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Policy Directions for the Future



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The three key figures in the settlement of the Government's 1974 case against AT&T have provided a fascinating insider's view of the deliberations that led to the breakup of the Bell System. The chapter 1 dialogue between William Baxter and Charles Brown, and the comments of Judge Greene are important reminders for today's policymakers of the forces that are shaping the structure of our industry. In a rapidly changing world, and even more rapidly changing industry, it is easy to lose sight of the lessons of the past.

It appears today many have forgotten the fundamental principle upon which divestiture is based: regulated bottleneck monopolies and competition do not mix. But before elaborating on that key principle, I want to highlight an important point touched upon by Baxter, Brown, and Judge Greene. When William Baxter's Antitrust Division and Charles Brown's AT&T asked Judge Greene to approve the consent decree, many viewed the action as a potential catastrophe. These critics failed

to recognize the industry was already in a state of turmoil and divestiture was the only way out. Events since divestiture have shown the wisdom of the decision to divest.

Let's start with long-distance. My own company had been in business for roughly fifteen years prior to divestiture. During that time we had made important progress. We had secured some initial financing, and after lengthy delays we had approval from the FCC to construct a network. Later, we fought for—and received—permission from the D.C. Circuit Court of Appeals to compete in the switched services market. What we did not have was equal access or a nationwide network. As a result, our market share was minuscule—less than 5 percent—and we were the largest of AT&T's competitors!

The decision to break up the Bell System conveyed two extremely important benefits for competition. First, it mandated equal access. Years of proceedings and negotiations at the FCC had not achieved this result. Second, divestiture opened the door for major financing so we could build a nationwide network. MCI has spent over \$5 billion on network construction and enhancement since divestiture, becoming national in scope in the process. I do not believe we would have been given this major commitment of funds so long as our major competitor in the retail long-distance market was also the major supplier of one of our essential ingredients—access to our customers. Moreover, at the time of divestiture, we were spending hundreds of millions of dollars to resell AT&T facilities needed in order to offer our customers ubiquitous terminations. Without external financing to build our own network, we would still be a captive customer of AT&T.

Since divestiture, impressive developments have occurred in the long-distance market. Prices have fallen dramatically and new services are being introduced almost daily. For the first time in the history of the industry, customers have a genuine choice. This is what competition is all about.

Instead of an overhead expense item, long-distance is now becoming a key productivity tool for management of firms of all sizes. Virtual private networks, broadcast FAX, and corporate data networks are changing the way business is done in both the manufacturing and service sectors. While some of these innovations may have come about without divestiture, I believe that the competition which divestiture has made possible continues to bring innovations to the market faster and at lower prices.

As an aside, it is worth mentioning that the FCC, which did so little to bring competition about before divestiture, has done very little to encourage it since. The FCC's original access charge decisions forced

carriers to pay for equal access before they received it. As a result, many carriers were unable to obtain financing. For a full year after equal access conversions began, the FCC allowed hundreds of thousands of customers to be defaulted to AT&T. And in recent years, the FCC has allowed AT&T to ignore basic market rules—in effect deregulating AT&T without benefit of a public proceeding. At the same time, the FCC has refused to deal with important market structure issues that have not yet been resolved properly—equal 800 access, to cite just one example. Even if full competition had been theoretically possible without divestiture, FCC inaction or bungling likely would have killed it anyway.

Both Baxter and Brown lament the extent to which AT&T is still regulated. I have two reactions to that. First, AT&T has been substantially deregulated since divestiture. AT&T's tariff notice periods and cost support requirements are both substantially reduced compared to those in place at the time of divestiture. AT&T has made massive revisions to its rate structure and introduced literally dozens of new services and pricing plans. Most of these changes have been made without opposition from MCI. Second, markets become competitive overnight only in economics textbooks. A market position developed through a hundred years of monopoly abuse is difficult to attack—particularly when the most recent generation of regulators appeared to be rooting for the favored home team instead of the underdog.

Equipment competition has also blossomed since divestiture. Some competition had developed in terminal equipment even before the AT&T breakup. This initial competitive success was due to two factors. First, the interconnection problems involving terminal equipment were much simpler to resolve than those impacting long-distance. The FCC's equipment registration program succeeded in putting competitors on an even footing. Second, cross-subsidies by the Bell System were not an effective means of stemming terminal equipment competition because rivalry was based on features and functions. The competitors simply had better products to offer. Since divestiture, this competition has blossomed as more and more competitors have entered.

Baxter and Brown note that Judge Greene's decision to allow the RBOCs to market but not manufacture this equipment was in conflict with the theory of the divestiture. However, the Judge's action has apparently not had severe anticompetitive effects. The factors noted above likely provide the explanation—interconnection is not currently a problem and competition takes place over attributes other than price. This does not imply that problems will not develop in the future, particularly in the area of Centrex competition with private branch

exchanges (PBXs), where cross-subsidy and interconnection problems are more likely to develop.

There was much less competition in the provision of network equipment prior to divestiture. The Bell System essentially foreclosed 80 percent of the market to competitors by handling that business to its own Western Electric. When MCI entered the long-distance market, we found virtually no sources of domestic supply for broad ranges of our needs. Now, only five years later, the situation is much improved. Digital Switch Corporation and Northern Telecom both manufacture large switches domestically. The area around Richardson, Texas, the location from which MCI directs the construction of its network, has become the Silicon Valley of telecommunications network equipment. Prior to divestiture, with large portions of the market foreclosed from competition by the vertically integrated Bell System, there was simply no market for these independent companies and the innovative diversity they bring to the market.

Electronic information services is another area in which competition has prospered since divestiture. This is a market that was in its infancy at the time of divestiture so it is difficult to say how it would have developed in a different context. Moreover, as Brown notes in his remarks, it is an area in which the Bell System was prevented from participating due to the 1956 consent decree, which settled an earlier government antitrust case. Nevertheless, it is an area which is progressing very rapidly—free from monopoly RBOC interference. As personal computers proliferate on workers' desks, at home, and in schools, large and small entrepreneurs are coming forward with myriad databases and interactive on-line services to meet the demand.

There are those who would have us adopt the French "Minitel" model for the deployment of information services in this country, but that would be a mistake. The French have given away terminals, at enormous cost, to 20 percent of the population. The wisdom of this decision is in doubt. Household usage for all but simple directory assistance declines after the novelty wears off. Business use of the Minitel system is strong, but in this country businesses already have access to all of the electronic information they want. In any event, recent decisions by Judge Greene allow the RBOCs to provide the same "gateway" functions performed by Minitel. The only element lacking in this country is the subsidization of simple terminals for households that do not have computers. The French experience suggests the benefit/cost ratio of this expensive activity is low. Even if it were high, cross-subsidization through the telephone company is simply not a good idea.

If performance has been disappointing in any area since divestiture, it is in the local exchange business. The RBOCs took advantage of the inevitable postdivestiture confusion to put through enormous local rate increases. At the interstate level they have consistently earned in excess of their already generous allowed rate of return. Their performance in the equal access implementation process was less than outstanding—prompting a Justice Department investigation at one point. Rather than do their best to encourage their customers to use their networks to the fullest, they have devoted valuable management time and untold dollars for efforts to escape from the provisions of the antitrust consent decree. And rather than find ways to become more efficient and cut costs, they are lobbying regulators to adopt incentive “regulation”—a code word for solidifying the enormous profits they now make.

The local exchange is one area where competition has not developed to any measurable degree. This is not surprising. The basis for the antitrust case and the divestiture that settled it was that the local exchange is a natural monopoly. Limited alternatives do exist for some of the functions performed by the local telephone companies. But the essence of the monopoly is its ubiquity—the ability to reach every customer in the local exchange area. The local loops and switches are the core of the monopoly and there is no technology in sight that will displace them. In the words of Charles Brown, “neither here today nor anywhere else have I been able to learn of any technology which would show a significant opportunity for an entrepreneur to compete successfully with a local operating company.”

If there are any potential competitors for the local exchange, they are cellular radio and cable television. It is interesting that the RBOCs have spent so much money buying the non-wireline cellular franchises in each others’ territories in a mutually beneficial effort to foreclose the possibility of cellular entry into the local exchange business. They are also busily lobbying Congress for the right to buy out, or drive out, their potential competitors in the cable industry.

This poor performance in the local exchange industry is not due to divestiture. Instead, the blame can be put at the doorstep of the regulators. Divestiture, by disentangling most competitive from monopoly lines of business in the Bell System, made effective regulation of the local exchange industry a serious possibility for the first time. Local exchange regulation is still a formidable job, but the payoffs for ratepayers from effective oversight of local telephone activities and control over their earnings would be enormous. That is why it is so sad that so many regulators are in favor of freeing the RBOCs from the competitive safeguards contained in the antitrust consent decree.

Allowing the RBOCs to integrate vertically again would lead to a reappearance of all the problems that plagued the industry prior to divestiture and would make effective control over monopoly earnings and anticompetitive behavior difficult or impossible. Holding out the possibility to the RBOCs of entry into the manufacturing, information services, and long-distance markets also distracts them from performing one of their most important duties—making the local exchange useful to their long-distance and information service customers.

In their chapter 1 comments, both Baxter and Brown recognize the problems with eliminating the so-called line-of-business restrictions. These necessary safeguards prevent the divested RBOCs from entering interLATA long-distance, manufacturing, or information services. It might be useful to speculate here on two alternatives for the future. One arises when the RBOC monopolies are contained and for the first time they actually take their monopoly utility responsibilities seriously. The second occurs if the RBOCs succeed, by virtue of their enormous economic and political power, in steamrolling Congress to lift the requirements of the decree.

The former alternative future is easy to speculate about. With the RBOCs doing their job to provide cheap and effective local and long-distance access service, all parts of the industry prosper and so do their customers. The progress that has been made since divestiture would continue and probably accelerate. If, on the other hand, the RBOCs are successful in their current drive to have the manufacturing and information services bans eliminated, the results are also predictable. (Even some of the RBOCs recognize that the long-distance safeguard cannot be removed.) All we have to do is review history. The history of the integrated Bell System is one of repeated episodes of government intervention designed to check monopoly abuses.

It all started in 1913 with the Kingsbury Commitment, in which the Bell System agreed to stop buying up all the independent telephone companies after complaints about AT&T's competitive tactics and interconnection practices. Then there was a lull in activity until the 1930s. Following the passage of the Communications Act, the newly created FCC began investigating certain monopoly abuses. A report was issued,¹ but with the distractions of World War II, nothing much came of it. Another lull followed until 1949, when the Justice Department filed an antitrust suit. This was settled in the 1956 consent decree, under which the Bell System agreed to limit itself to providing services only under tariff. Finally, the Justice Department filed its 1974 case culminating in the 1982 settlement.

This history suggests two things. First, it would violate the natural

order of things to move so quickly to change the decree. The minimum period between major government actions appears to be at least fifteen years! For those who do not believe in exogenously imposed social cycles, the second point may be more persuasive: vertically integrated telephone companies simply do not know how to stay out of trouble. Perhaps this is why in their comments for this volume both Baxter and Brown express surprise at the attempts of the RBOCs to put Humpty Dumpty back together again so soon after the divestiture.

The RBOCs like to argue that change is warranted because things are different now. But the monopoly abuses of the old Bell System did not occur because the individuals involved were bad people. They occurred in large part because the monopoly structure of the industry was bad. The monopoly system allowed them to discriminate against competitors and to cross-subsidize any of their operations which faced competition.

There are those both in and out of government who argue that it will be different this time. They assert that either because of the new, more competitive industry structure, or because of innovations in regulation, RBOC abuses can be detected and controlled—or will not even be attempted. But I believe in the McGowan ironclad law of monopoly abuse, which goes something like this: unless prohibited, any monopoly will inexorably expand into closely related functions—which are often dependent on the monopoly for existence—using discrimination against competitors and cross-subsidization from its monopoly base to help it succeed in those new areas.

This behavior is a function of the American system, where corporate drives are basically the same as those of the people. We are taught to grow and expand our horizons. Corporations are inclined to grow and add new services. This is fine when a monopoly cannot be used unfairly to prevent others from bringing better and cheaper products to the market. But when there is a monopoly, this expansionism is exactly the sort of behavior the antitrust laws were designed to prevent.

As for regulatory innovation, we have two alleged candidates—accounting and ONA. New accounting tools are supposed to be able to police cross-subsidy even though regulators were unable to detect or prevent it in the pre-divestiture days. ONA is claimed to provide unbundled elemental access to basic switching and transmission functions within the monopoly network and thereby prevent discriminatory pricing or bundling.

ONA as an innovative procompetitive tool is easily dismissed by anyone familiar with the relevant proceedings at the FCC. The RBOCs are simply putting old wine in new bottles. They have done little to

meet the demands of their customers and Baxter's skepticism over RBOC ONA efforts is well placed. Even if a new form of access were forthcoming, the RBOCs would still have control over both the nature and the timing of future changes to the network so important to the providers of electronic information services whom Open Network Architecture is supposed to protect.

As for accounting, the FCC "reforms" are a cruel joke. The FCC has fewer resources to deal with monopoly abuse now than it did at the time of divestiture. And even the best intentioned regulators cannot possibly prevent misallocations of common costs because the monopoly firms can make the fundamental decision to build "common" networks that benefit primarily their own competitive services.

Recognizing that they are playing from a very weak hand if the debate on where the public interest lies is limited to straight antitrust economic regulation principles, the RBOCs have attempted to divert the debate by talking about trade and competition. The old Bell monopolists used to justify anticompetitive behavior by claiming it somehow served the broader "public interest." Now the RBOCs are simply repeating the same old song-and-dance routine. To hear the RBOCs tell it, unless the line-of-business restrictions are lifted, American civilization as we now know it is in desperate peril. Here is a quote from one representative RBOC president: "the window of opportunity may pass, and so will the country's chance to regain economic preeminence. If that happens, the United States will be relegated permanently to the second rank of the world economy." This statement refers to the line-of-business restrictions on the RBOCs. In other words, because of the terms of the antitrust settlement, you can kiss America's economic future goodbye. That is simply self-serving RBOC hyperbole.

Our trade imbalance has been blamed on a number of things, from dumping and other unfair trade practices of other countries to our own fiscal mismanagement, the inflated value of the dollar for some years, our lack of international marketing expertise and even our own shortcomings in foreign language ability. But the emotional trade issue is being exploited by the RBOCs in a cynical and irresponsible effort to play on the justifiable concerns of the American people about the trade deficit. The trade issue is a straw man because RBOC entry into manufacturing and information services "content" would do little to redress the problem.

The main difficulty we face is not in services or in switches; it is in terminal equipment, which ran a deficit of around \$2.7 billion in 1989.² But terminal equipment—telephones, cordless phones, facsimile equipment, answering machines, and the like—really is more in the

nature of consumer electronics. And there is no reason to believe the RBOCs can compete in these product lines more effectively than other U.S. companies against overseas manufacturers, particularly our friends and trading partners in Asia.

The RBOCs have absolutely no experience in manufacturing—that went with AT&T at divestiture. To succeed in manufacturing, the RBOCs would have only two options: one is to cross-subsidize, and the other is to sell manufactured products to themselves at higher-than-market prices. Either way, American monopoly ratepayers would end up paying extra for the privilege of having the RBOCs in the manufacturing business.

This, of course, raises the specter of the same old monopoly abuses divestiture was supposed to cure. The RBOCs would be in the position to compete unfairly against other U.S. manufacturers, driving them out of business, stifling competition, and most likely making the trade problem worse, not better, by manufacturing offshore in joint ventures with foreign companies. In all three restricted lines of business, the RBOCs could play the dual role of bottleneck controller and competitor.

The RBOCs, of course, never tire of complaining about being unfairly boxed in, so to speak. They complain that their opponents simply do not want to compete. But since divestiture, Judge Greene has, in fact, relaxed the restrictions on the RBOCs. They can enter virtually any business they want. They are prohibited only from the three lines of business most readily susceptible to monopoly abuse—information services, telecommunications equipment manufacturing, and long-distance. And the RBOCs know full well that these restrictions would be dropped tomorrow if they divested themselves of their local telephone monopolies.

Unfortunately, the day of the monopoly is not over. In a modern reproductive miracle, involving a highly public—but hardly immaculate—conception, the monopoly gene has been passed along from Ma to Baby Bell. What will happen if the government ignores the lessons of the past and allows reintegration of monopoly local service with information services and equipment manufacturing? History gives us the answer.

Private antitrust cases were a large part of the pre-divestiture history of the Bell System. However, in their chapter 1 discussion of why AT&T agreed to divestiture, neither Baxter nor Brown mentions the pendency of private antitrust actions. I believe the private cases were a key factor in the decision to divest. Had AT&T been found guilty after a full trial—and both Brown and Baxter seem at least implicitly to agree that that was a likely outcome—under existing legal precedents

AT&T would have been faced with enormous liability for damages in the literally dozens of pending private antitrust cases. Not even AT&T's deep pockets could have protected shareholders against that outcome. The lesson here is simply that private antitrust played a powerful role in the breakup of the Bell System.

If the RBOCs are allowed to reintegrate, they will follow McGowan's ironclad law and abuse their monopolies. And with or without help from the government, the antitrust courts will be called into action once again. Everyone, except the lawyers and economists, will be better off if that does not happen.

Alfred C. Sikes

A number of things tend to make it hard for the government to operate as well as it should. First, everything takes a long time. The Justice Department's complaint challenging the vertically integrated structure of the old Bell System, for example, was filed in November 1974. The lawsuit survived through two judges, three national administrations, four Congresses, and five Attorneys General before it was finally settled in 1982. Here we are today, and many of the topics touched upon in this volume are basically the same old issues. We are now fifteen years down the road from the Justice Department's complaint, and much of the public policy agenda does not seem to have really changed.

A second problem with the way government works is that most of what government concentrates on is yesterday's or, at best, today's story—not what ought to be done in the future. There is limited vision, with all too many regulators and regulatees continuing to define their communications world in light of valid goals, but goals which have already been achieved—the attainment of universal voice telephone service, for example. Insufficient attention seems to be paid to expanding customer options and choices. Imagine how many tens of thousands of man-hours are expended daily chasing "fires" in what you could call "reactive government." Will Rogers said this was because most people have a hard time "getting their noses up more than about three inches from the moving highway." Having added word processors and FAX machines to the ubiquitous copiers, we all face the proverbial "paper blizzard." Sometimes I wonder whether we do not just have an "in-box government."

I do not mean to disparage the importance of handling people's day-to-day problems. Maintaining at least the perception—and preferably

the reality—of responsiveness and fairness is critical to sustaining a political consensus.

We spend a great deal of time talking about marketplace solutions, but you cannot institutionalize competition by just talking about economic efficiency, productivity, innovation, and other abstract concepts. You have to make sure the people in the market believe the rules are generally fair, and that playing by the rules will ensure that you win or lose based on *your* own efforts. And so, the government has to contend with all the daily skirmishes and commercial firefights. That is just the way things are. By the same token, it is also important for the government—as well as the private sector—to do what is *hard*: namely, to try and anticipate both problems and opportunities.

One of the central issues—and one that is not being given sufficient attention, at least at the Federal Reserve level—is whether—and if so, how—we are going to amass the kind of communications assets this country will need to support the information economy. Decades ago, a consensus developed around the goal of assuring universal voice telephone service and the establishment of certain subsidies to achieve it. We decided to make sure everyone who wanted a telephone could get one. We decided to encourage that by underpricing residential service. And we decided to offset resulting revenue losses by overcharging business and long-distance callers.

Today, the FCC and the states in particular are tackling other issues. Much of the current debate surrounding “price caps,” for example, addresses whether local phone companies may retain at least some of their gains attributable to new technology, greater operating efficiency, and innovation.

Both in the FCC’s ONA proceeding, and in the ongoing debates about possible changes in the AT&T consent decree, the government is reviewing how phone companies will be able to expand their services, and under what set of competitive safeguards and ratepayer protections they can do so.

In *Telecom 2000*,³ we talked mostly about the new communications and information technology. We talked about an “electronic neighborhood,” in which people using the telephone with an information terminal could share information, concerns, and interests via an expansion of computer “bulletin board” systems that some people use today. We talked about a “video dial tone,” which would open up new opportunities for valued program diversity, and maybe lead us to that elusive “video phone call.” These new possibilities will not be inexpensive to achieve. Hundreds of billions of dollars in new investment will probably be needed over the next few years to extend the wonders of digital

and opto-electronic communications nationwide, and to the residential telephone market.

A central question, when you consider such things as "video dial tone," is whether these services are going to appeal to enough people to result in a national consensus regarding an expanded definition of "universal service." I believe they are. Today, some new services are possible even though the basic transmission link to our nation's homes remains essentially the same as that twisted copper wire that Alexander Graham Bell used in his first test of the telephone in 1874.

The switches which guide and manage our communications are increasingly state-of-the-art computers, operated by very sophisticated software. And much of our long-distance traffic is being handled by the most modern fiber optics. Yet the pathway into most homes and businesses is not much different today than it was at the turn of the century—except, perhaps, that the wire used to be bare, and today it is vinyl-clad.

A logical question is "what are we missing?" The answer probably is "a great deal." The country has many impending electronic infrastructure needs—the need to provide American business and industry, for example, with the electronic tools—the "leverage technology"—needed to stay competitive in the world markets. There is the need to provide small business and residential customers with the communications links and services that they will demand in future years. Also, digital switches plus fiber optics could provide us full information video, plus high-speed data, as well as an ordinary phone. A patient could talk with his doctor while also transmitting his "vital signs." That is a good thing to have in a country with an aging population, health care costs that are running in the range of 10 percent of GNP and the priority need to restructure the system to address more long-term, chronic health care needs, and fewer acute service requirements.

A working mother, either at home or in an office, could both work and watch her child playing at home. That is a good thing to have when some three-quarters of women with school-age children also work outside the home. You want to ensure quality child care *and* make it possible for the country to benefit from the contribution of working women. The new technology could also enable a student to receive special tutoring help in the evening—at the same time that his or her father is using another terminal to pay the family's bills. That, too, is a good service to have when you look at today's—and especially tomorrow's—education requirements.

Some of these capabilities are now being used in highly controlled, experimental environments. But the "trick" here is getting them into

everyday use more rapidly. And the "secret" to accomplishing that is either to subsidize them, or create the kind of marketplace environment in which economic incentives will drive their development, or both. If we, as a nation, want the telecommunications industry to make the kind of additional investments which we believe are needed, we must be prepared to permit investors to earn a fair—and competitive—return on their investment.

The government's risks and rewards assessments—and its resulting policies—have a major bearing on overall communications industry performance. Most agree, there is a pressing need to reassess much of that traditional balance. I understand the concerns regarding the potential for discriminatory access to essential communications facilities and the use of unfair, below-cost pricing. But the established telephone companies can bring a lot to our technologically dynamic communication marketplace. These firms constitute much of our telecommunications industry, and they have a history of accomplishment.

Some critics contend the established phone companies are simply not up to the challenge. They argue that even if the phone companies receive greater commercial discretion and more regulatory freedom, they nonetheless will not provide the kind of feature-rich and user-friendly communications networks which were described in the National Telecommunications and Information Administration's (NTIA's) *Telecom 2000* report.

Instead, those critics contend, the heavy hand of monopoly will simply extract additional profits, and not make the kind of future-oriented investments the country needs. These critics also suggest that the telephone company culture has been created by monopolized lines of commerce in a regulated environment. In short, they assert that the leadership of the local exchange carriers is incapable of open market behavior; incapable of marshalling resources in an economical and innovative manner.

In aggregate, GTE, the Bell companies, United, Contel, and the hundreds of other members of the United States Telephone Association represent more than 80 percent of the entire regulated U.S. communications universe. They represent not only enormous capital but very substantial human and technological resources as well. The established companies maintain extensive research and development operations. They have a long record of nearly unparalleled technological and commercial accomplishments.

So, if the established telephone industry cannot bring much to the competitive marketplace—as many of the more strident critics of regulatory and consent decree liberalization so often contend—our tele-

communications prospects are not especially encouraging. I do not accept that all-too-commonplace contention. That, after all, was what many of the same critics said of AT&T, and yet that company has proved an increasingly formidable competitor, both at home and abroad.

If we expect telephone companies to improve their efficiency, to increase their productivity, then we need to provide incentives which reward those results.

If we want phone companies to be more innovative, we need to reexamine the traditional regulatory approach, which has often obliged firms to overprice innovative services and share any gains from successful services with ratepayers, while sometimes placing the costs of unsuccessful efforts on their shareholders. And, if we want to maintain the economic and technological integrity of the public switched telephone network, we need to allow phone companies the flexibility to adapt to changing market conditions and, where necessary, to compete fully with new entrants.

I do not think the "universal" infrastructure to support all future information services needs to be subsidized in most cases. At some point, hospitals, schools, and other public service institutions might subsidize them. But commercially viable services ought to be able to stimulate the necessary private investment, and carry most of the operating expenses. The public, and most of their elected representatives, know little of the choices and tradeoffs implicit in today's regulatory environment. They are only vaguely aware their local telephone service is relatively inexpensive compared, say, to cable TV, electricity, and other services. And, they are generally unaware of the services they might get from a different regulatory approach.

My colleagues on the Commission and I are committed to going forward with regulatory reform. There are problems created by outmoded regulatory laws—rules which are grounded on obsolete traditions which hold there will always be separate communications industries, each employing different and discrete electronic technologies. We are prepared to pursue regulatory changes which will afford established phone companies greater commercial and competitive discretion. We are also prepared to continue supporting appropriate changes in the AT&T consent decree, and we will be paying close attention to marketplace developments. But, let me add that those seeking regulatory reform must demonstrate the potential to actually fulfill the kind of promises outlined in *Telecom 2000*.

We will be interested in the extent to which established phone companies invest shareholder profits in new, possibly experimental, ventures. I appreciate the fact that there are limits on the kind of

experiments that can be undertaken. I also understand the problems which arise when regulatory agencies, such as the FCC, do not act fast enough on proposals. For example, it should not have taken two and a half years to approve the GTE/Cerritos experiment. One of the priorities of the FCC will be to make certain that regulatory paralysis is not a problem.

At the same time, it is not clear to me that the established phone companies are taking complete advantage of the experimental and other commercial freedom they already have. More than a year ago, for instance, the AT&T consent decree court signalled its willingness to sanction Minitel-like offerings by the individual Bell companies. While most of the BOCs are experimenting with gateway services, we still await any such undertaking on a broad scale. Many of the "new" services that are just now being offered—call waiting, call-hold-on, and the like—are, in fact, not very different from those which the unified Bell System proposed in the late 1970s under the logo "Custom Calling II." The opportunities for providing significant new communications and information services are extraordinary. It is important that those opportunities not be available exclusively to those who use private networks.

In arguing for regulatory and consent decree reforms for many years, I have stressed the substantial opportunity costs which current restrictions impose. I have talked about telephone customers not receiving new service options, many of which are currently offered by phone companies abroad. But so long as the current debate focuses chiefly on hypothetical, not concrete and real new services, it will remain very difficult for us to succeed.

If regulatory reform is to succeed at a constructive pace, established companies and their management must be prepared to show all of us more of the fulfilled promises of communications and information technologies. I believe both the FCC and the state public utility commissions will respond better to concrete service proposals than to abstract advocacy.

Telecommunications organizations across the world—in France, Britain, West Germany, Canada, and Japan, for example—are clearly pursuing a 21st-century investment strategy. They are rapidly deploying the local fiber optic networks, advanced digital switching systems, and sophisticated information services that will be needed. In the United States, however, we do not always seem to be moving in this direction.

In Japan, NTT (Nippon, Telephone & Telegraph) is reportedly planning to deploy, by the 1990s, fiber optics directly to almost all the homes in Tokyo which have children. Incidentally, that choice of homes

for both new and retrofit fiber installations is geared toward greater expected use of an NTT-developed, information services terminal—what they call the “family computer.”

In France, France Telecom is continuing rapidly to expand its celebrated Minitel network, which reportedly reaches some 4.9 million subscribers. Moreover, France Telecom has little more freedom in its control of transmission content than the Bell companies are given under the AT&T consent decree. And, while the Bell companies are limited, most of the rest of the American telephone industry is not.

In Canada, Bell Canada has recently announced a major expansion in its long-run capital investment plans. The same is true in West Germany, where the Deutsche Bundespost—an entity that is about the same size as GTE—reportedly has integrated services digital network (ISDN) trials underway in seven West German cities. Yet in the United States, local telephone investment appears to be remarkably stable from year to year and, indeed, when inflation and higher labor costs are taken into account, may actually be slightly declining.

According to the most recent Commerce Department estimates, the established local and long-distance telephone companies—the regulated part of the overall industry—should account for some \$159 billion in domestic service revenues in 1989, and they should generate at least \$14 billion in profits.

For an industry with such very substantial revenues—and growing profits—the level and extent of innovation seems remarkably small. There are, of course, celebrated experiments such as the GTE/Cerritos project. Total outlays for that project reportedly are substantial but not a major financial undertaking for the company which currently ranks as America’s largest public utility.

Many of the Bell companies in recent years have spent huge sums purchasing cellular mobile telephone properties, amounts that dwarf their expenditures on network innovations and experiments. And the track record for independent telephone companies—many of which have seen very substantial revenue and profit increases in recent years—is not markedly different.

Universal voice telephone service, at reasonable and affordable rates, has deservedly achieved almost constitutional status in our hierarchy of communications policy values. No regulator I know would countenance letting “bottleneck” monopolies use their facilities to hurt their new technology-driven competition. At the same time, it is important to keep the risk-reward dimension of the business squarely in mind, and to remember some of the most valued products we have today are the result of what initially were risky propositions. There are important

reasons to let the phone companies remit the profits from their competitive services—what the Europeans call the “non-reserved” services—to their shareholders who bore the risk of the undertaking. And, there should not be rules against allowing phone company shareholders to capture some of the savings due to more efficient operations. Likewise, while phone companies should be required to allow others to access their customers through the network, those competitors should not be allowed to prevent the phone companies from offering new services which might require local network modernization.

The FCC is prepared, as part of our overall rate regulatory process, to give considerable weight to the need to accelerate the pace of local telephone exchange improvements and modernization. We place great store on the desirability of instituting the network and transmission changes today which will be needed to meet future demands.

Today’s technologies can assure customers multiple service options—if all the suppliers have equal access into the home. We need to make the choice a concrete reality. If we just update our thinking, if we try to catch a new vision of what could be, then our laws and regulatory systems will soon catch up with that reality.

Making sure America continues to enjoy the communications services it wants and needs is, in the final analysis, up to the industry’s leadership. It will be industry’s vision of the rewards, along with sufficient courage to take appropriate risks, which will determine our future. The government, as I indicated, has to be prepared to do its part. It has to ensure the kind of policy environment conducive to new and beneficial investment. But the industry must be prepared to invest and invest more than ratepayer money.

I believe in the contributions which communications and information technologies can make to social and economic progress. I believe in the need to remain leaders in global telecommunications developments. And I believe I speak for my colleagues on the Commission when I say we will work hard at the FCC to create the kind of regulatory environment that makes those contributions possible.

Sharon L. Nelson

The future is much easier to create than it is to research, so I will begin by offering several predictions concerning the future of telecommunications. My first prediction is that advanced telecommunications will become increasingly important in rural life. The telephone will be used

by farmers to gain prompt and accurate market information, to bring many "urban" conveniences to rural areas, and to provide important community services.

My second prediction is that advanced telecommunications will reduce hierarchy in organizations and greatly speed business transactions, particularly in financial markets—perhaps beyond our capacity to control. My third prediction involves the effect of advanced telecommunications upon important social issues. For example, the telephone may be seen as a channel for "safe sex"—an important issue to consider in the information services area. In addition, the telephone will become a window on the outside world for the elderly as they become less active.

My fourth prediction is that someone will soon figure out I am not really responsible for any of these first three predictions. I cribbed from an enlightening volume by the late Ithiel deSola Pool, entitled *Forecasting the Telephone: A Retrospective Technology Assessment of the Telephone*.⁴ The book is a fascinating collection of predictions, that have been made over the years, on the effect of telecommunications on various elements of our social and political life.

The references to sex over the telephone date back to 1909. The predictions of the effect of telecommunications on organizations and finance date back to the 1910s, and the predictions on rural life also date back to the turn of the century. While many of the predictions have come true, I think it is also a lesson that we should be skeptical of utopian predictions about the immediate effects of technology on society. Things change, but the changes occur over time, as technology is assimilated into a rich culture. In our enthusiasm for the world of tomorrow, we need to remember it will be populated by the children of today. Their skills and their values will determine the extent to which the new technologies will be used, and the ends to which they will be applied. This suggests we might spend more time worrying about literacy and numeracy, and less time worrying about the relative market shares of competing corporate elephants.

Perhaps this focus is a product of my former life as a teacher. I want to focus on the three "R"s—only in this case my three "R"s for telecommunications represent three time periods—"reaction," the period following divestiture; "retrenchment," the period we now enjoy or endure; and "restructure," the period to come.

I characterize the period from divestiture up through roughly 1987 as the "reaction." First, the unthinkable was thought—the monolithic Bell System was dismembered. Confusion reigned as consumers dealt with the end of one-stop shopping. Getting a dial tone now required

leasing or purchasing a phone, having a line hooked up by the local phone company, choosing a long-distance carrier (or having one chosen for you), and figuring out who would be responsible for repairs.

Following the announcement of the Bell breakup in 1982, many people thought the operating companies would not be financially viable. The RBOCs took advantage of that concern: From 1982 until two years after divestiture (1986), the RBOCs requested about \$20 billion in new revenue from state regulators. State PUCs granted them rate increases equal to almost half that amount.⁵

These local rate increases tell only part of the revenue story, however. Despite concluding in early 1982 that divestiture should not affect local rates, the FCC by the end of that year introduced an access charge plan with the intent of shifting nearly \$4 billion of non-traffic-sensitive (NTS) costs to local telephone users. The FCC said this action was necessary to avoid "bypass" and preserve the financial condition of local operating companies. According to the FCC's original plan, the charge for residential access would start at \$2 a month in 1984, and would eventually rise to full cost of \$8 a month by 1989.

Consumer groups attacked the plan as a massive transfer of wealth from residential consumers to large long-distance users and long-distance carriers. State commissions, acting through NARUC, challenged the plan in federal court. The House of Representatives easily passed the Dingell-Wirth Bill prohibiting access charges and requiring bypassers to make a contribution toward local loop costs.⁶ The FCC responded to this pressure by scrapping its access charge plan a little over a month into the new post-divestiture environment. Companion legislation to the Dingell-Wirth Bill had significant support in the Senate *even after* the FCC dropped its plan. Access charges were delayed, although the concept of shifting the fixed costs of the local exchange plant to end users was not abandoned.

Almost before the ink had dried on the MFJ, local exchange companies began peddling state legislative proposals and referenda aimed at detariffing or deregulating services, or at reducing state regulators' authority to scrutinize affiliated interest transactions. Some of these efforts were successful. Illinois passed a law in 1985 allowing local telephone companies and interexchange carriers to self-certify services as competitive and to detariff them.⁷ A number of states, including Iowa, Oregon, and Virginia, adopted laws essentially deregulating small telephone companies.⁸ Local exchange companies succeeded in convincing the Nebraska legislature in 1986 to totally deregulate their services.⁹ In 1987, Idaho and Vermont passed laws allowing their state regulators to establish local telephone rates under a "social contract."¹⁰ Idaho Gov-

ernor Andrus later vetoed that particular bill, but a variation on the theme has subsequently gone into effect. The Vermont Public Service Board, after extensive negotiations, finally approved a social contract rate regime with New England Telephone Company in December 1988. Several states adopted legislation organizing telecommunications services into various tiers, e.g., noncompetitive, emerging competitive, or deregulated services.

The Washington State Legislature in 1984 defeated a controversial proposal to detariff statutorily certain services and weaken our Commission's authority over affiliate transactions. After the defeat of that bill, we embarked on a cooperative, consensus-building effort to address the evolution of competitive market conditions in telecommunications through a bipartisan joint select committee of the state legislature. The legislation that resulted from these efforts was the Telecommunications Regulatory Flexibility Act of 1985 (or "Reg Flex" for short).¹¹ This law created a mechanism for reducing regulation of telecommunications where effective competition can be shown to exist, actually and factually. The act carefully balanced the needs of companies for pricing flexibility in competitive markets with the needs of ratepayers for protection from unrestrained monopoly pricing.

Since the act was passed, we have all but deregulated more than twenty long-distance companies, including AT&T. Pacific Northwest Bell (US West Communications) was granted permission to offer custom calling services under a banded tariff shortly after the law became effective. The Commission has detariffed a number of services provided by local exchange companies including Centrex, speed calling, billing and collection, and intercom services. Significantly, in 1989 we concluded an investigation of intraLATA markets. There we could not find effective competition. For example, US West's own evidence showed it retained a 99.3 percent market share in residential intraLATA toll. A companion to the "Reg Flex" Act deregulated cellular and shared tenant services, with a major exception if and when entities providing such services were to become monopolies.

A puzzling reaction to divestiture was some RBOCs' choice of elaborate corporate structures with many subsidiaries. This was surprising, in part, because AT&T and the BOCs had earlier resisted the FCC's efforts to force them to use separate subsidiaries to provide customer premises equipment and a variety of "enhanced" services that were competitive or potentially competitive. Within weeks of divestiture, the RBOCs were petitioning the court to allow them to engage in a wide range of activities, including data processing services, foreign trade, marketing unregulated communications equipment and services

to government agencies, vehicle and fleet services, financial services, office equipment sales, procurement services, and real estate ventures. The RBOCs' new organizational structures created more complexity, more opportunities to shift costs, more ways to realize cross-subsidies, and a giant headache for state regulators.

The FCC's actions in this "reaction" period included Chairman Mark Fowler's "Back to the Future" speech.¹² Of course, the future that Mr. Fowler wanted to take us back to was a mythical one whose sole defining characteristic was a lack of regulation. Perhaps the future *is* as easy to regulate as it is to predict.

The public's reaction to the breakup was dissatisfaction and dismay. Early national surveys generally showed a substantial majority of Americans opposed the breakup. A more recent *Washington Post* survey showed critics of divestiture still maintain a plurality.¹³ About 39 percent of those surveyed thought the AT&T breakup was a bad idea, while 31 percent believed it has produced positive results. (The other 30 percent did not express an opinion.)

The second period, beginning roughly in 1988, I call the "retrenchment." It represents a more focused policy debate on key issues facing us as we become an "information society."

The debate in this phase was inaugurated by the FCC's rulemaking on price caps. This rulemaking addressed the role of traditional rate-of-return regulation in the emerging telecommunications environment. The FCC argued, in its *Notice of Proposed Rulemaking*¹⁴ (with the backing of NTIA and the regulated companies), that rate-of-return regulation is slow, deters innovation and promotes overinvestment. According to the FCC, price caps would encourage greater efficiency and innovation, reduce incentives to cross-subsidize, eliminate investment distortions, and be simple to administer.

In my opinion, which I have already shared with the House Telecommunications Subcommittee, the real objectives of price caps are twofold. First, they are intended to end the practice of pricing communications services on the basis of their cost at a time when industry costs are rapidly declining. Second, they are intended to shift the focus away from rising telephone company profit levels that will surely accrue under a declining cost scenario. At a conference sponsored by the University of Utah, an analyst with Morgan Stanley suggested that a coming wave of consolidation in the phone industry will reduce the number of phone firms (mostly independents) from 1,371 currently to about 150 by 1995, and in turn reduce operating overheads by 25 to 40 percent. One cannot be sanguine about predicting ratepayer benefits

resulting from these increased operating efficiencies under a price cap regime.

Another development I view as positive is the new focus in many states on the quality and extent of the telecommunications infrastructure. The expanding role of information technologies and their application across all segments of economic activity has increasingly linked telecommunications with economic development. In 1988 and 1989, several states (including Washington) have undertaken projects that address perceived disadvantages in the availability, quality, and cost of rural services.

During this "retrenchment" period, we are now seeing a wave of rate reductions at the state level. According to FCC Summary Reports, state PUCs ordered rate reductions totalling \$1.37 billion during 1988.¹⁵ At the same time, however, the RBOCs began to renege on the compact established by the MFJ to use the substantial profits from Yellow Pages to support local service. The Colorado PUC's position was affirmed by its state Supreme Court.¹⁶ Litigation is continuing in Washington.

Among other positive developments of this period, I count the RBOCs' rethinking of diversification. After some of them racked up big losses in their diversified enterprises, they began to refocus their attention on the businesses they know best. During the "reaction," the RBOCs' expansion strategy was indeed expansive. Now they seem to be responding to the *In Search of Excellence* notion of sticking to the knitting. US West has retreated from its effort to market equipment and services outside its fourteen-state region. Bell Atlantic has reduced investment in its chain of Compu-Shop computer stores and cut back holdings in its A-Beeper paging operation. Pacific Telesis has likewise begun to liquidate its Computer Store holdings and is backing away from its network management enterprise. Southwestern Bell has abandoned its Silver Pages venture and also pulled back from some of its directory efforts in East Coast markets.

The third phase, which I think we are now entering, I call the "restructure." In this period I see substantial changes in industry structure. In interLATA transmission, I expect to see further movement toward a stable oligopoly with the networks of the three major interexchange carriers overlaying smaller regional networks. In local service, I see the continuation of monopoly control of local access for the present, with perhaps some fringe competition from cellular in rural areas. "Mini-networks" based on various technologies will also continue to provide some competition for a portion of the usage of larger businesses in major cities but will still ultimately rely on the LECs' bottleneck. In

equipment markets, it is reasonable to assume there will be continued robust competition and innovation.

Certainly one of the key issues in the restructure will be determining the appropriate market structure for and the role of regulation in fiber-based, broadband networks. The FCC tentatively concluded, in a *Further Notice of Proposed Rulemaking*,¹⁷ that existing telco/cable cross-ownership restrictions are impeding innovative broadband services. The number of FCC Commissioners subscribing to these tentative conclusions steadily decreased. Although Commissioner Quello originally endorsed the agency's findings, he later tempered his position based first on his concern that lifting the ban might constrain free broadcasting in the U.S., and second, on several fundamental questions left unanswered in the *Further Notice*: how should cross-subsidization be prevented? Should the Congress, FCC, or states require structural separation of the telco's cable activities? Should the telcos be restricted to common carriage of video signals?

Commissioner Patricia Dennis also suggested that the tentative conclusions missed the mark, since they permitted telco entry into cable via the acquisition of existing systems, instead of limiting entry to the development of new systems. She also supported the concept of reciprocal entry by cable firms into the provision of two-way voice, data, and video services. There are also questions of significant regulatory jurisdiction to be resolved. The agency's tentative conclusions have been demonstrated to be hopelessly premature. Much further definition and study of these issues is obviously required.

Industries once entirely distinct from one another now appear to be on the verge of merging or colliding. The broadcast, publishing, and cable industries—traditionally viewed as affected with First Amendment values—are running smack dab into the traditional common carrier industry, viewed as affected with a public interest. Add to the brew concerns about American competitiveness in global (primarily equipment) markets and you have a major structural and regulatory dilemma.

Many public policymakers can be expected to participate in the structural issues debate. Given the clout of the present competing interests (and yet unborn ones), the outcome defies prediction. Congress is the only forum where these issues can be debated in a comprehensive way. Congress must not shy away from the task. My opinion is that regulation will accommodate and adapt to whatever is the emerging industry structure.

The FCC and state regulators can be expected to continue to simplify and streamline regulatory procedures and to use the efficiencies of

competitive markets where possible. In pursuit of this, however, I hope we never fail to recognize that where monopoly persists, ratepayers *must* be protected by effective regulation. Monopoly ratepayers will continue to expect good service at *fair* rates. They should never be a source of free capital to finance speculative competitive ventures.

My final prediction is one of my own, which I offer hesitantly. The major communications issue of the future may have little to do with price caps, depreciation schedules, or lines-of-business restrictions. The preeminent issue for the future is privacy. If there ever was such a thing as an "unlisted" telephone number and address, it exists no longer. In the world of equal access and ONA, the telephone company no longer protects this information in any absolute sense. On the contrary, many companies are looking for innovative ways to exploit any information that comes into their possession. Whether regulators can offer any real protection to the public is debatable.

Privacy of unlisted numbers, caller ID, cellular communications, usage data, and the like are real issues. They are beginning to be addressed in state legislatures, and I think it is only a matter of time before they become a more central part of our national policy debate. Recent judicial nominees' video rental habits made good copy. Someday your pay-per-view or "976" habits may do the same.

Ironically, at the same time that the public may lose its expectation of privacy, regulated companies are increasing their expectation of privacy. The impact on public processes is severe. Published accounts of the Oliver North trial were disturbingly similar to the maneuvering that takes place in our hearing rooms every day. Like Judge Gessell, we state regulators struggle to balance the legitimate confidentiality concerns of one party against the due process rights of other parties, and the ultimate right of the people to be secure in the belief that government is there to serve the public. Can the people be confident when the public business is conducted behind locked doors? Can they accept as a matter of faith that justice is being done? As an attorney and public servant, I have my doubts. Where will this trend lead? I can only hope public servants will unite to resist efforts to "privatize" the public regulatory process.

To the extent that public processes may be inconsistent with competitive ventures, those ventures need to be isolated and insulated from unnecessary regulation and the public hearing process which is inherent to regulation. Amidst claims that structural separation of unregulated activities is inefficient, it may have been overlooked that without such separation, we are faced with a continuing need for similarly "inefficient" regulatory oversight. I hope those in a position to decide

this issue will consider carefully the practical benefits to be derived from fully isolating the effectively competitive activities of regulated companies from their public service activities. If that isolation can be achieved at an acceptable cost, we may be able to return to a more open and rational administrative process in our regulation of the remaining monopoly activities.

I feel reasonably confident predicting that pressures on our traditional expectations of privacy will grow over the next five years or so. Prognostication beyond five years is always risky—all the more so in telecommunications, with constantly changing technologies—and is best left to the crystal ball gazers and science fiction writers. Recognizing this, my Commission recently invited a science fiction writer to share some insights—and predictions—with us at a roundtable on telecommunications policy.

Our science fiction writer, Rick Gauger from Bellingham, Washington, gave us some new vocabulary—phrases like “cyberpunk” and “recreational terrorism”—and a fairly unsettling vision of the future increasingly dependent on computers and telecommunications. Mr. Gauger’s image of a telecommunications future is, as he put it, “Marshall McLuhan’s global village—with teeth.” In this future, you will be periodically awakened at odd hours of the night by random phone calls placed by computer hackers’ telephone harassment programs—just for the fun of it. The thermostatic controls, lighting, and elevators in your “smart” building will be subject to similar random sabotage by computer-equipped malcontents with nothing better to do with their time. Your full-motion video phone answering machine or video messaging service will be constantly jammed by advertisements cleverly disguised as real messages by marketers with access to a detailed database profile of your retail and personal habits. When the IRS electronically impounds your bank account because a festering computer virus erases the tax payment you keyed in months earlier, your bank will stop making the payments on your car—now due and payable daily. The bank will have no trouble repossessing your car, since your cellular phone conveniently keeps the cellular phone company’s computer aware of the car’s whereabouts at all times. Mr. Gauger’s science fiction account is of the “Wired Nation” come to fruition and seriously over-ripened.

It would be comforting to sit back with a trusting smile and think, “We would never let it come to all that—we will legislate and regulate protections.” Mr. Gauger anticipated that response, and pointed out that science fiction writers like Jules Verne wrote about air travel long before it became a reality. But even the science fiction writers failed to

predict outcomes like international air piracy and the accidental shoot-downs of airliners by automated missiles.

At the beginning of my reflections I emphasized that technology evolves in the context of culture. The skills and values of today's children will help determine whether Mr. Gauger's chilling vision comes to pass.

We, as academic observers, policymakers, and regulators bear a heavy burden to consider the directions technology may take us, and to implement public policies that are likely to lead to a preferred, rather than a chaotic, future. To do this we must rationally and cooperatively assess future scenarios. And while regulatory bodies must continue to react to legitimate petitions by our regulated constituents for relief, it is time for us to take a proactive stance in formulating reasonable public policy goals and means to implement those ends. And finally, we must continue to stand for the consumer lest the consumer become the consumed.

ENDNOTES

1. Walker Report, FCC 1938; also FCC Final Report 1939.
2. Derived from data supplied by the Office of Telecommunications, International Trade Administration, U.S. Commerce Department.
3. National Telecommunications and Information Administration, U.S. Department of Commerce *Telecom 2000*, NTIA Special Report 88-21, Washington, D.C., October 1988.
4. Ithiel deSola Pool, *Forecasting The Telephone: A Retrospective Technology Assessment of the Telephone* (Norwood, N.J.: Ablex, 1983).
5. Gene Kimmelman and Mark Cooper, *Divestiture Plus Five: Residential Telephone Service Five Years After the Breakup of AT&T* (Consumer Federation of America, Washington, D.C., December 1988), pp. iii-iv.
6. HR 4102 "Universal Telephone Service Preservation Act of 1983" to amend the Communications Act of 1934 to assure universal telephone service within the United States and for other purposes, 98th Cong., 1st sess.
7. 1985 Illinois HB 1814 to add Article XIII and amend Sec. 4.3 of the "Regulatory Agency Sunset Act."
8. 1981 Iowa Acts Ch. 56 Sec. 4; 1987 Oregon HB 2660 added to ORS Ch. 757; 1986 Virginia HB 275 to amend Title 56 Ch. 19 Secs. 56.531-56.534, establishing the Small Investor-Owned Telephone Utility Act.
9. 1986 Nebraska LB 835 RRS 1943 (reissue 1987) Sec. 86.801-86.811.
10. 1988 Idaho HB 687 amending Title 62, Idaho Code, by the addition of a new Ch. 6, Title 62, Idaho Code (Telecommunications Act of 1988); amending Sec. 61.121; amending Ch. 6 Title 61 by addition of a new Sec. 61.622A; amending Ch. 6, Title 61 by the addition of 9 new Sec. 61.622B; also 1987 Vermont S114 30 V.S.A. to add Secs. 165, 220a, 220c, 220d, 227a and to amend Secs. 102, 203(S), 231.

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11. Washington Laws 1985 Ch. 450 (Substitute SB 3305) amending various parts of RCW 80 and adding new sections to Ch. 80.36 RCW.

12. The contents of this speech were incorporated in Mark S. Fowler, Albert Halprin, James D. Schlichting, " 'Back to the Future': A Model for Telecommunications" 38 *Fed. Comm. L.J.* pp. 145-200.

13. "Remember Ma Bell?" *Washington Post National Weekly Edition*, January 9-15, 1989, pp. 6-8.

14. FCC Docket No. 87.313, In the Matter of Policy and Rules Concerning Rules for Dominant Carriers, Notice of Proposed Rulemaking, August 4, 1987.

15. Summary of Telephone Rate Cases, Industry Analysis Division, Common Carrier Bureau, FCC, April 24, 1990, table 3.

16. *Mountain States Telephone and Telegraph Co. v. The Public Utilities Commission of the State of Colorado*, 763 P 2d 1020 (Colo. 1988).

17. 3FCC Rcd 3195 (1988).