

Panel No. 1: What we've learned from the 'unbundling' regulation episode

Bob Crandall

Crandall has been a Senior Fellow in Economic Studies at the Brookings Institution since 1978. His areas of economic research include antitrust, telecom, the auto industry, competitiveness, deregulation, environmental policy, industrial organization and policy, mergers, and regulation.

Crandall has written widely on telecom policy, the economics of broadcasting, and the economics of cable television. He has authored or co-authored seven books on communications policy published by the Brookings Institution, including, most recently, *Competition and Chaos: U.S. Telecommunications since the 1996 Act*.

Crandall is a founder and former Chairman of Criterion Economics LLC, an economic consulting firm that provides corporate strategy analysis for clients concerning economic litigation, regulation or legislation, particularly involving telecommunications and other network industries.

Crandall has consulted on regulatory and antitrust matters to the Antitrust Division of the DOJ, the Federal Trade Commission, the Canadian Competition Bureau, and more than 20 companies in the telecom, cable, broadcasting, newspaper publishing, auto and steel industries. He has also consulted the Department of Treasury and the EPA. Crandall has taught economics at MIT and GWU. He held several roles in the Council on Wage and Price Stability in the Executive Office of the President during the Ford and Carter administrations.

Crandall received his A.B. from the University of Cincinnati and Ph.D. from Northwestern University.

Nick Economides

Economides is an economics professor at NYU's Stern School of Business. He is also the creator and Executive Director of NET Institute, a non-profit devoted to research on network industries, electronic commerce, telecommunications, the Internet and network issues generally. He has been a visiting fellow at the Hoover Institution at Stanford University; a visiting professor at Stanford's economics department; visiting scholar at the Federal Reserve Bank of New York; and an associate professor at Columbia University.

His research, scholarship, and teaching interests include Industrial Organization, Network Industries, Structure of Financial Markets, and Law and Economics.

Economides received his M.A. and Ph.D. at the University of California, Berkeley and a B.Sc. from the London School of Economics.

Marius Schwartz

Professor of Economics at Georgetown since 1983, Schwartz's research and teaching concerns industrial organization, competition, and regulation.

Schwartz served as Economics Director of Enforcement at the U.S. DOJ Antitrust Division from September 1998 to April 2000, then as Acting Deputy Assistant Attorney General for Economics for six months. He served as Senior Economist for industrial organization matters at the President's Council of Economic Advisers from April 1995 to June 1996.

Schwartz received his Ph.D. from UCLA and a B.Sc. from the London School of Economics.

Panel No. 2: Broadband regulation and Net Neutrality

FCC Commissioner Michael Copps

Copps was sworn in for a second term as FCC Commissioner in January 2006. He was sworn in for his first term in 2001.

Until January 2001, Copps served as Assistant Secretary of Commerce for Trade Development at the U.S. Department of Commerce, where he was previously Deputy Assistant Secretary of Commerce for Basic Industries. Copps came to Washington in 1970, serving for over a dozen years as Chief of Staff for Senator Ernest Hollings (D-SC). He has also held positions at a Fortune 500 company and at a major trade association. Before coming to Washington, Copps was a professor of U.S. History at Loyola University of the South.

Copps received a B.A. from Wofford College and a Ph.D. from the University of North Carolina at Chapel Hill.

Robert Pepper

Pepper is the Senior Managing Director for Cisco's Global Advanced Technology Policy, where he works to advance a global policy agenda for wireless, voice-over-Internet protocol, broadband services, and security technology policy.

In a recent article for *Network World*, Pepper weighed in on the net neutrality debate, writing that the "debate sets out a false choice. The current discussion is framed as all or nothing. That is, without new regulation there will be anticompetitive behavior. This is patently false."

Pepper joined Cisco after 19 years at the FCC (under six different chairmen), where he was most recently the FCC's chief-policy development. As part of his work at the FCC, Pepper developed methods of understanding how the new technology affects traditional forms of communication, and how digital television, broadband, broad-spectrum auctions and digital commerce meshes with social policy.

A highly regarded expert in the telecommunications field, Pepper has been a key player in a number of telecommunications arenas, including the fallout from the break-up of AT&T and the implementation of the Telecommunications Act of 1996.

Before joining the FCC, Pepper taught at U. Penn, where he directed a joint project with USC known as the Annenberg Washington Program in Communications Policy Studies.

Pepper received his Ph.D. from the University of Wisconsin-Madison.

Tom Hazlett

Hazlett is a law and economics professor at George Mason University School of Law, where he also directs the Information Economy Project at the National Center for Technology and Law.

Hazlett's teaching and scholarship concerns telecommunications policy. He has published widely and is currently a columnist for the Financial Times' New Technology Policy Forum. He frequently provides expert testimony to the courts, government agencies, and the U.S. Congress, and has served as a consultant to public and private organizations throughout the world.

Hazlett has taught at the University of California, Davis, Columbia University, and the Wharton School of the University of Pennsylvania. In 1991-92, he served as Chief Economist of the Federal Communications Commission in Washington, D.C.

Hazlett received his Ph.D. in Economics from U.C.L.A.

Tom: Video!

: presentations on TP.com?
sub-sites? Haylett site?

John Benington
re: SB audit?
a Haylett?

What actually is the ILEC proposal that provides net neutrality?

CTW: 3 nets = monop

2 local access providers = competition?

CTW - Bob Grandell

Google ad model \Rightarrow Policy also

Get Haylett Net Neutrality slides

GMA: create "open access" teaching courses
using Hyatt, lobbyists NVTC etc
to attract them to GMA

: closed by-invitation mini-conference, (for record?)

Clay T. Whitehead

From: Thomas Hazlett [twhazlett@gmail.com]
Sent: Thursday, August 24, 2006 5:25 PM
To: Clay T. Whitehead
Cc: Daniel Polsby
Subject: Re: Alan Merten
Attachments: WSJ.BB.8.12.06.doc

Tom W:

Too bad about Merten's schedule. The session is booked for Oct. 4, 4:00 to 5:30 pm. I or Dean Polsby will intro Merten, who will intro Lamb. Lamb will speak for 45 minutes or so, and then we'll do Q&A. Then we'll break for a reception, 5:30 to 6:30 pm in the Atrium. After that, dinner -- probably commencing at 7pm. If the Cosmos Club works, that's great. If not, we'll go to Plan B.

Also, I have arranged a session at GMU on Sept. 28 -- LESSONS FROM THE TELECOM WARS. I've got three prominent economists, Bob Crandall (Brookings), Nick Economides (NYU), and Marius Schwartz (Georgetown) to face off on what we've learned from the 'unbundling' regulation episode. The second panel will discuss broadband regulation and Net Neutrality; Commissioner Copps has been invited, as has Robert Pepper from Cisco -- as have I (I have accepted my invitation, but the others haven't been so quick!). I wrote the attached piece in the WSJ Aug. 12, and it picks up on Commr. Copps' challenge from one year ago to assess the results of DSL deregulation, and I'm hoping he'll want a forum in which to talk about this (if only to critique my assessment).

Anyway, this Sept. 28 seminar, planned for the afternoon (2-5 pm), is on the eve of the TPRC meetings and might give us critical mass for the sort of dinner I thought you were suggesting. If you are up to two dinners in two consecutive weeks, we could try to set this up for the evening of Sept. 28. I'm hoping that the dean's schedule would allow him to join us for each dinner, as well.

Best--

Tom Hazlett

Clay T. Whitehead wrote:

Alan is confirmed for introducing Brian on October 4, but cannot attend the dinner. Send more details when you have them. It's at 4:00, right?

Regards,
Tom

9/16/2006

Pooling Patent

During World War I, the Navy took at least two major actions in the radio field. First, to control the airwaves the Navy took over operations of all high-power U.S. radio stations and closed amateur radio stations in 1917.¹ Second, it cleared the way for the production of vacuum tubes. Radio technology, including vacuum tubes, was the subject of many patents in the 1900s. These patents "tied most [vacuum-tube production] companies into knots" because of the risk of infringement.² The Navy was keen to use vacuum tubes for its wireless communications, but needed to resolve the patent conflict before manufacturers would supply the tubes. The Navy provided indemnity for manufacturers by assuming the risk of infringement suits by patent holders.³ Although this temporarily dealt with the problem during war-time, after WWI the patent problem returned.

Immediately after the war in 1919, American Marconi approached GE about exclusive rights to a powerful alternator made by GE and known to be the "best and most reliable transatlantic radio communication device" of the time.⁴ The Navy strongly opposed this deal as it gave a foreigner a monopoly on U.S.-Europe radio communications.⁵ The Navy still controlled American Marconi-owned high-power stations.⁶ Under pressure, British Marconi sold its stake in American Marconi to GE, which then bought out the American shareholders of

¹ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 48, 56 (2002).

² CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 49 (2002).

³ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 49 (2002).

⁴ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 57 (2002).

⁵ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 57 (2002).

⁶ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 58 (2002). The Navy was ordered to return all stations to their owners by March 1, 1920. *Id.* at 57.

American Marconi.⁷ GE formed the Radio Corporation of America (RCA), and transferred the American Marconi assets over to it.⁸ The Navy released the American Marconi stations.⁹ GE and RCA cross-licensed each other for their radio patents.

On July 1, 1920, GE, RCA, and AT&T signed a patent pooling and cross-licensing agreement that allowed for the commercial sale of triodes, a component of the vacuum tube, to be sold legally.¹⁰ More patents came into the pool over time, including the Westinghouse radio portfolio by June 1921.¹¹

AT&T Gets Out of Radio

The patent pool, however, was not without restrictive language. AT&T claimed that under the pooling agreement it had the exclusive right to provide the communication links for chain (network) broadcasting.¹² AT&T owned station WEAf and carried its affiliates on its own (Bell System) network, relegating the other stations to the inferior Western Union lines.¹³ On this dispute and others, AT&T, Westinghouse, GE, and RCA agreed to binding arbitration in 1925.¹⁴ AT&T threatened to withdraw from the patent pool, which would have set the entire industry back to the post-war production stalemate.¹⁵ In early 1926 the companies agreed that

⁷ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 58 (2002).

⁸ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 58 (2002).

⁹ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 58 (2002).

¹⁰ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 59 (2002).

¹¹ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 61-62 (2002).

¹² CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 75 (2002).

¹³ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 75 (2002).

¹⁴ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 76 (2002).

¹⁵ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 76 (2002).

AT&T could have a monopoly on the connections between stations, in exchange for getting out of station-ownership for eight years.¹⁶

[Anything about preferential rate structure for GE, RCA, and Westinghouse?] [NBC? CBS? Did they get into this agreement too?] [Congressional concern about AT&T?]

Radio Regulation & Allocations – The Rise of Localism

In 1927, shortly after the deal between AT&T, RCA, GE, and Westinghouse, the Congress created the Federal Radio Commission through the Radio Act.¹⁷ The Radio Act was “passed in response to congressional concern regarding the concentration of many radio licensees within small geographic areas around major cities, leaving the more remote and less populous communities without radio service.”¹⁸

The Radio Act carved the U.S. into five geographic zones [why?]. An amendment to the Radio Act, the Davis Amendment, required equality in the number of stations, power, and broadcasting time between each of the five zones.¹⁹ In 1928, the FRC adopted General Order 40, which allocated 40 channels to high-power broadcasting, 35 channels to regional stations with medium-power, and 21 channels for low-power local stations.²⁰ [Generally, it was the larger companies who owned the high-power stations, so General Order 40 cleared the air for dominance by [companies].]

This set the pattern for only a few high-power stations.

¹⁶ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 77 (2002).

¹⁷ Pub. L. No. 69-632, 44 Stat. 1162 (1927).

¹⁸ David M. Silverman & David N. Tobenkin, *The FCC's Main Studio Rule: Achieving Little for Localism at a Great Cost to Broadcasters*, 53 FED. COMM. L.J. 469, 474 (2001).

¹⁹ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 143-44 (2002).

²⁰ FCC, General Order 40, Aug. 30, 1928; CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 144-45 (2002).

History of Television Channel Allocations

Early television was managed by the Federal Radio Commission. It is not surprising therefore that spectrum allocation for television traces its roots to radio. [Summary of radio spectrum allocation.]

In 1928, the annual report of the Federal Radio Commission (FRC) indicated that experimentation was under way with “visual” broadcasting, but that it was “only a matter of speculation.”²¹ In 1929, the FRC allocated four channels for experimental visual broadcasting.²² Experimentation continued throughout the 1930s but the industry did not reach consensus on technical standards for television during that time.²³ At the same time, the Federal Communications Commission (FCC) was established by the Communications Act of 1934, and subsumed the work of the FRC.²⁴ The FCC, citing discord in the industry, declined to set technical standards.²⁵ However, the FCC increased the number of channels available to television—allocating 19 channels in 1937.²⁶ In 1939, the FCC began to receive its first applications for commercial broadcasting.²⁷ In late 1939, the FCC adopted rules that permitted limited commercial television.²⁸ The industry still lacked technical standards, and the FCC was torn between allowing experimentation and protecting the public from investing in technologies

²¹ **Get 1928 FRC Annual Report**; Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 10 (Sept. 13, 1948).

²² Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 12 (Sept. 13, 1948).

²³ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶¶ 13-15 (Sept. 13, 1948).

²⁴ Communications Act of 1934.

²⁵ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 17 (Sept. 13, 1948).

²⁶ **Get FCC Order 19**; Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 16 (Sept. 13, 1948).

²⁷ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 17 (Sept. 13, 1948).

²⁸ **Get Nov. 15, 1939 report**. Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 18 (Sept. 13, 1948).

that might quickly become obsolete.²⁹ In February 1940, the FCC warned that “nothing should be done to encourage a large public investment in television receivers.”³⁰

In March 20, 1940, RCA rolled out a marketing campaign aimed at encouraging sales of television receivers.³¹ Faced with the possibility of “large public investment” in television sets that might either become obsolete or lead to the establishment of a de facto technical standard, the FCC repealed its rules permitting limited commercial broadcasting.³²

Under pressure to set standards before the FCC would permit commercial television broadcasting, the Radio Manufacturers Association formed the National Television Systems Committee (NTSC) in 1941.³³ Although unable to set color television standards, the NTSC submitted standards to FCC for monochrome television.³⁴ In a single order in April 1941, the FCC approved the NTSC standards and opened 18 channels to commercial broadcasting.³⁵

Commercial stations began to pop up: two in New York City, one in Philadelphia, another in Schenectady, and a fifth in Chicago.³⁶ With only these five stations in operation, World War II intervened.³⁷ In April 1942, the War Production Board required manufacturers to stop producing civilian radio receivers; ordering them to produce military sets instead.³⁸ This expanded to include television manufacturers as well.³⁹ Even with a functioning receiver,

²⁹ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 19 (Sept. 13, 1948).

³⁰ **Get Feb. 29, 1940 report.** Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 19 (Sept. 13, 1948).

³¹ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 167 (2002); Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 19 (Sept. 13, 1948).

³² Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 19 (Sept. 13, 1948); **Get Report Repealing Rules.**

³³ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 20 (Sept. 13, 1948).

³⁴ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 20 (Sept. 13, 1948).

³⁵ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 21 (Sept. 13, 1948).

³⁶ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 22 (Sept. 13, 1948).

³⁷ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 22 (Sept. 13, 1948).

³⁸ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 245 (2002).

³⁹ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 245 (2002).

television and programming was slim.⁴⁰ The five existing television stations were allowed to continue broadcasting, and they “kept the art alive during the war.”⁴¹

The FCC held spectrum allocation hearings in 1944, “the most comprehensive proceeding of its kind in the history of radio.”⁴² Shuffling around the various groups requiring spectrum, such as civil aviation and military, the FCC allocated 12 channels to television—a 6-channel reduction from the earlier allocation.⁴³ In a subsequent speech, Commissioner Coy remarked that this allocation was “not intended to represent a satisfaction of television’s requirement; 12 simply represented the most VHF spectrum space . . . which, on a relative basis, the Commission then believed was justifiable.”⁴⁴ Commissioner Coy noted that television was experiencing a demand for growth at that time, so the reduction of channels was particularly unfortunate.⁴⁵ At 12 channels, “a nationwide and competitive system of television broadcasting could not be established.”⁴⁶ Despite the reduction in the number of channels, the industry presented its opinion that 12 channels was enough to start with.⁴⁷ In June 1945, the FCC issued an allocation report which gave television 13 channels, 12 of which were to be shared with “fixed and mobile services.”⁴⁸

After this report, the FCC engineering staff, working with industry representatives, was given the task of equitably assigning the 13 channels to cities in the United States in a way that

⁴⁰ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 245 (2002).

⁴¹ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 22 (Sept. 13, 1948).

⁴² Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 24 (Sept. 13, 1948).

⁴³ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 26 (Sept. 13, 1948).

⁴⁴ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 25 (Sept. 13, 1948).

⁴⁵ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 27 (Sept. 13, 1948).

⁴⁶ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 27 (Sept. 13, 1948).

⁴⁷ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 28 (Sept. 13, 1948).

⁴⁸ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 30 (Sept. 13, 1948).

minimized interference.⁴⁹ The engineers proposed to assign channels based on geographic distance.⁵⁰ Although antenna height and power were of interest, distance was the most important variable.⁵¹ The engineers considered two metrics in particular, the distance between co-channel assignments (the distance between Channel 2 in one city and Channel 2 in another city) and between adjacent assignments (the distance between Channels 2 and 3 in any area). The engineers proposed various distances between co-channel assignments—200 miles, 170 miles, 150 miles—but those would have restricted New York City and other major cities to fewer channels than were available.⁵² By reducing the spacing for “community stations”⁵³ the FCC was able to provide a few more channels to the big, congested cities—Washington and Philadelphia got three, Chicago got five, and New York City got four.⁵⁴

Shortly after the FCC released its assignment plan, the wartime construction ban was lifted. On October 7, 1945, the FCC rescinded its orders halting construction of new television stations, and the FCC began to sift through the 118 applications for new television facilities that piled up during the war.⁵⁵

On October 11, 1945, hearings were held on the allocation plan. The industry argued that the major cities needed more channels.⁵⁶ Proposing the use of directional antennae and closer

⁴⁹ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 31 (Sept. 13, 1948); CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 319 (2002).

⁵⁰ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 319 (2002).

⁵¹ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 320 (2002).

⁵² Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶¶ 32-34 (Sept. 13, 1948); CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 320 (2002).

⁵³ Community stations were lower-power assignments that operated on channels 1, 12 and 13. Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 35 (Sept. 13, 1948).

⁵⁴ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 35 (Sept. 13, 1948).

⁵⁵ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 23 (Sept. 13, 1948).

⁵⁶ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 37 (Sept. 13, 1948).

channel spacing, the industry submitted a new allocation plan to the FCC.⁵⁷ The FCC rejected this plan because of concerns voiced by the Civil Aeronautics Administration about the location of the directional antennae.⁵⁸ Instead, the FCC adjusted the allocation plan in November 1945 to meet industry's proposal, not using directional antennae but shrinking the distances between channels to 150 miles or less.⁵⁹ FCC ultimately assigned seven channels to New York City by removing two local channels from nearby towns.⁶⁰

[big gap – what was going on?]

In May 1948, the FCC eliminated channel 1 and reallocated that spectrum to public safety uses. The plan to "share" spectrum with public safety on 12 channels did not materialize, and out of concern for "stable allocations for the vital safety and protective services" the FCC shifted the allocations for channel 1 to the other 12 channels.⁶¹ To do this, the FCC had to reduce channel spacing.⁶²

In some smaller towns, channels allocated by the FCC were not being used. In larger cities, would-be licensees were asking the FCC to assign those unused channels in nearby towns to them. On May 8, 1948, the FCC released a proposed plan that attempted to address this situation by reallocating the channels to meet demand.⁶³ The FCC generally observed the 150-mile co-channel separation and 75-mile adjacent channel separations, but in some areas the distances were "drastically reduced."⁶⁴

⁵⁷ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 38 (Sept. 13, 1948).

⁵⁸ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶¶ 38-39 (Sept. 13, 1948).

⁵⁹ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 40 (Sept. 13, 1948).

⁶⁰ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 320 (2002).

⁶¹ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 42-43 (Sept. 13, 1948).

⁶² Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 42 (Sept. 13, 1948).

⁶³ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 43-45 (Sept. 13, 1948).

⁶⁴ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 45 (Sept. 13, 1948).

Throughout this time, growth in television was not confined to the United States. As more television stations came online in the United States, Canada, Mexico, and Cuba also experienced television growth in the late 1940s, which increased interference with U.S. channels.⁶⁵ The sunspot phenomenon, or tropospheric propagation, also increased interference.⁶⁶ By Fall 1948, "the shortcomings of the 1945 allocation table became unbearable."⁶⁷ Indeed, in his September 13, 1948 speech, Chairman Coy noted that "[w]e have continually thrown away the 'safety factor' of greater mileage separations . . . and today the assignments on these 12 channels are exposed to interference."⁶⁸ To make adequate changes to the plan, he argued, new applications would "necessarily need to be held up pending the . . . final plan."⁶⁹

On September 20, 1948, the FCC called a freeze on the growth of television in the United States.⁷⁰ [Describe Freeze.] The Freeze lasted until 1952.⁷¹ Increasing co-channel separations the 1945 plan's distance of 150 miles, the 1952 plan called for 190-mile separations in most areas.⁷² The 1952 plan increased the distance in the Gulf states to 220 miles, and shortened it to 170 miles in the Northeast.⁷³ Where stations interfered, the FCC shifted them to allocations on the VHF band where they would not conflict.⁷⁴

⁶⁵ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 321 (2002).

⁶⁶ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 321 (2002); Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 46 (Sept. 13, 1948).

⁶⁷ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 321 (2002).

⁶⁸ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 51(b) (Sept. 13, 1948).

⁶⁹ Chairman Coy, Remarks at the Allocation of Television Channels Conference ¶ 56 (Sept. 13, 1948).

⁷⁰ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 319 (2002).

⁷¹ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 324 (2002). [get the Sixth Report and Order]

⁷² CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 324 (2002).

⁷³ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 324 (2002).

⁷⁴ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, *STAY TUNED: A HISTORY OF AMERICAN BROADCASTING* 324 (2002). [I don't follow this point...]

The effect of these geographic limits was to constrain the number of channels that could be viewed in any particular location. Those who already had licenses before the 1948 Freeze faced less competition under the 1952 plan.⁷⁵ Those who applied for licenses after the end of the 1948 Freeze complained that "a bit of interference was a small price to pay for healthy competition."⁷⁶

⁷⁵ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, STAY TUNED: A HISTORY OF AMERICAN BROADCASTING 325 (2002).

⁷⁶ CHRISTOPHER H. STERLING & JOHN MICHAEL KITROSS, STAY TUNED: A HISTORY OF AMERICAN BROADCASTING 325 (2002).

The Development of Cable Television: The 1960's and 1970's

World War II brought many new technologies and advances in communications,¹ including making higher spectrum frequency (above 890 MHz) available. In 1945, the FCC revisited the spectrum allocation to incorporate all the new over-the-air communications devices, including the newly invented medium of broadcast television.² When the FCC met in 1945, there were only six television stations in the entire nation, and all were broadcasting in black and white.³ The FCC allocated more radio frequency spectrum for the frequency band which used with the television channels, Very High Frequency (VHF).⁴ Within three years of this allocation, 109 stations were operational or under construction.⁵ However, due to unexpected technological problems, such as signal bouncing, and the advent of color, in September of 1948, the FCC decided to freeze the number of new television stations until it could resolve these new technical issues.⁶ The freeze remained in effect until 1952.⁷ Many communities who had expected local broadcast televisions had to go without.⁸ This fed the desire for cable television systems – or Community Antenna Television (CATV).

Because equipment manufactures were looking for new ways to use the spectrum above 890, and because the public wanted television, a few entrepreneurial men began to pick up network television signals and relay the signals via cable to communities without any television. In its inception, CATV created a way to feed clear television signals in to rural areas where reception was poor.⁹ CATV often required high towers to capture signals which were then sent by cable or microwave, for a fee, to the TV receivers of people in another town.¹⁰ This was especially popular in rural areas, which often were too far to receive a clear signal. Even after the FCC lifted its ban on construction of new

television stations in 1952, millions of Americans were still beyond the reach of broadcast television signals, helping CATV continue to grow.¹¹ By 1955, there were about 400 CATV systems with a total of 150,000 subscribers.¹² As more channels became available on the CATV systems, CATV entrepreneurs used these additional channels along with microwave relay systems to import broadcast signals from distant markets.¹³ Cable operators also saw an opportunity to acquire programming rights from movie studios or sports franchises, put these on a separate cable station and then charge customers a premium for access to these "pay TV" channels.¹⁴

Although broadcasters raised concerns about CATV, the FCC initially declared that the FCC lacked jurisdiction to regulate this new distant signal technology. In 1956, broadcasters petitioned the FCC to generate a policy regarding cable television. The FCC initially declined; it did not possess clear regulatory authority over CATV because the technology did not use the airwaves. Blocked by the FCC, the broadcasters began to lobby heavily for action in the Congress. They were able to persuade half a dozen members of Congress to introduce various versions of legislation to regulate cable and to limit its impact on broadcasting.¹⁵ Until 1962, the FCC had granted microwave licenses based on spectrum allocation, only denying a license if the signal would interfere with some other communications device.¹⁶ However, the FCC reconsidered and finally asserted jurisdiction over cable television in 1962,¹⁷ deciding it could deny a microwave license if the grant was likely to cause economic harm to a local broadcast station.¹⁸

As CATV continued expanded at a rapid pace,¹⁹ including into markets which already had local stations, the networks became alarmed with the new technology, which created competition with the local stations from distant stations.²⁰ The networks feared

that with fewer people watching a station, advertising revenues would decrease.²¹ As FCC Commissioner Kenneth Cox noted in 1966, the FCC became concerned when, in the mid-1960's, well-publicized plans for CATV to move into major markets emerged.²² In addition to lobbying the FCC, networks also filed lawsuits alleging that CATV was an illegal infringement on network and film company ownership of specific programs and broadcast materials.²³ In early 1965, a group called the Association of Maximum Service Telecasters, comprised of about 150 big-market stations, formally asked the FCC to bar cable systems from carrying TV signals beyond the Grade B contour (or about 80 miles from the station's signal source), to require that all cable systems carry all local TV stations and to ban cable companies from originating programming.²⁴

Under pressure from the networks²⁵ and in order to promote ultra-high frequency (UHF) television,²⁶ the FCC decided to regulate cable to protect the national system of broadcasting. Beginning in April of 1965, the FCC took its first official step toward regulating CATV by asserting jurisdiction over about 450 CATV systems nationwide which microwave radio links.²⁷ The new FCC rules required microwave CATV systems, as opposed from wire-based cable systems, to carry the signals of all local television stations and to refrain from duplicating the programs of local commercial stations for 15 days before and 15 days after the local broadcast.²⁸ Less than a year later, in February of 1966, with CATV continuing to become increasingly controversial, the FCC decided to exercise its authority over all 1,600 CATV systems nationwide, including those transmitting signals by wire.²⁹ In 1966, the FCC also recommended that Congress amend the Federal Communications Act to give it that authority.³⁰ Meanwhile, however,

local governments began granting cable operators franchises to bring better service to their communities.³¹

In 1968, the Supreme Court gave the FCC unlimited authority to regulate cable, ruling that the FCC's authority over all interstate communication by wire or radio permits the regulation of CATV systems.³² The Court also held that the FCC reasonably found that the successful performance of its duty to assist the development of broadcasting demanded prompt and efficacious regulation of CATV.³³ A few days after this decision, the Court also ruled that cable operators did not "perform" a company's copyrighted motion pictures when they received and transmitted broadcasts of the motion pictures to its customers; thus, cable operators did not infringe upon a company's copyright.³⁴

By 1968, there were about 2000 cable television stations operating in the country,³⁵ carrying six to ten channels, and capable of carrying up to 21 channels.³⁶ In December 1968, the FCC effectively froze the expansion of cable communications.³⁷ Specifically, the FCC froze all new applications for CATV systems in the nation's top 100 market areas by restricting the right of CATV systems in those metropolitan areas to retransmit programs broadcast by over-the-air television stations.³⁸ CATV systems were allowed to carry distant signals within specified 35-mile zones in the largest 100 markets only if the system had express authorization of the originating station to retransmit the programs to such distant signals.³⁹ Within a 35-mile zone of smaller markets, CATV systems could pick up programs without permission from three networks, one independent station and any educational stations.⁴⁰ To go beyond these five stations, the CATV network would have to get retransmission rights from other stations.⁴¹ Outside the 35-mile zone of the station, CATV systems could carry as many distant signals as

they chose, but had to use closer stations and could not "leap frog" to get more distant stations.⁴² At the same time, the FCC also proposed limits on ownership of CATV systems, based on the number of subscribers, the size of the communities and the regional concentration and other broadcast interest of the CATV operator.⁴³ The decision was 6-1, among the seven commissioners, with Commissioner Robert T. Bartley dissenting.⁴⁴

These regulations meant a freeze in the growth of the cable industry, upsetting many equipment manufactures and private owners of microwave systems, and anyone who wanted competition in the industry. Frederick W. Ford, president of the National Cable Television Association, accused the FCC of flouting the will of Congress, and called on the industry to fight for legislation to abolish all FCC control of CATV.⁴⁵ Ford was reported as accusing the FCC of trying "to bring to a halt to further expansion of CATV, disrupt the patterns of ownership, curtail any improvement of operating systems, and probably destroy the present manufacturing capacity of the industry."⁴⁶ FCC chairman Rosel Hyde said that he believed the actions "look toward development of additional services to the public."⁴⁷

Thus, a struggle began between CATV systems; the broadcasters, who were afraid of competition; Hollywood, who opposed distant signals as violating copyrights; and the promoters of the new UHF technology.⁴⁸

Although these restrictions may have slowed cable's expansion into urban markets, the overall rate of growth for the industry actually accelerated during the late 1960s.⁴⁹ AT&T took up an experimental interest in the cable business; broadcasters also started getting into the cable business in the 1960's. CBS became the first network to own a cable system when it bought the system in Vancouver, B.C., in November 1963;

Westinghouse Broadcasting Co. purchased four cable systems and a microwave operation in Georgia in 1964.⁵⁰ As cable grew despite the FCC regulations, organizations like the RAND Corporation, the Brookings Institution, and the Sloan Commission all began calling for more supportive regulation of cable.⁵¹

In October 1969, Irving B. Kahn, president and chairman of the board of TelePrompTer Corp. revealed that his firm was contemplating the eventual deployment of its own satellite communications system.⁵² Specifically, TelePrompTer requested that satellite communications provider Hughes study the feasibility and cost of relaying CATV programming via satellite and ground stations.⁵³ It was predicated that this would be a major influence on the future growth of CATV – as most CATV systems were in small cities.⁵⁴

In October 1969, the FCC issued a major report and order which allowed cable systems to present commercials at natural breaks, encouraged the development of public access channels, approved interconnection of cable facilities, provided that cable systems with 3,500 or more subscribers would be required to originate programming, adopted anti-siphoning rules for pay-cable operations, and adopted broadcast-type rules to deal with equal time, sponsorship identification, and fairness for CATV systems.⁵⁵ According to the FCC, the advertising revenues would help the CATV systems to produce a greater variety of programs and add to the televisions diversity.⁵⁶ Additionally, the FCC also stated that it wanted individual CATV systems to interconnect.⁵⁷ The local programming requirement created a hurdle for the cable industry, as it lacked trained staff for creating local production.⁵⁸ However, the CATV industry welcomed the FCC order.⁵⁹

In June, 1970 the FCC issued further proposals on television broadcast signal carriage, cross-ownership of cable systems and radio stations and cable and newspapers, multiple ownership, technical performance standards, minimum channel capacity, two-way transmission capability, local origination centers, and the division of jurisdiction between the federal and state-local levels of government.⁶⁰ These were followed later by proposals concerning the logging of cable-cast programming, equal opportunities in employment practices, and the use of call letters in connection with non-broadcast channels.⁶¹

In early 1971, the FCC held hearings on the future of cable, discussing a limited opening of the top 100 markets – which cable industry said would open up the country to them.⁶² In addition to increasing channels available to city customers, cable would benefit many viewers unable to receive quality over the air signals because of high-rise building or air traffic interference.⁶³ Following the public proceedings, the FCC formulated a cable program designed to allow for fulfillment of the technological promise of cable and, at the same time, to maintain the existing structure of broadcast television.⁶⁴

Under the Nixon administration, a committee was convened to allow the feuding parties to reach a solution which would allow cable to grow and carry new content. Many suggested that Nixon had a war on media, alleging that President Nixon wanted to promote cable to undermine the three networks; however the real purpose was the create competition and growth through cable.

The committee addressed the issue of copyright and programs used on cable television. Antonin Scalia headed this committee, which finally reached a compromise which provided payment to Hollywood and local broadcasters for the programming that

cable used. This compromise paved the way for congress to legislate during the early to mid 1970's.

Finally, in February 1972, the FCC issued a complex set of regulations, permitting cable systems in 100 big city markets to import distant signals as of March 31, 1972.⁶⁵ The new rules allowed cable systems in the top 50 markets to carry the programs of three full-networks stations and three full independent stations.⁶⁶ In markets 50-100, cable could carry three national signals and one independent signals.⁶⁷ In markets below the top 100, cable could carry three full network signals and one independent.⁶⁸ All cable systems had to carry all stations within 35 miles of it if the station desired, even if this exceeded the number designated by the market size.⁶⁹

This created excitement in big cities, such as Los Angeles, which would be able to receive signals from other cities as far away as New York.⁷⁰ However, CATV systems still had two hurdles in the big cities: the systems had to receive franchise for all areas and to needed lay the cable to bring the service to customers.⁷¹ Municipal governments maintain responsibility for overseeing the wiring homes through the right to award franchises.⁷²

In January 1974, a cabinet committee submitting a report to President Nixon proposing legislation that would exempt pay television from government regulation of program content, but would impose safeguards against monopolies.⁷³ However, in 1976, Congress had yet to pass any legislation, although a House subcommittee told the FCC to stop favoring the commercial broadcasters over cable television.⁷⁴

Also in 1974, the Supreme Court held that copyright laws did not require cable operators to pay producers or programs for the use of their shows.⁷⁵ Specifically, the

Court found that retransmission of distant broadcast signals by cable systems did not subject cable operators to copyright infringement liability because such retransmissions were not "performances" within the meaning of the 1909 Copyright Act.⁷⁶

This victory, however, was short-lived. In re-writing the Copyright laws, Congress concluded that cable operators should be required to pay royalties to the owners of copyrighted programs retransmitted by their systems on pain of liability for copyright infringement.⁷⁷ At the same time, Congress recognized that it would be impractical and unduly burdensome to require every cable system to negotiate appropriate royalty payments with every copyright owner in order to secure consent for such retransmissions.⁷⁸ The solution reached by Congress established a program of compulsory copyright licensing that permitted cable systems to retransmit distant broadcast signals without securing permission from the copyright owner and, in turn, requires each system to pay royalty fees to a central royalty fund based on a percentage of its gross revenues.⁷⁹

Thus, the FCC was able to end the freeze on cable television signals and allowed cable to resume its growth. From the late 1970's on, cable moved into more markets and added channels. Mr. Tople introduced co-axial cable and set box tops. Multi-channel television capability moved into homes.

In 1976, broadcasting executive Ted Turner bounced a broadcast signal from one of his stations off an earth uplink station that sent it to a satellite.⁸⁰ The satellite relayed the signal back down to nearly 1000 cable televisions throughout the country which own receiving stations.⁸¹

However, the cable operators soon encountered another problem: how to get more programming. No operator could support a national microwave system which covered the entire country. Mr. Levin, after experimenting with microwave and bicycling, created a national system with satellites.

¹ Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 1 (1998).

² Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 1 (1998).

³ Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 1 (1998).

⁴ Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 1 (1998).

⁵ Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 1 (1998).

⁶ Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 1 (1998).

⁷ Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 1 (1998).

⁸ Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 1 (1998).

⁹ "TV by Cable Has Stations in a Tangle," Cynthia Lowery, *Chicago Tribune*, April 10, 1966, Page 10.

¹⁰ "TV by Cable Has Stations in a Tangle," Cynthia Lowery, *Chicago Tribune*, April 10, 1966, Page 10.

¹¹ Thomas P. Southwick, *Distant Signals: How Cable TV Changed The World of Telecommunications* Chapter 2 (1998).

¹² Thomas R. Eisenmann, *Cable TV: From Community Antennas to Wired Cities*, Business History Review, Harvard Business School (2000).

¹³ Thomas R. Eisenmann, *Cable TV: From Community Antennas to Wired Cities*, Business History Review, Harvard Business School (2000).

¹⁴ Thomas R. Eisenmann, *Cable TV: From Community Antennas to Wired Cities*, Business History Review, Harvard Business School (2000).

¹⁵ Book Chapter 2

¹⁶ Book Chapter 3

¹⁷ Application of Carter Mountain Transmission Corp., Cody, Wyo.; For Construction Permit To Install an Additional Transmitter, To Transmit on Frequency 6387.5 Mc. Location: Copper Mountain, 20 Miles South of Worland, Wyo, Federal Communications Commission, 32 F.C.C. 459, (February 14, 1962). The FCC found that as the "guardian of the public interest, [it is] entrusted with a wide range of discretionary authority and under that authority [the FCC] may not only appraise the facts and draw inferences from them, but also bring to bear upon the problem an expert judgment from [its] analysis of the total situation as to just where the public interest lies . . . [The FCC is] merely considering the question of whether the use of the facility is in the public interest. . .

¹⁸ Book Chapter 3

¹⁹ By the mid-1960's there were more than 1,600 individual CATV systems nationwide, with more than 2.5 million homes using the service. "TV by Cable Has Stations in a Tangle," Cynthia Lowery, Chicago Tribune, April 10, 1966, Page 10.

²⁰ "FCC Begins Moving in on Cable Television Systems," Los Angeles Times, April 24, 1965 page A7; "TV by Cable Has Stations in a Tangle," Cynthia Lowery, Chicago Tribune, April 10, 1966, Page 10. The networks felt that local programming would be over-run by distant programming from big cities. For example, the president and general manager of a San Diego station stated that CATV systems, which enable viewers to receive Los Angeles programs, threaten the ability of existing and future local stations to provide free quality television geared toward the local needs, and would make a second-rate city of out San Diego and with Los Angeles stations dominating, local stations would not have ht revenue to present news and public service programs, essentially destroying free television and promoting pay television. See "Expansion of Cable TV Opposed in San Diego: Threat Seen to Ability of Existing and Future Local Stations to Serve Area," Los Angeles Times, March 19, 1966, Page 16; Thomas P. Southwick, Distant Signals: How Cable TV Changed The World of Telecommunications Chapter 2 (1998).

²¹ "TV by Cable Has Stations in a Tangle," Cynthia Lowery, Chicago Tribune, April 10, 1966, Page 10. Thomas P. Southwick, Distant Signals: How Cable TV Changed The World of Telecommunications Chapter 3 (1998). (stating that the "broadcasters panicked when a group of cable operators, led by Sterling's Charles Dolan, applied for permission to bring cable to the nation's biggest cities. . . . Within weeks the American Broadcasting Co. asked the FCC to impose regulations on cable")

²² "TV by Cable Has Stations in a Tangle," Cynthia Lowery, Chicago Tribune, April 10, 1966, Page 10.

²³ "FCC Begins Moving in on Cable Television Systems," Los Angeles Times, April 24, 1965 page A7. s

²⁴ Thomas P. Southwick, Distant Signals: How Cable TV Changed The World of Telecommunications Chapter 3 (1998).

²⁵ For example, Midwest Television Inc. asked the FCC to halt expansion of CATV systems in San Diego pending a study of public interest considerations. See "Expansion of Cable TV Opposed in San Diego: Threat Seen to Ability of Existing and Future Local Stations to Serve Area," Los Angeles Times, March 19, 1966, Page 16.

²⁶ "TV by Cable Has Stations in a Tangle," Cynthia Lowery, Chicago Tribune, April 10, 1966, Page 10.

²⁷ "FCC Begins Moving in on Cable Television Systems," Los Angeles Times, April 24, 1965 page A7; "FCC Debating Fate of Cable TV Firms," Los Angeles Times, February 11, 1966, page B11. Initially the FCC found authority to regulate all CATV operations, even those depending solely on wires to carry signals, but differed regulating the solely wire based system, which accounted for the bulk of the CATV operations, pending further inquiry.

²⁸ "FCC Begins Moving in on Cable Television Systems," Los Angeles Times, April 24, 1965 page A7.

²⁹ "FCC Debating Fate of Cable TV Firms," Los Angeles Times, February 11, 1966, page B11

³⁰ "TV by Cable Has Stations in a Tangle," Cynthia Lowery, Chicago Tribune, April 10, 1966, Page 10.

³¹ See "Television Cable Franchise Voted: 10-Year Pact to Offer Better Service to Hastings Ranch," Los Angeles Times, June 1, 1966, Page SG8; "Study Due on Cable Television," Chicago Tribune, July 10, 1966, Page IND_A3; "TelePrompTer Gets Franchises, Wall Street Journal, March 23, 1967, Page 12; "TV Franchise Cost Criticized by Firm, by John Glenn, Los Angeles Times, April 1, 1968, page SG1.

³² *United States v. Southwestern Cable Co.*, 392 U.S. 157, 178 (1968).

³³ *United States v. Southwestern Cable Co.*, 392 U.S. 157, 178 (1968).

³⁴ *Fortnightly Corp. v. United Artists Television, Inc.*, 392 U.S. 390 (1968)

³⁵ "Limited Pay TV Approved by FCC," Los Angeles Times, December 14, 1968, page 1, 6.

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- ³⁶ "F.C.C. Said to Plan Curb on Cable TV: Congressional Sources See Freeze on Applications – Pay Television Backed," New York Times, December 13, 1968, page 1.
- ³⁷ "F.C.C. Said to Plan Curb on Cable TV: Congressional Sources See Freeze on Applications – Pay Television Backed," New York Times, December 13, 1968, page 1.
- ³⁸ "F.C.C. Said to Plan Curb on Cable TV: Congressional Sources See Freeze on Applications – Pay Television Backed," New York Times, December 13, 1968, page 1.
- ³⁹ "Limited Pay TV Approved by FCC," Los Angeles Times, December 14, 1968, page 1, 6.
- ⁴⁰ "Limited Pay TV Approved by FCC," Los Angeles Times, December 14, 1968, page 1, 6.
- ⁴¹ "F.C.C. Said to Plan Curb on Cable TV: Congressional Sources See Freeze on Applications – Pay Television Backed," New York Times, December 13, 1968, page 1.
- ⁴² "Limited Pay TV Approved by FCC," Los Angeles Times, December 14, 1968, page 1, 6.
- ⁴³ "Limited Pay TV Approved by FCC," Los Angeles Times, December 14, 1968, page 1.
- ⁴⁴ "Limited Pay TV Approved by FCC," Los Angeles Times, December 14, 1968, page 1, 6; "Pay TV Test OK'd; Cable Rules Rapped," Chicago Tribune, December 14, 1968, page 3.
- ⁴⁵ "Pay TV Test OK'd; Cable Rules Rapped," Chicago Tribune, December 14, 1968, page 3.
- ⁴⁶ "Limited Pay TV Approved by FCC," Los Angeles Times, December 14, 1968, page 1.
- ⁴⁷ "Limited Pay TV Approved by FCC," Los Angeles Times, December 14, 1968, page 1, 6.
- ⁴⁸ "TV by Cable Has Stations in a Tangle," Cynthia Lowery, Chicago Tribune, April 10, 1966, Page 10. The organized broadcasters talked of safeguarding the American system of television, while the CATV organizations proclaimed the inalienable right of all people to maximum use of their television sets and a right to receive any programs made available to them. "Growth Seen for Cable TV," Chicago Tribune, March 8, 1971, page C7 (quoting Monroe M. Rifkin, president of American Television & Communications Corp., as stating cable's "basic enemies are certain individual stations and film people, the owners of programs.")
- ⁴⁹ Thomas R. Eisenmann, Cable TV: From Community Antennas to Wired Cities, Business History Review, Harvard Business School (2000).
- ⁵⁰ Thomas P. Southwick, Distant Signals: How Cable TV Changed The World of Telecommunications Chapter 3 (1998); "TV by Cable Has Stations in a Tangle," Cynthia Lowery, Chicago Tribune, April 10, 1966, Page 10.
- ⁵¹ Thomas R. Eisenmann, Cable TV: From Community Antennas to Wired Cities, Business History Review, Harvard Business School (2000). Eisenmann also notes that the RAND Corporation prepared two reports on cable TV in 1970: The Future of Cable Television: Some Problems of Federal Regulation, RM-6199-FF, Jan. 1970; and Richard A. Posner, Cable Television: The Problem of Local Monopoly, RM-6309-FF, May 1970.
- ⁵² Dan Knapp, Staff writer, "Cable TV-Satellite Plan Told," Los Angeles Times, October 23, 1969, page G18.
- ⁵³ Dan Knapp, Staff writer, "Cable TV-Satellite Plan Told," Los Angeles Times, October 23, 1969, page G18.
- ⁵⁴ Robert J. Samuelson, Staff writer, "FCC to Permit Advertising On Cable Television," Washington Post, Times Herald, October 25, 1969, page E1.
- ⁵⁵ Amendment Of Part 74, Subpart K, Of The Commission's Rules And Regulations Relative To Community Antenna Television Systems; And Inquiry Into The Development Of Communications Technology And Services To Formulate Regulatory Policy And Rulemaking And/Or Legislative Proposals; Amendment Of Section 74.1107 Of The Commission's Rules And Regulations To Avoid Filing Of

Repetitious Requests; Amendment Of Section 74.1031(C) And 74.1105 (A) And (B) Of The Commission's Rules And Regulations As They Relate To Addition Of New Television Signals; Amendment Of Part 74, Subpart K, Of The Commission's Rules And Regulations Relative To Federal-State Or Local Relationships In The Community Antenna Television System Field; And/Or Formulation Of Legislative Proposals In This Respect; Amendment Of Subpart K Of Part 74 Of The Commission's Rules And Regulations With Respect To Technical Standards For Community Antenna Television Systems, 36 F.C.C.2d 143, 145 (1972) (describing 20 FCC 2d 201 (1969)); Robert J. Samuelson, Staff writer, "FCC to Permit Advertising On Cable Television," Washington Post, Times Herald, October 25, 1969, page E1.

⁵⁶ Robert J. Samuelson, Staff writer, "FCC to Permit Advertising On Cable Television," Washington Post, Times Herald, October 25, 1969, page E1.

⁵⁷ Robert J. Samuelson, Staff writer, "FCC to Permit Advertising On Cable Television," Washington Post, Times Herald, October 25, 1969, page E1.

⁵⁸ Mary Begley, staff writer, "'Freeze' of Cable Claimed," Los Angeles Times, November 11, 1969, page B3.

⁵⁹ Robert J. Samuelson, Staff writer, "FCC to Permit Advertising On Cable Television," Washington Post, Times Herald, October 25, 1969, page E1 (reporting a spokesman for the National Cable Television Association stated the order was "very upbeat . . . extremely significant")

⁶⁰ Amendment Of Part 74, Subpart K, Of The Commission's Rules And Regulations Relative To Community Antenna Television Systems; And Inquiry Into The Development Of Communications Technology And Services To Formulate Regulatory Policy And Rulemaking And/Or Legislative Proposals; Amendment Of Section 74.1107 Of The Commission's Rules And Regulations To Avoid Filing Of Repetitious Requests; Amendment Of Section 74.1031(C) And 74.1105 (A) And (B) Of The Commission's Rules And Regulations As They Relate To Addition Of New Television Signals; Amendment Of Part 74, Subpart K, Of The Commission's Rules And Regulations Relative To Federal-State Or Local Relationships In The Community Antenna Television System Field; And/Or Formulation Of Legislative Proposals In This Respect; Amendment Of Subpart K Of Part 74 Of The Commission's Rules And Regulations With Respect To Technical Standards For Community Antenna Television Systems, 36 F.C.C.2d 143, 145 (1972) (citing Second Further Notice of Proposed Rule Making, 24 FCC 2d 580 (1970) for proposals on television broadcast signal carriage; Notice of Proposed Rule Making, 23 FCC 2d 833 (1971) for cross-ownership rules; Notice of Proposed Rule Making in Docket, 25 FCC 2d 38 (1970), 35 Fed. Reg. 11036 for technical performance standards, minimum channel capacity, two-way transmission capability, local origination centers; Notice of Proposed Rule Making, 22 FCC 2d 50 (1970), 35 Fed. Reg. 11044 for division of jurisdiction; Notice of Proposed Rule Making, 27 FCC 2d 18 (1971) for logging; Notice of Proposed Rule Making, 29 FCC 2d 18 (1971) for equal employment practices; and Notice of Proposed Rule Making, FCC 71-1084 (1971) regarding call letters).

⁶¹ Amendment Of Part 74, Subpart K, Of The Commission's Rules And Regulations Relative To Community Antenna Television Systems; And Inquiry Into The Development Of Communications Technology And Services To Formulate Regulatory Policy And Rulemaking And/Or Legislative Proposals; Amendment Of Section 74.1107 Of The Commission's Rules And Regulations To Avoid Filing Of Repetitious Requests; Amendment Of Section 74.1031(C) And 74.1105 (A) And (B) Of The Commission's Rules And Regulations As They Relate To Addition Of New Television Signals; Amendment Of Part 74, Subpart K, Of The Commission's Rules And Regulations Relative To Federal-State Or Local Relationships In The Community Antenna Television System Field; And/Or Formulation Of Legislative Proposals In This Respect; Amendment Of Subpart K Of Part 74 Of The Commission's Rules And Regulations With Respect To Technical Standards For Community Antenna Television Systems, 36 F.C.C.2d 143, 145 (1972) (citing Second Further Notice of Proposed Rule Making, 24 FCC 2d 580 (1970) for proposals on television broadcast signal carriage; Notice of Proposed Rule Making, 23 FCC 2d 833 (1971) for cross-ownership rules; Notice of Proposed Rule Making in Docket, 25 FCC 2d 38 (1970), 35 Fed. Reg. 11036 for technical performance standards, minimum channel capacity, two-way transmission capability, local origination centers; Notice of Proposed Rule Making, 22 FCC 2d 50 (1970), 35 Fed. Reg. 11044 for

division of jurisdiction; Notice of Proposed Rule Making, 27 FCC 2d 18 (1971) for logging; Notice of Proposed Rule Making, 29 FCC 2d 18 (1971) for equal employment practices; and Notice of Proposed Rule Making, FCC 71-1084 (1971) regarding call letters).

⁶² 36 F.C.C.2d 143, 146-147 (FCC 1972) (stating that in March, 1971 the FCC heard further oral presentations, part of which were in the form of panel discussions between the Commission and recognized authorities on specific issues); "Growth Seen for Cable TV," Chicago Tribune, March 8, 1971, page C7.

⁶³ "Cable TV Promises to Clear Up Picture, Add Some More," Chicago Tribune, January 27, 1971, page A4.

⁶⁴ 36 F.C.C.2d 143, 147.

⁶⁵ Robert Rosenblatt, staff writer, "New Rules for Cable TV Issued, Seen Widening Program Choice," Los Angeles Times, February 4, 1972, page A1.

⁶⁶ Robert Rosenblatt, staff writer, "New Rules for Cable TV Issued, Seen Widening Program Choice," Los Angeles Times, February 4, 1972, page A1.

⁶⁷ Robert Rosenblatt, staff writer, "New Rules for Cable TV Issued, Seen Widening Program Choice," Los Angeles Times, February 4, 1972, page A1.

⁶⁸ Robert Rosenblatt, staff writer, "New Rules for Cable TV Issued, Seen Widening Program Choice," Los Angeles Times, February 4, 1972, page A1.

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⁷⁰ Robert Rosenblatt, staff writer, "New Rules for Cable TV Issued, Seen Widening Program Choice," Los Angeles Times, February 4, 1972, page A1.

⁷¹ Robert Rosenblatt, staff writer, "New Rules for Cable TV Issued, Seen Widening Program Choice," Los Angeles Times, February 4, 1972, page A1.

⁷² Mike Castro, Staff writer, "Quiet Struggle Grows Over Shape of Cable TV's Future," Los Angeles Times, September 24, 1972, page SG1.

⁷³ Don Irwin, staff writer, "Plan for Developing Cable Offered: Plan Would Exempt It From Most U.S. Controls," Los Angeles Times, January 1, 1974.

⁷⁴ Sander Vanocur, staff writer, "Taking the FCC to Task For a Tilt Against Cable," The Washington Post, January 27, 1976, page C1.

⁷⁵ *Teleprompter Corp. v. Columbia Broadcasting System, Inc.*, 415 U.S. 394 (1974); Paul E. Steiger, staff writer, "Cable TV Wins Fight Over Copyright Fees: High Court Rules Operators Can't Be Charged Royalties," Los Angeles Times, March 5, 1974, page B6.

⁷⁶ *Teleprompter Corp. v. Columbia Broadcasting System, Inc.*, 415 U.S. 394 (1974); Paul E. Steiger, staff writer, "Cable TV Wins Fight Over Copyright Fees: High Court Rules Operators Can't Be Charged Royalties," Los Angeles Times, March 5, 1974, page B6.

⁷⁷ Copyright Revision Act of 1976, 90 Stat. 2541, 17 U. S. C. § 101 *et seq*; *Capital Cities Cable v. Crisp*, 467 U.S. 691, 709 (U.S. 1984).

⁷⁸ *Capital Cities Cable v. Crisp*, 467 U.S. 691, 709 (U.S. 1984) (citing Copyright Law Revision, H. R. Rep. No. 94-1476, p.89)

⁷⁹ *Capital Cities Cable v. Crisp*, 467 U.S. 691, 710 (U.S. 1984); Copyright Revision Act of 1976, 90 Stat. 2541, 17 U. S. C. § 101, §111(d).

⁸⁰ Anne LaRiviere, staff writer, "UCI Channels Culture to Cable TV," Los Angeles Times, July 31, 1979, page OC_C1.

⁸¹ Anne LaRiviere, staff writer, "UCI Channels Culture to Cable TV," Los Angeles Times, July 31, 1979, page OC_C1.

community formation & growth

organic

"Activation energy"

overlap & ties to real world

aggregation

advertisement

brands

creating community difficult

joining / affinity embracing easier.

Authenticity by MSM
vs Creation

context
perspective

Trust

Identity, reputation

Technorati.com

↳ US as brand?

Western World?

Antidote for bad speech is more good speech
How? Islam?

GMV - evolving econ

Vern Smith

Trust, reputation systems

"When Old Technologies Were New"
Isid.

? contact info for —

TV is on way out, but video is still alive

→ kerosene lantern satt revs

Google MIT v:Fi connector
2^d life unit for devel countries
Crashkit for "

cap intensification
large conf; int'l knowledge

lower cost of entry entry
wider access to info.
peer - peer learning & collaboration
thru \$100's millions → thousands

local access channel
 teacher video prodn? GMA?
 Journal for antitrust / Toffler

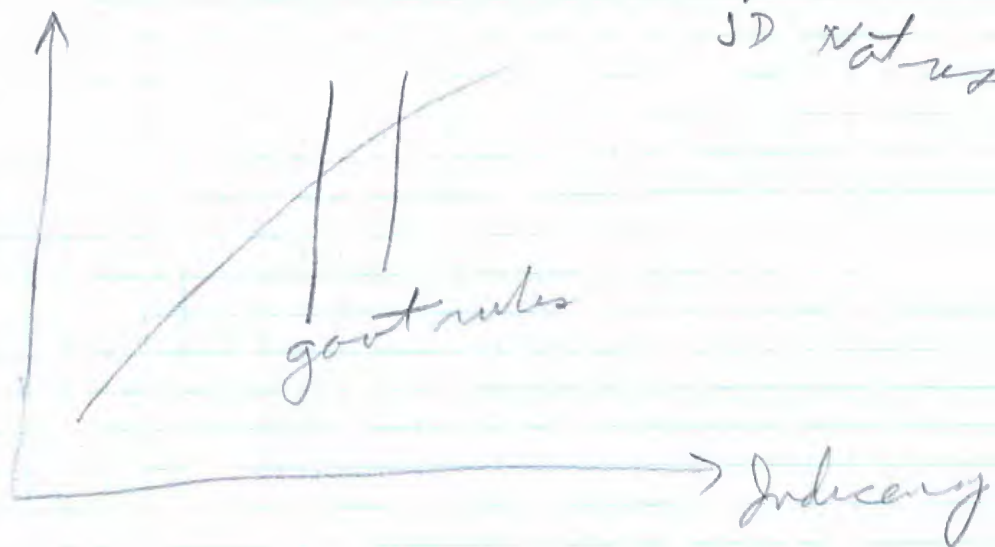
\$400K/yr
 John Hunter?
 Co. Collier
 H.G.
 Credit Board
 now?

all 5 chs? "primary"?
 restrictions "put airwaves" network
 { ed bureaucracy ads only on sec ch or collected?

Wiley?
 Lindbergh?
 SEC? Fidelity
 Am Cap Corp?
 FDA?
 FTC
 FDA
 Willard?

email Haylett

Viewership of political ads



SSAIX
 stay in
 SD Not reason?

INSTRUCTOR INFORMATION

NAME: Sockett, Lisa
COLLEGE: School of Law
DEPT: Law
COURSE: LAW 614
SECTION: 001

RESPONSE KEY

E. EXCELLENT. . . (5)
G. GOOD. . . (4)
S. SATISFACTORY. . . (3)
M. MARGINAL. . . (2)
P. POOR. . . (1)

DEMOGRAPHIC INFORMATION

	1	2	3	4	5	6	NA
Class Level: 1=Fresh 2=Soph 3=Jr 4=Sr 5=Grad 6=other	0	0	0	0	6	2	1
Course is: 1=major req'mt 2=gen ed req'mt 3=elective 4=N	1	0	7	1	0	0	0
Expected Grade: 1=A 2=B 3=C 4=D 5=F 6=Audit	4	4	0	0	0	0	1
Cum. GPA: 1=4.0--3.5 2=3.4--2.8 3=2.7--2.0 4=under 2.0	2	5	1	0	0	0	1
# Times Absent: 1=0 to 1 2=2 3=3 4=4 5=5 or more	5	2	1	0	0	0	1

PERCENTAGES

ITEMS	(1) P	(2) M	(3) S	(4) G	(5) E	AREA	MEAN	MEDIAN	S.D	# Resp.
1. My instructor's preparation for the class	0.0	0.0	0.0	11.1	88.9	CLASS	4.89	5.0	0.33	9
	0.4	1.4	6.8	28.1	63.4	DEPT/PROGRAM	4.53	5.0	0.72	2,453
	0.4	1.4	6.8	28.1	63.4	COL/SCHL/INST	4.53	5.0	0.72	2,453
	0.8	2.1	7.1	25.6	64.5	UNIVERSITY	4.51	5.0	0.78	68,742
2. The organization of the course material	0.0	0.0	22.2	11.1	66.7	CLASS	4.44	5.0	0.88	9
	1.2	4.4	14.3	41.3	38.8	DEPT/PROGRAM	4.12	4.0	0.89	2,446
	1.2	4.4	14.3	41.3	38.8	COL/SCHL/INST	4.12	4.0	0.89	2,446
	1.5	3.2	10.3	30.5	54.5	UNIVERSITY	4.33	5.0	0.89	68,839
3. The motivation to learn provided by my instructor	0.0	0.0	11.1	33.3	55.6	CLASS	4.44	5.0	0.73	9
	2.2	5.5	15.8	35.0	41.4	DEPT/PROGRAM	4.08	4.0	0.99	2,448
	2.2	5.5	15.8	35.0	41.4	COL/SCHL/INST	4.08	4.0	0.99	2,448
	2.6	4.4	11.9	27.6	53.5	UNIVERSITY	4.25	5.0	1.00	68,578
4. The intellectual challenge provided by my instructor	0.0	0.0	11.1	44.4	44.4	CLASS	4.33	4.0	0.71	9
	1.0	3.5	12.9	34.8	47.9	DEPT/PROGRAM	4.25	4.0	0.88	2,445
	1.0	3.5	12.9	34.8	47.9	COL/SCHL/INST	4.25	4.0	0.88	2,445
	1.5	3.1	9.8	29.1	56.5	UNIVERSITY	4.36	5.0	0.89	68,528
5. The fairness in which my instructor dealt with me	0.0	0.0	0.0	22.2	77.8	CLASS	4.78	5.0	0.44	9
	0.9	2.2	8.7	30.3	58.0	DEPT/PROGRAM	4.42	5.0	0.81	2,339
	0.9	2.2	8.7	30.3	58.0	COL/SCHL/INST	4.42	5.0	0.81	2,339
	1.2	2.1	6.6	22.4	67.6	UNIVERSITY	4.53	5.0	0.81	68,138
6. The overall rating of this course	0.0	0.0	0.0	44.4	55.6	CLASS	4.56	5.0	0.53	9
	1.1	3.8	11.5	34.7	48.9	DEPT/PROGRAM	4.26	4.0	0.89	2,449
	1.1	3.8	11.5	34.7	48.9	COL/SCHL/INST	4.26	4.0	0.89	2,449
	1.9	3.3	9.1	28.5	57.2	UNIVERSITY	4.36	5.0	0.92	68,535

Median is the middlemost of the ranked scores. S.D (Standard Deviation) is a measure of the dispersion of scores from the mean. For example, if all students agree that Prof. X is excellently prepared, the mean would be 5, and the standard deviation would be 0. NA responses and non-respondents are not represented in percentages or calculations.

Imagine one company was allowed to become the world's de facto editorial filter by which Internet content gets found, the only revenue collector for most Web sites and the dominant gatekeeper for any business seeking to reach Internet users and Web sites.

Imagine further that one company had "private dossiers" on most all Internet users that could, with substantial accuracy, tell the company any individual's religion, politics, health status, income level, sexual preference, gender, age and personal secrets—and had an economic incentive to secretly exploit those individuals' private information for financial gain. Finally, imagine that company had little accountability to consumers, competition, regulators, or independent third-party oversight.

One doesn't have to imagine this company at all, because these are the very real stakes in the merger review of the pending Google-DoubleClick transaction by the antitrust author-

Ultimate Internet gatekeeper?

ities at the U.S. Federal Trade Commission and the European Commission. While most everyone knows Google as the world's most popular search engine and leading brand, few are familiar with privately-owned DoubleClick, which is the behind-the-scenes global leader in serving online ads to Web sites around the world. These antitrust reviews will deter-

By Scott Cleland

mine if combining the No. 1 and No. 2 global networks of Internet advertisers, Web sites and viewers would be anticompetitive.

The public relations challenge for antitrust authorities is the "Internet choice paradox." How can the Internet, which offers consumers so much content choice at the same time present so little real choice for businesses to monetize their content on the Internet? It turns out the same extraordinary global scale distribution efficiencies and minimal transactional fric-

tion costs that make the Internet so easy for any consumer to use are also "winner-take-all" advantages, which in the hands of the two most dominant global companies in online advertising, Google and DoubleClick, become a deadly chokehold on Internet competition.

Consider the compelling evidence of this "Internet choice paradox" and the extreme market concentration of the online advertising market:

(1) A combined Google-DoubleClick would control a 90 percent share of the 500,000 companies advertising online globally (William Blair & Co.), and 85 percent of the top 20 Web sites globally (DoubleClick).

(2) A combined Google-DoubleClick could also reach more than 90 percent of the Internet viewers given that Google's search share is 65 percent and DoubleClick's ads are viewed by 85 percent of Internet users (shares from Hitwise, EPIC).

(3) A combined Google-DoubleClick would control 78 percent of the advertising publisher tools market segment (LECG's David Evans, a Microsoft consultant).

(4) Google appreciates that the most effective way for Google to "tip" its 75 percent share of search revenues to a much larger share is to cross-pollinate the targeting of DoubleClick's 60 percent share of display ads with Google's 75 percent share of search ads (shares from eMarketer, SEC filings).

So what's at stake? This merger review is about whether governments grant one company de facto bottleneck control over online advertising, the only proven monetization engine for Internet content globally.

These high stakes only become extreme because of obvious Internet trends. First, online advertising revenues eclipsed radio advertising rev-

enues this year (eMarketer) and they are projected to surpass TV revenues, the No. 1 advertising medium, in 2011 (Veronis Suhler estimates). They will continue because online advertising is so much more targeted, relevant and measurable than offline ads.

Second, most all content—news, books, audio, video, research, databases, etc.—are rapidly being digitized and migrating to the Internet, because of the extraordinary global scale and scope efficiencies of Internet distribution. Thus, the Google-DoubleClick merger, which will have unique business access to 90 percent of Internet viewers and 90 percent of Internet advertisers, will be uniquely positioned to become the supreme unregulated utility or market standard gatekeeper for monetizing content on the Internet.

Bottom-line, if a business wants its content to succeed on the Internet, it would have no

choice but to use the Google-DoubleClick-YouTube online advertising platform. No real competitive choice, that is.

The stakes increase even further. Will Google be allowed to acquire the business building blocks to construct an online advertising "platform" where Google could leverage its "must buy" status in search, with DoubleClick's "must-buy" status in display ads, with their joint "must-have" consumer click database and analytic tools, to corner the potentially bigger online markets of ad brokering and ad exchanges? Or will lax merger enforcement and the enablement of a monopoly Internet bottleneck force individual countries to regulate the Internet in the absence of sufficient competition, therefore Balkanizing and undermining the Internet's universal value?

In sum, will lax antitrust enforcement enable the ultimate Internet gatekeeper? Will the Internet become Google's net?

Scott Cleland is president of Precursor LLC.