

Creation  
Consolidation  
Competition  
Innovation/Ubiquity  
Epilogue

wired	wireless
broadcast	private
innovation	standards
unregulated	regulated
novelty	invisibility
cost	price

resources: spectrum, right of way, switches  
politics: public airwaves, uses of monopoly

## **The Shift from Monopoly to Competition in Telecommunications and Broadcasting**

Remarks by Clay T. Whitehead at GMU 3/23/04

### **At the change of administrations in 1969, many big issues were taking shape:**

- The Johnson administration had largely ignored telecommunications and broadcasting
- Serious new firms were serious about competing with AT&T
- Data communications was growing rapidly, but ATT was overwhelmingly committed to analog
- International conflicts were growing over the US role in international communications
- New technologies like satellites, cellular, and digital networks were blocked
- The newly-formed CPB was seeking to become the fourth network funded by the US govt
- Cable TV becoming a real industry reaching a significant % of TVHH
- Copyright battles among the networks, local stations, cable TV, and Hollywood had grown more heated
- Pent-up spectrum conflicts between commercial and Federal government uses were coming to a head
- There were calls to reorganize the Executive Branch to deal with multiplying communications issues
- And, there were obvious hostilities between the Nixon political camp and the 3 TV networks

### **Against this tableau of issues, we were faced by the industry as it was:**

- Telecommunications was the fastest growing industry in the country, but was monopolized by AT&T, which already took up 25% or more of corporate debt nationwide.
- The three TV networks controlled 90-95% of television viewing.
- A presumption of monopoly had become entrenched in industry and regulatory structure over the course of decades.
- Outside the United States, essentially all of telecommunications and all broadcasting was owned by governments.

### **Why was the old structure so enduring and so entrenched?**

- It gave regulators leverage to impose public interest obligations on both telecom and broadcasting.
- There was a powerful symbiosis between ATT and the government; DoD and the CIA were highly dependent on AT&T and were opposed to the entry new, unfamiliar firms.
- The FCC was interested in telecommunications competition mainly to provide a benchmark for gauging AT&T prices, not as a serious alternative to AT&T or to the established regulatory regime.
- Spectrum assignments for television channels meant that a fourth TV network could reach less than half the country.

- AT&T microwave connections were too expensive for a TV network that could not cover a large percentage of the country's TV households.
- Copyright rules favoring Hollywood and the networks blocked the expansion of new cable channels.
- Antitrust interest was focused on AT&T's manufacturing monopoly, not its monopoly over the provision of telecommunications services.
- Regulators and Congress dealt with issues incrementally, but the issues were no longer incremental.

### So where do we go from there?

- OTP came to a set of conclusions that we pushed with industry, FCC, and Congress.
- Competition and open entry had to become the new paradigm in both telecom and TV because technology and service needs were moving faster than the established industry participants and regulators could (or wanted to) adapt.
- Satellite technology had to be introduced into the U.S. domestic market on an open-entry, unregulated basis or there was no hope of serious competition in telecom broadly.
- The monopoly of the 3 TV networks had to be broken to give viewers more choice and to reduce the need and excuse for the government to enact content controls and all the political meddling that invited.
- Expanded choice in TV viewing would be better achieved by large numbers of new TV channels than by the expensive creation of a big new fourth TV network funded by the government.
- Cable TV was the only way a large number of TV channels could be gotten into the home.
- Satellites were the only way to provide affordable distribution of new TV channels to cable systems nationwide, and copyright rules had to be changed to permit the new channels to emerge.
- The heart of the ATT monopoly was its monopoly over telecom services [Vail], not manufacturing.
- Antitrust is a sledgehammer, not well suited to rapidly evolving technology-intensive industries, but the ATT/FCC/DoD/Congressional monopoly mindset was so dominant and so entrenched that nothing short of a sledgehammer seemed likely to work.
- Once we persuaded Justice to support the breakup of the Bell System as a remedy, not just splitting off manufacturing, we supported the filing of the antitrust suit.
- So, that became our agenda at OTP, which we pushed vigorously with industry, the FCC, and the Congress. We had some successes, a few 2x4s upside our head, and not all of our agenda was adopted. But we did have some success in beginning the change from the long-entrenched paradigm of monopoly and incremental change toward one of open entry, competition, and innovation in both telecommunications and broadcasting.

### After my run at policy

- (And a year at Harvard to get my head together), I got interested in creating some of the competition we had preached.



- I started Hughes Communications where we created the first non-common carrier satellite service and aggregated a number of new cable networks to distribute their channels to all the cable systems across the country. HC later bought and now is known as PanAmSat.
- I started the first direct-to-home satellite television broadcast service, now called SES Astra. Astra bypassed the government-owned TV stations in Europe to bring large numbers of commercial channels to homes and provide real choice in television viewing.
- Now, having seen telecommunications and television from the inside, in both policy-making and in business, and having some distance now from the heat of the battles, I plan to do some reflection, research, and writing on some aspects of electronic communications that I think are particularly interesting as that field proliferates.
- Some of those topics include:
  - The difficulties and uncertainties faced by those in the early creation of those industries, the cleverness of some and the unwittingness of others in their consolidation, and the awkward coexistence we have now forced on innovation and regulation
  - How the chaos and competition in the creation of these industries got funneled into such extreme concentration and regulation; why the monopoly structure of industry and regulation persisted as long as it did; how we have emerged from that concentration back toward competition and innovation.
  - How the many threads of many current issues can be traced from the creative chaos of the beginning of electronic communications through the monopolistic consolidation, the reintroduction of competition, and the creative chaos of the industry today.
  - Notwithstanding how complex the technology, economics, law, business strategies, and market structure have become, many common threads from the past persist today:
    - Who sets the standards for interconnecting networks, who pays the costs, who gets the revenue?
    - Separation of cost and pricing by business and regulation
    - Privacy expectations and responsibilities
    - The need for standards vs the need for innovation
    - The pressure for regulation before we see how technology will evolve and be used.
    - The tension in regulation between what is "needed", "wanted", or just inherited.
    - The constant erosion of technical, economic, and regulatory distinctions
      - ~ As between broadcasting, cable TV, pay-per-view, and streaming video
      - ~ Or telegraph, telephone, cellular, e-mail, instant messaging, and voice over the internet
      - ~ Or books, newspapers, magazines, web pages, and blogs under the First Amendment
    - How technology, economics, markets, law, business strategies, and public perceptions intertwine to determine what communications capabilities become real businesses, how they get regulated, how they impact us as consumers and our politics, and what that portends for the future.
- So many of you here know so much about the diverse aspects of this fascinating field of electronic communications, and I look forward to exchanging ideas and perspectives with you.



- 1956 AT&T Consent Decree  
 Allowed to re-enter non telephone industries such as computers and information services
- Required Western Electric and AT&T to license their patents to anyone who wanted them upon the payment of appropriate royalties.
- Allowed others to manufacture telephone equipment which they could actually sell to businesses and residential customers who could attach this equipment to AT&T's telephone network
- 1956 FCC agrees to hear the "Above 890" proposition-whether the private line business should be change by allowing microwave systems employing radio frequencies above 890 megahertz to be used by private (non bell) parties. TV channels and Motorola were at the heart of this market. AT&T fought this on the basis of eventual forced interconnection "cream skimming" of long distance markets.
- 1958 National Aeronautics and Space Act creates NASA
- 1958 DOD launches SCORE
- 1959 FCC announces "Above 890" decision freeing spectrum for non-ATT use. (Common Carrier Division)
- 1960 (October) AT&T seeks satellite permit
- 1961 (May) FCC issues First Report and Order on Satellites in which "some sort of joint venture" limited to ownership by international common carriers warranted serious consideration.
- 1961 (July) NASA signed a cooperative agreement with AT&T to launch TELSTAR; RCA to produce RELAY; and Hughes to produce SYNCOM
- 1962 Satellite Act
- 1962: ATT's Telstar I launched on July 10 and on that same day live television pictures originating in the United States were received in France.
- 1963 (Feb 1st) COMSAT formed
- 1963 MCI decision allows special service common carriers (private lines)
- 1964 INTELSAT negotiations begin
- 1965 80.6% of all US households had telephone service; but only 66% of households with income under \$5k had service

1965 COMSAT launches "Early Bird" first satellite for commercial communications including 249 voice grade circuits

1965 FCC's issues first report and order in which it asserted jurisdiction over microwave-linked cable

1966 The US exported only \$34 million worth of communications equipment, out of a total output of more than \$4 billion--US Department of Commerce (bdsaf-363b(66)-I)

1966 FCC Second Report and Order broadened FCC jurisdiction to include cable. The FCC also put restrictions on signal importation due to copyright concerns; which caused in effect the beginning of the "freeze"

1966 Lawrence G. Roberts of MIT publishes "Towards a Cooperative Network of Time-Shared Computers" which outlines the ARPANET plan. Worldwide direct telephone dialing has its first public demonstration, a call from Philadelphia to Geneva, Switzerland. (June 15).

1966 Western Union pushes to become a national information utility

1967 Bell is largest private enterprise in the world; assest of \$37.6 billion, operating revenues of \$13 billion accounting for 42% of total operating revenues of the nation's 50 largest utilities.

1967 INTELSAT II, III, IV launched; there are now 9,000 commercial voice grade circuits

1967 Western Union obtains approval to offer SICOM and Info-Com computer based services

1967 Carnegie Commission on Educational Television releases "Public Television: A Program for Action"

1968 The FCC rules, under Section 214 of the Communications Act, that telephone companies must file for a Certificate of Public Convenience before building cable facilities, eliminating a strong competitive advantage of the telcos over cable companies. (13 FCC 2d 448)

1968 Fortnightly Corp. v. United Artists Television, 392 U.S. 390 cable systems were held not legally liable for payment for distant signals if they were picked up over the air

1968 The FCC freezes development of cable systems in the top 100 markets with an "anti-leapfrogging" notice that cable systems have to obtain permission of any distant station before importing it; cable systems in 35 mile radius of TV stations in smaller markets have to carry nearest network, independent and public stations; while it considers new rules for cable (Community Antenna Television Systems, Inc., 15 FCC 2d

1968 Carter-Phone decision

1968 USSC upholds FCC jurisdiction over cable as "reasonably ancillary"  
US v Southwestern Cable 392 US 157 (1968)



- 1968 Rostow Report issued on Dec 7th  
Among the findings:  
International Communications:
1. Formation of a single entity for US International transmission seems the most effective organizing principal for the future
  2. Establishing competition between cable and satellite would be "very difficult"
  3. Creation of a single entity should be subject to conditions:
    - a. it should not engage in manufacturing
    - b. it should not provide a domestic satellite program nor have domestic carrier affiliation
    - c. It should be subject to "strengthened Government regulation"
- Domestically
4. A pilot Domestic satellite program should be established and managed by COMSAT
- 1969 (June) President's Task Force on Communications Policy is released.  
Among the findings:
1. " We have concluded that strong arguments remain for retaining the public message telephone service as a monopoly of established carriers. However a variety of other, newer communications services can be opened up to greater competitive pressures, promising an added contribution to a high level of overall industry performance without wasteful duplication or loss of service quality.
  2. "continuing developments in terrestrial microwave and coaxial cable technology promise to yield substantial increases in capacity and reductions of cost"
  3. "One of the most important long term trends in the communications industry is the inter-relation of communications and computer technology. The same advances in electrical circuitry that underlie the development of highspeed, high-capacity digital computers--the transistor, the diode, integrated circuits etc.,"
- 1969 The FCC requires cable systems with more than 3,500 subscribers to provide local origination programming. So the
- 1969 The U.S. Supreme Court affirms the FCC "Section 214" ruling which requires telephone companies to file for Certificates of Public Convenience before building cable facilities. (396 U.S. 888)
- 1969 The U.S. District Court in Nevada rules that Nevada can regulate cable through the Public Utilities Commission.
- 1970 Sloan Report
- 1970 IBM controls 3/4ths of computer processors as the industry fights possible FCC jurisdiction
- 1970 (January, 23rd) "Open Skies" Policy comes from a letter to Dean Burch
- 1970 Nixon submits plan to Congress for creation of OTP
- 1970 The FCC permits the merger of TelePrompTer and H&B American, making TelePrompTer the largest cable company in the country. It serves 419,000 subscribers 10% of the industry.

- 1970 OTP proposes " a major telecommunications pilot program to determine the usefulness and economic viability of wideband distribution facilities in alleviating some urgent problems of today's society"
- 1970 Corning Glass demonstrate highly transparent fibers, and Bell Laboratories demonstrates semiconductor lasers that could operate at room temperature; these demonstrations help establish the feasibility of fiber-optic communications.
- 1970 The FCC adopts "anti-siphoning" rules to protect programming on broadcast TV (23 FCC 2d 825)
- 1971 *Computer Inquiry I Decision* (CI-I) permitted communications carriers to transport data over their networks on a regulated basis but not to process it.
- 1971 *Specialized Common Carrier Services Decision* expanded "MCI decision"
- 1971 The Eighth Circuit holds the FCC could not require local origination. (*United States v. Midwest Video Corp.*, 441 F.2d 1322 (8th Cir.))
- 1972 The U.S. Supreme Court overturns an appellate court ruling in favor of the FCC's local origination rules but reaffirms FCC authority over cable. (*United States v. Midwest Video Corp.* (Midwest Video I), 406 U.S. 649)
- 1972 Greyhound's suit against IBM charged IBM with monopolizing the computer leasing market. The court ruled in favor of IBM, though the case was reversed when appealed and settled out of court
- 1971 (Feb) The FCC issued rules that dealt with retransmission of broadcast signals, including government access to and use of non-broadcast cable channels. As well, they established technical standards and divided regulatory jurisdiction between federal and local levels of government.  
(This was upheld in *US vs Midwest video corp.* US 649, 675-76 (1972))
- 1973 *IBM v. Telex* came to trial in 1973 and accused IBM of monopolizing the "plug compatible" equipment market (tape drives, disk drives, and add-on memories). The district court ruled in favor of Telex, only to be reversed in 1975.
- 1973 The FCC approves applications to establish domestic communications satellites, a crucial link in cable program distribution.
- 1973 Congress passes anti-blackout legislation which requires that sold-out games in pro football, baseball, basketball and hockey be made available for over the air TV, rather than cable or pay TV.
- 1973 (February) OTP memo expounding on "open skies"
1. There should be no forced merger of international record carriers or of international transmission facilities
  2. Fed regulation of carriers owning international transmission facilities should encourage efficient utilization of both cable and satellite technology without heavily detailed intrusion into the investment and operating decisions of the carriers



3. International services other than public telephone service should be provided on a competitive basis with only such regulatory oversight as is necessary to protect from potentially anti-competitive practices
4. The satellite act of 1962 should be reviewed to determine what changes are needed to reflect the permanent INTEL:SAT agreements, the maturity of COMSAT as a commercial common carrier and the emergence of new satellite services
5. There should be thorough review of authority and procedures of the Executive branch for cable landing licenses and satellite approvals, in order to permit international common carriers to do advance planning and make necessary commitments with their foreign partners with some assurance of federal agreement and to reduce friction in governmental relations with foreign nations on these matters.

1973 CATV "8k systems serving 8 million homes" Community Antenna Television Association (CATA) is organized as a trade association.

1974 OTP releases the Report to the President  
Cabinet Committee on Cable Communications

1974 OTP (June) releases "Cable Television Financial Performance Model; Description and Detailed Flow Diagram" BY L Afflerbach, L. Bertman, S. Polk, and F.L. Skinner

1974 Letter from CTW to R.E. Wiley; chairman of the FCC containing an eight point statement of policy thereafter known as "regulation by policy".  
"regulation by policy which would lay down for the guidance general but firm, strong but not meddlesome, policies that will govern the regulatory decision when it must be made"

1974 CTW resigns; John Eger assumed role of director until July 1976 when Honser took over as director

1974 Anti-trust suit & 1982 Modified Final Judgement

The government indicated that it brought the 1974 suit because the 1956 consent decree had not prevented AT&T from restraining competition in telephone equipment manufacture, nor protected against antitrust violations in long distance telephone service. AT&T pursued various legal actions to derail this suit, but pretrial action began in 1978, and a new settlement was proposed in 1982. That year the court, under Judge Harold Green, held a hearing on the settlement and released what was officially called "A Modification of Final Judgment."

AT&T was required to divest itself of its 22 operating companies, the local service providers.

AT&T would only be allowed to provide long distance service and would have to face competition from other long distance carriers, such as MCI and Sprint.

Local telephone service was now to be provided by seven regional Bell operating companies

1975 Distribution of satellite programming begins when Home Box Office shows the Muhammad Ali vs. Joe Frazier fight on Sept. 30 to customers in United Artists' Vero Beach and Ft. Pierce, Fla. systems and in American Television and Communication Corp.'s Jackson, Miss. system.

1976 The Copyright Revision Act is passed by Congress. It establishes a "compulsory license" allowing cable systems to retransmit broadcast stations and sets fee schedules for

carrying distant signals for the first time. The cable operator is liable for copyright payments. (17 U.S.C. 101-118)

1976 FCC repeals distant signal "leapfrogging" rules, allowing cable systems to import signals as they choose. (Selection of Television Signals, 57 FCC 2d 625)

1977 U.S. Court of Appeals strikes down FCC rules limiting pay TV, opening the way for expanded cable services. It also suggests that cable may have some First Amendment rights. (*Home Box Office v. FCC*, 567 F.2d (D.C. Cir.) *cert. denied*, 434 U.S. 329)

1977 The FCC approves the use of 4.5 meter earth station receivers. The ruling permits more cable systems to acquire the equipment necessary to receive nationally distributed programming via satellite. (*American Broadcasting Inc.*, 62 FCC 2d 901)



## **Intro:**

### **Chapter One: Creation**

Telephone  
Bell and Western Union—  
AT&T circa 1900 Vail/Fish/ Morgan  
Gilded Age of banking and industrial revolution  
Telegraph & Railroad/National network that paved the way  
Electric Utility Industry  
Radio /Military to commercial/KDKA HP Davis  
Novelty/Innovation/social implications  
Movie picture show

### **Chapter Two: Consolidation**

Vail/'s concept of "wasteful duplication" and "natural monopoly"  
Territory swapping  
Forced interconnection  
Commercial use of radio and subsequent growth/consolidation  
RCA/ATT/GE/Westinghouse  
The role of standards/manufacturing  
DOD/ Congress protection of industry

### **Chapter Three: Signs of Change**

Growth of global radio/demise of telegraph  
Cultural acceptance/dependence  
Microwave technology  
Television growth  
NASA to the moon  
Carterphone/hushaphone  
Computer Inquiry  
Satellite industry

### **Chapter Four: The Perfect Storm**

FCC and jurisdictional issues  
INTELSAT/DOMSAT  
MCI Decision  
AT&T  
Copyright battles/signal importation/leapfrogging  
*Carter Mountain* decision  
*CATV Fortnightly Corp v. United Artists*  
CPB  
Computer Inquiry/fax machine  
DATRON/IBM  
SPECTRUM  
Cable TV and FCC Authority

## Competition

### **Chapter 5: Setting up OTP; Wheels start to turn; actions and reactions to the perfect storm**

What were the main objectives?

Why/how were they important?

What was the plan of attack?

Who fought it, why? What else were you up against?

How did you pull it off?

How did things shape up after that?

Issue by issue? Department by department?

Historical context

### **Chapter 6: OTP "Cable, Turning TV into a Magazine Rack" BUN and Open Skies**

Industry Structure-- proposed changes

Spectrum issues

State vs. Fed regulation

FCC and jurisdictional issues

Separations principle

Vertical integration

Content controls

Capacity issues

Rate of return models

The utility question

Cable's struggle for funding/programming/respect

Franchise agreements

Signal importation; melting the freeze

Manufacturing; equipment/technology/rights of way

Social factors

### **Chapter 7: OTP "Over my dead body"**

The story of AT&T during those years

Congressional Testimony

MCI/microwave/private lines

Computer Inquiries/terminal exchange rules

IBM/Arpanet

Rights of way issues

Price fixing/rate of return

Manufacturing/Western Union/Bell Labs

DOD factor

Judge Green/the personalities factor



## **Chapter 8: OTP Satellites**

INTELSAT/DOMSAT/COMSAT

DOD

Commercial applications

International agreements impacting domestic policies

Technology growth

Funding issues/competition

Social implications/impact of Apollo and man on the moon missions

The Commies/eastern Europe/developing countries

FCC and jurisdictional issues

## **Chapter 9: OTP ---CPB**

The funding/the fights/the philosophy of

Sloan/Killian factors

1<sup>st</sup> Amendment implications

## **Chapter 10 OTP The role of the press and beaurocrats**

## **Chapter 11 Post OTP years**

Break up of Bell

Open Skies

FCC

## **Chapter 12: The Future: Ubiquity**

## **Chapter 13: Conclusion**

## Themes

Competition vs. Natural Monopoly vs. municipal/franchise agreements

Manufacturing vs. price controls vs. rate of return regulation

Innovation vs. regulation

Creation

Consolidation

Competition

Innovation/Ubiquity

Epilogue

wired	wireless
broadcast	private
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unregulated	regulated
novelty	invisibility
cost	price

resources: spectrum, right of way, switches

politics: public airwaves, uses of monopoly



CTW Book Names for Interviews

<u>Name</u>	<u>Importance</u>	<u>Urgency</u>	<u>Location</u>
Angelica, Mother	3	1	
Baker, Don	2	3	
Baxter, William	2	2	
Biondi, Frank			California
Brown, Charles	2	2	
Brown, Les			NY
Cerf, Vint			
Cooke, John	4	4	
Cox, Ken			
Darby, Larry	5	4	
Diebold, John			
Effros, Steve			
Faulders, Tom	4	4	
Ferris, Chuck			
Gabel, David	3	5	Boston
Gavin, Jack	4	5	
Geller, Henry			
Goeken, Jack	4	4	
Goldberg, Henry	1	2	
Hartenstein, Eddy			California
Hatfield, Dale	1	4	
Hewitt, Don			
Hinchman, Walt	3	3	
Hostetter, Amos	2	4	Boston
Jacobs, Irwin	2	2	California
Johnson, Lee	5	5	
Joyce, Charles			
Koltai, Steven			
Koplowitz, Kay	2	1	
Kristol, Irving	2	5	
Lamb, Brian	1	2	
Lear, Norman	2	2	
Levin, Jerry	1	3	California
Malone, John			
Marks, Leonard	4	1	
Marshall, Peter	3	4	
Marshall, Travis	3	2	
McGuirk, Terry	2	4	Atlanta
Mears, Walter			
Milken, Michael	1	1	California
Minow, Newt	2	2	Chicago
Morrisett, Lloyd			NY
Moyers, Bill	3	3	NY
Murdoch, Rupert	1	2	
Nemeroff, Michael	intro		
Oettinger, Tony			Boston
Owen, Bruce	1	5	California
Pelton, Joe	2	5	

Pepper, Bob	2	5
Perot, Ross		
Robinson, Ken	2	4
Rosen, Harold	1	2 California
Scalia, Nino	1	3
Sheinberg, Sid	1	2
Shooshan, Chip		
Sonnenschein, Abe	3	1
Starr, Ken	4	5
Sucherman, Stuart	3	4
Thompson, Brian	2	4
Topol, Sid	1	2 Boston
Trienens, Howard	5	3
Turner, Ted	3	4 Atlanta
Valenti, Jack	2	4
Webster, David	3	3
West, Don	3	4
Wheelon, Bud		California
Wiley, Dick	2	4
Wright, Bob	1	3
Wright, Orville	2	1
Wyly, Sam	1	1 Dallas
Zapple, Nick	2	1

*Jerry Waylan*