say a meter, and you would catch up that short distance even quicker. But, in the time that you were still catching up, I would have gone still, a little further so that you still would have to catch up." Achilles frowned, but said nothing. The tortoise continued, "And so, you see, in each moment you must be catching up the distance between us, yet I, at the same time, will, be adding a new distance between us, no matter how small, for you to catch up. So you can never catch me." Achilles conceded the race before it even started.

Now consider the other version of Zeno's paradox. According to Zeno, it is not possible to cross a room completely, and even in the dark, you do not have to worry about bumping your nose on the opposing wall.[43] Suppose I wish to cross a room. First, I must cover half the distance, then I must cover half the remaining distance, and so on, forever. The consequence is that I never will reach the wall. Put out of your mind, if you can, that the paradoxes are flawed. At least by the 17th century, thanks to Cambridge University shutting down because of a bad bout of the plague, Sir Isaac Newton was at home inventing calculus in his spare time, and we learned how to calculate the solution to infinite and infinitesimally declining sums.[44] So we now know how to catch the tortoise and how to get across the room. But think about both of those paradoxes as metaphors for understanding the digital divide.

First, the paradox of Achilles and the tortoise suggests to me that the digital divide is an evolving, moving target. Like we do in this

42. Nicholas Fearn, *Zeno And The Great Tortoise*, ch. 3 (Grove Press 2001); David Berlinski, *A Tour Of Calculus* 3-4, 62, 122-25 (Vintage Books 1997)).

43. Berlinski, *supra* n. 42 at 3-4.

44. *Id.* at 5-6.

country by defining an evolving, growing bundle of telephone services that should be universally available and reasonably affordable, we are always thinking about what has become, over time, necessary and useful to provide equal and fair access to economic opportunity, an acceptable quality of life, and participation in our democracy; even though the new technology might not have been essential or basic in any sense in the past. Historically, at least in the United States, there has never been any constant definition of must-have technology or technical literacy. As Professor Doppelt so eloquently pointed out earlier, it is an "ever-changing state of mind". You cannot get to information literacy by standing still. You have to grow and learn and move on. Think of an office assistant who took short hand and typed lightning fast but never got beyond carbon paper and white-out; never learned about word processing or all the other skills a modern assistant uses and we take for granted. The former Cracker Jack (or Jill) assistant would be out of a job. The second insight, is that even if the tortoise was not moving the goalposts (to mix metaphors terribly), even if we were approaching the other side of a *non*-moving wall, there always is a gap, a gap measured in smaller and smaller increments, and so the digital divide is always there, and what is relevant is not to deny that it is not there, not to declare victory and go home, but to try to address the problem; even if it affects fewer and fewer people and entities.

The digital divide term, as applied to online activities, first achieved mass media attention around the time it became part of the title of the second NTIA survey in 1998.[45] The first NTIA survey was

45. However, the term "digital divide" seems to have originated out of a term used in an early Department of Commerce report that commented that there had begun to develop a class of people that it termed the "information disadvantaged." The report apparently was the first one of its kind to assess the impact of the Internet and computers on American society. *Falling Through the Net, supra* n. 6. After this initial report there seems to have been a ground swell of discussion among researchers and writers over the existence of the digital divide, which term was coined during this time. In late 1995, Dinty Moore released a book that chastised both sides of the discussion and is one of the earliest sources of the term "digital divide." Dinty Moore, *The Emperor's Virtual Clothes: The Naked Truth About Internet Culture* (Workmans Publishing, Algonquin Books of Chapel Hill 1995). It was about this time, late 1995 and early 1996, that Vice President Al Gore adopted the phrase and began using it in political speeches and press releases. The phrase increasingly began to occur in newspaper articles and journals. By the time the 1996 presidential election was drawing to a close the term "closing the digital divide" had become a mantra for President Clinton on the campaign trail. In 1996, during the consideration of the Telecommunications Act, the term made its first appearance in the congressional record when Rep. Ed Markey (D. MA) discussed the digital divide and the necessity of the so-called "e-rate program" for subsidizing classroom connections to help close that burgeoning gap. 142 Cong. Rec. H1145-H1179 (Feb. 1, 1996) (statement of Rep.

focused more on computer ownership. It was not talking about network computer power.[46] Some credit Lloyd Morrisett, president of the Markle Foundation, with coining the term and the description of that history that can be found in a provocative research paper and a book by Benjamin Compaine.[47] So I can recommend those references to you.

Why do we care about the digital divide? First, we care about it as a matter of social conscience, as I mentioned this morning. I take as a reference the work of Guido Calabresi, former law professor and Dean at the Yale Law School, who currently sits as a judge on the Second Circuit. His wonderful little book, *Tragic Choices*, explains why it is that we as a society will expend great resources to search for and find a balloonist lost at sea, or to rescue a small child down a well, or nine miners, if you will, trapped underground in the Quecreek mine in Pennsylvania.[48] And the reason for this is that, as a society, even though every day we put a price tag on life, even though every day we make decisions which inherently measure the value of human life, we are compelled, because of our shared values, often to act in a way that reminds ourselves that we do not feel comfortable putting a price tag on life, that there is a nobler conscience that drives our activities.

The issue of the digital divide is also fundamentally a discussion about democracy. You heard this throughout the symposium conversations today. The more that our ability to participate in government services, and to participate in government, moves toward required use of advanced information technology, the more that there is an obligation to assure that everyone is enfranchised and empowered by having affordable access to the necessary technology and the technical literacy to use it. Consequently, addressing the

Markey). Since then, many of the congressional members on Capitol Hill have commented on the digital divide and most have supported the concept of the terminology and that it in fact does exist. Many of the most prominent supporters were those from rural or inner city and urban areas who are seeking e-rate funds to help fund the infrastructure needed for broadband and other technologies that are key to success in the future for many children and communities. By 2001 the phrase appears in reports, trade journals, periodicals and various other literature. *See* William C. Wresch, *Disconnected: Have And Have Nots In The Information Age*, (Rutgers Univ. Press 1996) for an interesting treatment of the subject from a global perspective.

46. Compaine research paper, *supra* n. 5 at 5 and accompanying notes.

47. *See generally Id.*; Compaine, *Digital Divide. See also* "The Digital Divide and its Implications for Language Arts," <http://npin.org/library/2001/n00550/n00550.html> (last accessed 2/25/03)

48. Guido Calabresi and Philip Bobbitt, Tragic Choices (Norton 1978). *See* Wresch, *supra* n. 45.

digital divide is not only a matter of social conscience and social responsibility; it is an imperative of our democracy.

The fact is, throughout the history of mankind, the availability of information has always empowered individuals and undermined government oppression. It always has. President Ronald Reagan got a lot of credit for the demise of the Soviet Union. You can make the argument that by running up the defense budget in the United States in the 1980's, America finally outpaced and wore down its Cold War rival when the Soviets ran themselves out of a job by trying to catch up and keep up when they could not; when their communist, state-controlled economy could not bear the weight. That is an argument you can make, but I would submit to you, that at least equally as powerful a factor was the ability of faxes, travel, cell phones, correspondence and other modern means of communicating to enable those people who were living in the former Soviet Union to get a little glimpse of seeing that outside that bleak, black and white Soviet existence, life did not have to be like that. If you ever had the opportunity to travel in Russia, the Ukraine, and all the "Stans," you know what it was like, and still is largely today, except for Soviet Georgia and perhaps Moscow, for some reason. When you went from the Soviet Union and into Western Europe or to the United States, it was like moving from Kansas to Oz when the movie goes from black and white to color.[49] Totalitarian, oppressive governments must control and restrict information to stifle ideas, to smother hope. Democracy thrives on the free flow of information to people. These are axioms. Information empowers and for this reason, it is very, very important for us, as a democracy, to pursue closing the digital gap between information haves and information have nots.

Now as I said this morning, we do not have to rely on such lofty ideals, such lofty values to justify thinking about the digital divide because closing the digital gap makes hard-headed economic sense. In a very simplistic way, we talked about game theory, the John Nash concept that an individual, an organization, an entity can achieve its highest good, not just by pursuing its own self-interests in isolation, but by simultaneously pursuing the highest common interest of the

[49] It really was. I had the opportunity to host a Russian Rugby team visiting the United States, do not ask why, shortly before the Soviet Union fell, and when they walked into a typical Giant grocery store in the Washington D.C. suburbs they literally wept. They could not comprehend what they saw in the produce section and up and down every aisle. You can imagine their reaction to the mega-mall experience of nearby Tysons Corners, where they went to purchase running shoes and could not believe that pairs of shoes were available in all their sizes.

group. And that is a fundamental concept of game theory as I understand it.[50] Consider how this concept applies to the digital divide. We can use both Metcalf's law and Moore's law in the analysis.

As you know, Metcalf's law says that the value of a network is equivalent to the square of the number of nodes, or in other words, more simply put, as networks grow, the utility and value of being connected to the network not only grows, but it does so exponentially.[51] So the more people and entities who are connected to it, the more valuable the network will be for every user. Conversely, because of that exponential growth, if you are not on the network, even if you are among a declining number of the population, the disparity grows exponentially. You really have an incentive to get online and everybody else has an incentive for you to get online. Now that's Metcalf's law.

Everyone in this room knows about Moore's law.[52] In 1965, before he made a speech, one of the founders of Intel, Gordon Moore was plotting some data and he realized that at a constant price, computing power was doubling every 18 months. The result was a chart for his speech and the law that you all are so familiar with. In other words, the cost of computing power declines. And so, not only is it more valuable to connect people, but it is less and less expensive. Simply put, there should be a way to make closing the digital divide happen.

As I think of it, an example of why it makes hard-headed economic sense to connect people, are studies, some done in Seattle and some done right here in the Bay Area, which show that when you provide phone service and answering service to homeless people, the big usage is for finding jobs.[53] It makes sense: you won't get the job if

50. For an engaging and readable discussion of modern game theory *see* Avinash K. Dixit and Barry J. Nalebuff, *Thinking Strategically* (W.W. Norton & Co. 1991); Adam M. Brandenburger and Barry J. Nalebuff, Co-Opetition (Currency/Doubleday 1996).

51. Kevin Werbach, *Digital Tornado: The Internet and Telecommunication Policy*, OPP Working Paper No. 29 6 (Mar. 1997), <http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp29.pdf> (last accessed Feb. 25, 2003).

52. *Id.* at 6.

53. For example, out of 148 people given "community voice mail" in Seattle, 90 % obtained jobs. Alex Chadwick, *Homeless Get Voicemail to Aid Job Search*, National Public Radio Morning Edition (Aug. 25, 1992). However, such programs can be controversial and political hot buttons. *See e.g.* Doug Holloran, *Brother Can You Spare a Beeper? FCC Mulls Pagers for Homeless*. Elec. Media 1 (Apr. 1996). Phvong Cat Le, *Budget Ax May Cut Phone Line; Voicemail for Homeless and Poor Faces Funding Loss*, Seattle Post-Intelligencer B3 (Nov. 7, 2002); Community Technology Institute, Community Voicemail (<http://www.cvm.org/aboutcvm>) (description of community

you cannot receive the call for an interview or the call with the job offer. The homeless and poor studied were not using the phone for drug buys. They were using it to find jobs, and for other sensible purposes, some health related, which is also interesting. Crassly, it is cheaper for the government and better for the economy to have people employed and healthy, and it is also right.

When we talk about the digital divide, we are talking about something that has many facets, many elements. We are talking about a computer, about hardware and software. I would challenge you all to look forward, not look back. We are not talking about simply using a computer by sitting at your desk, typing on a keyboard, and looking at a monitor. There are all different kinds of computers, and when we think about the digital divide in the future it is not going to be simply providing everybody with reasonable and affordable access to a computer terminal the way it exists right now: wired and largely immobile. Look ahead, do not look behind. When we discuss the digital divide we are also talking about the availability of the pipes leading to the network, and by pipes we are talking about broadband, at least with respect to future standards of what people should or must have. Five years ago, when people talked about the digital divide, the discussion did not contemplate the necessity of broadband access, but now, speed and capacity are key. Is it, then, not just a digital divide but, rather, a Mercedes divide?[54] Why should we worry

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voicemail services and a map of locations around the United States with community voicemail programs); *See* also David Damron, *Voicemail Program Helping Homeless Find Jobs In Orlando*, Associated Press (Feb. 2, 2002); David Damron, *Voicemail Can Keep Homeless In Touch*, Orlando Sentinel B1 (Jan. 7, 2002); *Illinois Voicemail Offered To Homeless In Shelters*, Los Angeles Times A11 (Jan. 8, 1999); Chris Seper, *Homeless Have Connections: No Phone? No Problem With Free E-Mail*, Cleveland Plain Dealer E1 (Jul. 8, 2002); Mark Riley, *Voicemail Offers Hope for* Homeless, The Age 12 (Aug. 15, 2001); Nicole Sweeney, *Homeless Voicemail In Budget*, Milwaukee J. Sentinel 1A (Aug. 11, 2001); *Voicemail for Homeless Funds Face Cut: The Governor Is Determined To End the Program One Way or Another*, Wisconsin St. J. D3 (Aug. 22, 2001).

54. Shortly after he became Chairman of the FCC, at his first press conference, Michael Powell stirred up some controversy by suggesting that programs for promoting access to Internet services were comparable to subsidizing luxuries. He said, "I think the term (digital divide) sometimes is dangerous in the sense that it suggests that the minute a new and innovative technology is introduced in the market, there is a divide unless it is equally distributed among every part of society, and that is just an unreal understanding of the American capitalist system . . . I think there's a Mercedes divide, I'd like one, but I can't afford it . . . I'm not meaning to be completely flip about this . . . I think it is an important social issue . . . but it shouldn't be used to justify the notion of essentially, the socialization of the deployment of infrastructure."*Washington Post, 6/18/2001,*http://friendscb.ca/articles/WashingtonPost/washpost010618.htm, accessed 2/25/03*Compare, e.g.* reactions to these comments by Klaus Schwab, The *Digital Divide: Ignore It At Your Own Risk* (available at http://news.com.com/2010-1078-281512.html, last

about transmission speed, worry about affordable fair access to broadband for all Americans? Let me give you one example and I will not take more time on this subject.

One of my wireless clients made free Internet access available with training, which is critical, to some inner-city schools in Washington, DC. They used "MMDS" wireless spectrum[55] providing relatively high speed Internet access. The teachers were grateful for two reasons. One was that without speed, you cannot conduct the work in one class period, and you cannot hold the attention span of the students. By the way, the teachers were not at all concerned about how often students were accessing Michael Jordan's website. Here is the point again about the distinction some want to make between entertainment and information; should we really care, within limits, if people are having fun when they are learning how to use the tools? That question reflects my own bias.

The second reason the teachers were pleased was that, because the speed and capacity were available, they were able to get multiple uses, including the teachers themselves getting training, and parents receiving evening instruction on how to use the equipment and how to use it to help their children with homework, to work at home, to do taxes, to learn new skills, and so on. So, yes, we are talking about broadband now as part of the evolving digital divide debate. So broadband access is key. In addition to computers, other hardware and software, and access, knowledge is also a key element of the digital divide debate. I like Professor Doppelt's phrase a lot better which is "literacy." He explained that promoting information technology literacy is critical to closing the digital divide. To add or subtract another word to his presentation on this subject would be to diminish it.[56]

We need, finally, to talk a little more about content. Because the telecommunications industry evolved from the sixty(+)-year-old paradigm of regulated monopoly to a competition model, many of the debates in the 1990s understandably focused on the concept of relying

accessed Feb. 25, 2003) *with* Neil Seeman, *What Digital Divide, National Review Online*, *supra* n. 5. *See* Chuck 45, *Chairman Mike and the Digital Divide* (available at http://www.thegully.com/essays/US/politics_2001/010212powell_fcc.html, last accessed Feb. 25, 2003).

55. "MDS" refers to Multichannel Multipoint Distribution Service and related services in the 2 GHz radio frequency band. The FCC has substantially modified the rules governing the use of this service in recent years. A snapshot of the current state of this fixed wireless service may be found in an analyst report by Camilla Jensen and Kim Randolph, *The MMDS Industry*, BIA Financial Netwk., Inc. (2002).

56. *See* Doppelt article, elsewhere in this issue.

on the marketplace to control prices and provide consumer choice. The government was theoretically relegated to the role of referee, making sure that competition was fair. That discussion and debate in the 1990's was largely about pipes. The debate over the landmark Telecommunications Act of 1996, for example, was about rules for using pipes. Relatively less attention was paid to rules for what went in the pipes. We now are emphasizing more that the pipes are used for transmitting content. So increasingly when we discuss the digital divide we are also talking about content. What good is it to have the pipe if you do not have content that you want or that is useful to you? Traditional universal service concepts embody all of these kinds of elements, and our consideration of the digital divide should also cover all the elements.

What are the existing legal ways that the statutory and regulatory framework deal with the digital divide? Remember that the Universal service concept and the legal framework for it, has always been evolving. In 1907, Ted Vale, the founder of AT&T, had one concept of universal service. His concept of universal service was uniting all of the fragmented local telephone companies into a national footprint. In other words, to Ted Vale "universal service" meant monopoly.[57] In 1934 in section 151 of the Communications Act, the concept of universal service was implicit in the language which talked about a policy, with the technological means possible and available, to make sure that we have an effective, efficient, affordable, nationwide and worldwide, radio and wire communication system.[58] And so from that we derive for sixty(+) years a concept of universal service which became a whole system of implicit subsidies where high cost users were subsidized by lower cost users. With rural customers, you got that wire out to Lassie's farm at the end of the rural line by having it paid for, in part, by people in the cities and so on and so forth and still we only achieved approximately 93% universal telephone service, 6% or 7% off. There are a lot of people who are left out, even out of the historic "plain old telephone service" universal service program.

Universal service came to mean intricate, implicit subsidies and for an ever-improving level of telephone service. Then, fast forward, we have a concept of information "haves" and "have-nots." In the 1980s and early 1990's, the debate was about disparities in computer ownership and use. That was the focus of the first NTIA study and,

57. Compaine, research paper, *supra* n. 5 at 3.

58. 47 U.S.C. § 151 (2000).

growing out of this work, Vice President Al Gore and the Assistant Secretary of the NTIA Larry Irving raised the profile of the concept of the digital divide that evolved during the second term of President Clinton. What mechanisms do we have in place to get at the digital divide?

Is FCC regulation an optional tool for remedying the digital divide? With due respect to the FCC, I do not think more regulation will work. Why? The FCC regulation of universal service and the concept of universal service that is embodied in the 1996 Communications Act, in section 254, defines a new evolving concept, lists items that are to be considered for universal service, and recognizes that universal service is evolving. [59] Section 254 also discusses who is to pay for universal service.[60] Frankly, though, Section 254 is fundamentally at odds with the other main tenet of the Act which is to deregulate the market.[61] So, if on one hand you deregulate the telecommunications marketplace; you no longer are going to set prices or control subsidies or do any of those things, and on the other hand if you are going to maintain and expand your universal service you need to regulate. Subsidize, regulate, perhaps tax, maybe move the universal service charge to the front of the bill instead of burying it in the back of the customer's bill. Fundamentally these two concepts are at odds and, as you all know, you cannot hold two contrary thoughts in your mind at the same time without going insane. So in some respects, the Act (if quoted, I will deny), the Telecommunications Act of 1996 is insane. Many people who I respect have their names on that legislation, they all tried to do good things, but it is not surprising that it does not work completely. So FCC universal service regulation is not going to get to the problem even if it were desirable or feasible to expand regulation in the present theoretical and political climate. I am grossly over simplifying just to make the point as briefly as possible.

What about FCC deregulation? The Internet has grown and many talented people who work at the FCC, some of them dear friends, have taken credit by saying, "We kept our hands off regulating and that is why the Internet has grown so fast." There have been two or three recent instances of deregulation.[62] We talked

59. 47 U.S.C. § 254 (2000) (amended 1996 to insert "'without discrimination on the basis of race, color, religion, national origin or sex.")

60. *Id. at* § 254(b),(d).

61. *See* Huber, *supra* n. 22 at 139 ("the pursuit of universal service by the commission is now at an end.")

62. *In the Matter of Inquiry Concerning High-Speed Access to the Internet over Cable*

about it this morning. Just last week, the FCC said, dedicated unbundled cable Internet service coming through your TV set over a cable modem or computer is not going to be a telecommunications service, but an information service.[63] But as an information service, there are not obligations to pay universal service funds. And those services are going to be made available first to the high-end customers who can afford to pay for an extra bundle of goods and, second, to low cost users where the rate of return calculation makes sense. Last month, the FCC proposed and asked for comments about whether or not it should treat dedicated wire line DSL telephone cable service as an information service and not regulate it.[64] The same argument would apply. This discussion comes in the context of an inquiry concerning how the FCC is to "consistent with statutory mandates, . . . encourage the ubiquitous availability of broadband to all Americans."[65] However, there is, pointedly, no plan in place to accomplish this goal.

Congress could tackle the problem. There are pending, numerous bills touching the subject of affording fair access to broadband networked computing services. I have a Congressional Research Service Summary, which is over 20 pages long, of all the various bills in the 107th Congress that are proposed to try to increase the availability of broadband Internet service to rural residents, to low income families, to Hispanics, to left-handed scrabble players, to everybody in America.[66] I am not that optimistic about the chances of

and Other Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, 17 F.C.C.R. 4798, ¶¶17, 34-41 (2002) (concluding that cable modem service is not a "telecommunications service"). *See also In the Matter of Federal-State Joint Board on Universal Service,* Report to Congress, 13 F.C.C.R. 11830 ¶¶ 83-93 (1998); *In the Matter of Provision of Improved Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Declaratory Ruling and Second Further Notice of Proposed Rulemaking, 17 F.C.C.R. 7779, 7793 ¶ 45 (2002) (noting that its inquiry into IP Relay is not intended to regulate the Internet nor to establish standards for the separation of Internet traffic); *NCTA* v. *Gulf Power Co.* 534 U.S. 327, 333 (2002) (Pole attachments that provide high-speed Internet access at the same time as cable television are treated as cable attachments covered by the Pole Attachment Act. The addition of a service does not change the character of the attaching entity.).

63. *Id.*

64. *In the matter of Inquiry Concerning the Deployment of Advanced Telecommunications Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996.* 17 F.C.C.R. 2844 ¶¶ 151-52 (2002).

65. *In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, supra* n. 62 at ¶ 4.

66. Leonard G. Kruger, *Broadband Internet Access and the Digital Divide* (Cong. Research Serv. 2002) (available at <http://usinfo.state.gov/usa/infousa/tech/reports/

passage of any of these proposals in the near future. Speculating on their effectiveness would be, at best, premature. There is supposed to be some type of summit meeting soon between Senator Ernest Hollings (D. SC), the chairman of the Commerce Committee who opposes Tauzin-Dingell or has opposed it in the past, and Representative W.J. "Billy" Tauzin (R. LA), Chairman of the House Commerce Committee, whose name is obviously on the bill and who supports it, to discuss moving the legislation. That bill, which is getting more attention than all of the other legislative initiatives I mentioned, combined, is not really about closing the digital divide at all. That bill is about refighting the compromises of the 1996 Act and it is about (and I'll try to put this as objectively and neutrally as possible) the competitive restrictions facing the incumbent local telephone companies, the timing of when their largest competitors can expect competition, and the arenas in which this competition will take place. That is what that fight is about. It is a fight between the rich and the very wealthy. That is why there are so many television ads and that is why it will go on for a long time. A cynic, not me, would say it is such a gravy train, that the members of Congress, lobbyists and public relations firms would be broken hearted to see that problem solved. Terrible.[67]

Turning to proposals about content, let me say again that efforts to control content, to make substantive distinctions, have historically backfired. There is a wonderful book by Thomas Krattenmaker and Lucas Powe on the history of failed broadcast regulations and censorship and they make a number of these points.[68] I will just give you two quick perspectives from high altitude regarding intellectual property and privacy aspects of the digital divide. One relates to copyright protection that exists for holders of creative rights for original works. There is a big argument that is being waged right now over whether the pendulum, the historic balance between holders and users has swung too far to the side of the holders and that it is restricting availability for users. Professor Lawrence Lessig is leading an effort to analyze that and to use concepts, such as the so-called "commons" of intellectual property, in order to make content

r130719.pdf>, last accessed Feb. 5, 2003).

67. An optimist will believe news reports that the legislation has new momentum and better prospects in the 108th Congress. *Broadband Legislation Could Resurface, House Aide tells CATO*, Communications *Daily* 7 (Nov. 15, 2002).

68. Thomas G. Krattenmaker and Lucas A. Powe, Jr., *Regulating Broadcast Programming* (MIT Press 1994).

available to more people.[69] Those who followed the *Napster*[70] cases have a sense of this debate. Privacy issues relating to content are incredibly complicated and complex and they are also restricting the availability of content (rightfully so) in many instances. These are tough, tough issues to think through. Earlier, we mentioned the curious observation that the practice of "red lining," which has excluded minorities and lower income people from housing, business opportunities, financing, and other opportunities could conceivably, perversely, be used to increase the use of online services by minority and lower income citizens, because they become easier to profile given the amount of personal data that is available and compilable online.[71] This one small but important example suggests the complexity of how privacy legal concerns overlay and potentially complicate, the digital divide debate.

Once again I am consuming too much time. I must jump to the end and get right to the answers, the solutions. What do we do about all of this? First, keep up the effort. We talked about Zeno's endless tortoise chase and search for the wall. If you think of other Greek images you will feel that those challenges are not so tough. You know the myths: Tantalus and Sisyphus, the grapes are always moving just out of reach, that rock always keeps rolling back down, but it is ennobling, worthwhile to keep reaching, to keep pushing, to keep trying.[72] Second, keep measuring. Let's know what we are talking about. It is very easy to get all hyped up and emotional about all of these issues, but the kind of periodic reports, examining data over time, and debating points in terms of what will be useful to measure or not can be worthwhile. Personally, I really do not care about the growth rate of Internet use for Martians or Plutonians. But I do want to know how many people and what kind of people are on the wrong side of the digital divide, and how their access to the Internet and their growth rates compare to the access and growth rates for people who have already arrived online. Let's hope that the NTIA studies continue, that we continue to collect, monitor, analyze and debate the

69. *See e.g.*, Lawrence Lessig, *Who's Holding Back Broadband?*, The Washington Post A17 (Jan. 8, 2002).

70. *A&M Records, Inc. v. Napster,*, 284 F.3d 1091 (9th Cir. 2002), *affirming* 191 F. Supp. 1087 (N.D. Cal. 2002); *A&M Records, Inc v. Napster*, 239 F.3d 1004, (9th Cir. 2001) *affirming in part, reversing in part, and remanding in part*, 141 F. Supp. 2d 896 (N.D. Cal. 2000).

71. *See* Lawrence Lessig, *Code: And Other Laws Of Cyberspace*, ch. 11 at 154-56, Basic Books (1999).

72. *See* Albert Camus, *The Myth of Sisyphus* (Justin O'Brien, transl.) (available at http://stripe.colorado.edu/~morristo/sisyphus.html, last accessed Feb. 5, 2003).

data.

We need to innovate with approaches and programs. I do not think our existing structures and systems, which were reflective of a past era, are going to work as a universal service system for the Internet in the future. The idea that you just adopt a tax incentive, as some have proposed, is also unappealing, at least as a comprehensive solution. Look, for example, at community programs and a marriage between the private sector and state and local governments. It might be feasible and profitable for companies to make computers available for no or low cost.[73] I have never figured out why the cell phone company does not give me the cell phone. I spend so much time on it, and they make so much money on my usage, it must be in their best interest to make sure I have a cell phone. They should give me a phone. If anybody here in the audience is from that sector, I would be happy to take one. Innovate with technology, too. We do not have to just be thinking about electronic, digital services that are available at home, school and the workplace. They can be available at a kiosk, through a pay phone, in other facilities available in other ways; perhaps, worn on your wristwatch. Technology will in fact help us come up with novel solutions to closing the digital divide.

Try. Study. Innovate. Do not look back, look ahead. Let's not get there and find out the tortoise has moved through and beyond the wall. Stated another way, we need to reach consensus on what kind of information technology, and what level of literacy, is necessary for our collective future. What basic tools are needed for economic opportunity, for access to governmental services, and for participation in democracy? I suspect our perception of what is "necessary" and "basic" will evolve, as the technology evolves. Our work to close the digital divide is unlikely ever to end.

73. *See* Thierer, *supra* n.5 at 2-6.

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