

## **CHAPTER 10**

### **Legacy**

**"The degree in which a measure is necessary,  
can never be a test of the legal right to adopt it:  
that must be a matter of opinion,  
and can only be a test of expediency."**

**Alexander Hamilton**

Fifteen months have now passed since the passage of the new telecommunications law. In that time the political fortunes of many of the key Executive and Congressional players have taken some unusual turns.

Bob Dole retired from the Senate to concentrate full-time on running for the Office of President. Eventually he gained the Republican nomination for President, but was unable to mount an effective campaign. As a result of Dole's ineffective campaigning, William Jefferson Clinton became the first Democratic President since Franklin Delano Roosevelt to be elected to two four year terms as President of the United States.

Al Gore solidified his position as the odds-on favorite candidate for the Democratic Presidential nomination in the year 2000. While Gore's position is firm within the party, a challenger, Richard Gephardt, Democrat from Missouri, has arisen to oppose both Gore and Clinton's positions, and to position himself to challenge Gore in 2000.

After Dole retired from the Senate, Trent Lott was elected Majority Leader of the Senate, and began to move the Senate away from the more radical conservative position of his House colleagues. Newt Gingrich, Speaker of the Republican controlled House of Representatives, eventually was found guilty, by the Ethics Committee of the House, of violating the ethics rules of the Congress, and was fined \$300,000 - the largest fine ever imposed in either House for violation of Ethics rules.

Larry Pressler lost his bid for reelection to the Senate, and retired from public office. John McCain, the Conservative Republican Senator from Arizona who opposed the Pressler/Hollings compromise, became the Chairman of the Senate Commerce Committee. Reed Hundt, Chairman of the Federal Communication Commission, completed the development of new rules for interconnection and universal support, and then announced that he was resigning from his position as head of the F. C. C.

Changes also occurred on the private side of the public/private relationship. Once the new law was signed by President Clinton, on February 8, 1996, the industrial forces were unleashed. In just a little over two months four of the RBOCs disappeared through merger. First the Pacific Telesis Corporation that served California and Nevada merged with Southwestern Bell Corporation that served Texas, Oklahoma, Arkansas, Missouri and Kansas. The new company was called SBC Communications Incorporated. Next Bell Atlantic, which served Virginia, Maryland, Delaware, and Pennsylvania, merged with NYNEX, which served New York state and all the New England States. The new company adopted Bell Atlantic's original name. Not to be outdone, US West next merged with the cable television operator Continental Cablevision.

Entergy re-thought it's position in terms of local New Orleans politics, and decided instead to offer local business telephone service in Baton Rouge, Louisiana, Jackson, Mississippi, and Little Rock, Arkansas. LDDS WorldCom decided that there was strength in numbers, and opened merger negotiations with U. S. Sprint. GTE, Congressman Bliley's favorite telecommunications stock holding, expanded it's services into long distance, and within twelve months had signed on 1,000,000 long distance customers. And Bell South reversed its position against A. T. & T., and instead signed a joint agreement with A. T. & T. to use A. T. & T.'s facilities to offer discounted long distance service. Meanwhile, A. T. & T. opened merger discussions with SBC, Bell South, and Ameritech

Overseas, the new forces created a wave of both expansions and mergers. Bell South became the official telecommunications carrier for Chili, and also began to offer wireless service in eight South

American and Central American nations. U. S. Sprint formed an alliance between itself, France Telecom, and Deutsche Telekom. The British telecommunications firm Cable and Wireless merged with three American cable operators, Bell Cablemedia, NYNEX CableComms, and Videotron. Probably the crowning point of 1996 mergers was the purchase of MCI by British Telecom. The merger, under the new name Concert, created the third largest telecommunications company in the world. Responding to the MCI/British Telecom merger, A. T. & T. formed a new joint venture company with KPN, the Dutch telephone company, Telia, the Swedish Telephone Company, Swiss Telecom, and the Spanish Telefonica.

The Spring 1996 World Trade Organization meeting over telephone liberalization was unable to reach agreement over the specifics of international market entry, But meetings were continued, and a year later, in February, 1997, an agreement was signed between seventy nations, including the United States, which required straight interconnection, at cost access charges, and the ending of all government subsidies. Responding to international trade pressure, the French government voted, in December, 1996, to sell it's share of stock in France Telecom, and Japan's Diet passed a law allowing for partial foreign ownership in NTT.

While the telephone and cable companies were experiencing their forms of industrial realignment, the broadcasting industry also was caught up in the consolidation movement. Walt Disney Corporation and Capital Cities established a joint venture company worth over nineteen billion dollars. Time Warner and Turner Broadcasting agreed to an eight billion dollar merger. Westinghouse Corporation became the largest radio broadcasting company in the United States through its merger with Infinity Broadcasting Corporation. And Rupert Murdoch became the largest television station owner in the United States by adding New World Communications to his Fox television network.

In what can only be seen as a form of classical policy search strategy theory, the national and international telecommunications industries began the process of industrial and governmental realignment. The combination of resource shifts due to corporate mergers, and the subsequent changes in industrial power relations, plus state sector policy and ideology shifts at the national levels toward direct market competition, finally converged with the technological shift that had been emerging for the past thirty-five years. The lack of either industrial or political opposition to the mergers had also dampened the impact that the media might have had on the convergence, and stilled any media voices who might privately be skeptical of the true benefits which would be achieved by society.

The process of media merger which now came into play within the telecommunications industry, had been achieved by allowing the issue of centralization versus decentralization of the industry to be moved from the policy making arena into the market arena. The dampening of the anti-trust requirements and enforcement authority, coupled to the authorization to merge across industrial lines, seemed to allow the industry to move toward centralization on both a national and international level. But while the process of redefining the new industrial and policy regime seemed to be achieving the desired benefits sought by the various social agents involved in the transformation, some unresolved problems, especially within the United States, remained in the background. These potentially disruptive issues, ultimately, revolved around the issue of Federalism within the United States political and economic order.

The final law that was authorized by Congress, had left unresolved two structural issues and one institutional issue. The structural issues concerned local exchange access reform, and the underwriting of support for universal service.

Local exchange access charges had come into existence after the break-up of A. T. & T. under the Greene Court's Final Modified Judgment. Underlying the access charges was the assumption that the local exchanges would remain natural monopolies controlled by a single company. Under the view that developed both within the F. C. C. and the State PUCs, competition in the long distance exchanges would be allowed, but no allowances were contemplated for competition within the local exchanges.

The use of cross-subsidies and separations in order to maintain both low local rates and the physical local network, were prohibited within the long distance rate structure under the new agreements reached with the MFJ. In order to maintain the level of cost support, though, local access charges were developed to offset the loss of revenue from the old A. T. & T./Bell structure. The end result was that the high volume interstate long distance users continued to pay a portion of the costs associated with providing service to the low-volume local users.

The 1996 law, with its rejection of the concept of a natural monopoly within the local exchanges, prohibited the continuation of access charges that artificially inflated rates in either exchange. But, the act also recognized that without some form of subsidies to the local exchanges, the very concept of universal service would disappear as new competitors by-passed the local RBOCs, and avoided the costs of maintaining the local exchange - yet received the benefits of accessing targeted customers through the local exchange.

Thus the problem facing the policy arena was developing a new method of underwriting portions of the local exchange access without artificially placing the burden of such support on a single group of customers, or type of service provider. Further complicating the problem of access reform was also the fact that the access charges were connected to rates established by the RBOCs to interconnect to their local networks. These charges related to local interconnection charges were generally set within both the Federal and State levels of regulation. Thus any attempt to deal with the access charge issue would involve both local and long distance companies, and federal and state regulators.

The local access/interconnection issue was also directly connected to the second structural issue to be resolved, namely universal service. While the law was very clear about its intent to maintain the concept of universal service, it was also very vague about how to proceed. In essence, the law removed the old cross-subsidy and access charge mechanisms that had maintained universal service, but did not replace it with an equally comprehensive alternative system.

Basically the law stated that all citizens of the United States, in all areas, should have available to them advanced telecommunications services at "just, reasonable, and affordable rates". The law further stated that all providers of telecommunications services should make contributions to a universal service fund to underwrite the preservation of access. But in terms of who should receive the benefits of the universal service fund, the law limited the fund's support levies to low-income consumers, citizens in rural, insular, and high cost areas, secondary schools and classrooms, rural health care providers, and libraries. In addition, the law also required that the support mechanism should be constructed at both the Federal and State levels of government.

The assumption made in Congress was that local telephone competition would quickly emerge to keep the price of local telephone service low for the general population. This assumption, in essence, nullified the idea that cross-subsidy was any longer required for the majority of the nation. But it was also recognized that local telephone competition would be slower to emerge in high cost areas, such as rural and inner city areas, and thus targeted cross-subsidy was required until competition emerged in these areas.

But Congress's move to the issues of local access and local exchange support mechanisms had also caused the law to move into the border territory between Federal and State Constitutional rights. While Congress could claim that the entire network was involved in national commerce, and thus fell under its preemptive authority, in fact, the Federal Court rulings of the late 1980s and early 1990s had made it clear that the Constitutional line between Federal and State regulatory authority was still valid. Thus both issues of local access reform and universal support could face Federal Court challenges from either the state government level, or the industrial level. This was the area of potential institutional conflict that Congress sought to address within the new law.

Seeking to avoid a direct confrontation between the Federal and State governments, Congress required that the F. C. C. establish a Joint Board to review the issues of local access reform and universal service. Three members of the F. C. C., and four members selected from the State Public Utility Commissions, would hold formal public interest hearings on the issues involved in seeking reform, and then would make recommendations to the F. C. C. as to the final rules and mechanisms that would be adopted for implementation. In order to assure that the process would not block the emergence of local competition, the F. C. C. was required to complete the process of review and rule making on both issues within fifteen months of the law's signing, in other words by May 8, 1997.

Faced with the fifteen month timeline, the F. C. C. on February 9, 1996 announced a major staff reallocation plan. The separate offices of the Network Services Division and the Office of Engineering and Technology were placed under the direction of a single Chief. The Review Board, which handled initial reviews before being passed to the full Commission, was eliminated. The F. C. C. field offices were cut from 34 to 16, and a system of electronic license filing was instituted to handle the increased number of new requests that were anticipated. Within two months, over twenty-one streamlining recommendations were implemented in order to prepare the agency to handle the eighty new responsibilities directed at it under the new law - while operating with ten million dollars less than the previous fiscal year's budget.

The F. C. C. also immediately established the Joint Board to begin the process of access reform and universal service support. But while the process of implementation was beginning to move forward, and industrial consolidation was just beginning to emerge, signs of weakness in the new policy subsystem began to appear.

Ameritech, the upper Mid-West RBOC, froze access to their one million customer accounts in order to block potential competitors from accessing their customer base information. U. S. West filed requests with all fourteen state PUCs covering its area to withdraw its central office telephone services from its regular listing of bundled services - such a move prevented future competitors from accessing the portion of its network that provided these services. A. T. & T. petitioned the F. C. C. to block the RBOCs from sharing its customer information bases with other long distance companies. While efforts were emerging to block competition through delay and obstruction tactics, the levels of conflict remained low as everyone waited for the final rules to be issued by the Joint Board. But at this critical juncture, the F. C. C. made a decision that was to have serious consequences for the whole process of implementation.

The issue of local access reform contained two elements to be resolved. The first element was access charges, and the second element was interconnection standards and costs. The F. C. C. decided to place the issue of access charges under the review of the Joint Board looking into Universal Service. But the issue of interconnection standards and charges it reserved for itself. Under advice from the Justice Department, the F. C. C. claimed that it had the authority for setting

the national interconnection and pricing standards. By April, the F. C. C. had developed a proposal for setting the standards for interconnection, and was receiving public comments on the recommendations.

The argument being advanced for support of national standards was that without national guidelines, the RBOCs would use the negotiation and arbitration process at the State level to block local access, and thus delay local competition. In support of this position, the national standards group pointed to the U. S. West and Ameritech efforts to block local customer access. The RBOCs, though, denied such an intention, and pointed to over two hundred interconnection agreements that were being negotiated at that time.

Supporting the RBOCs position against national standards was NARUC and the State Public Utility Commissions. Both groups rejected the idea that the F. C. C. could set national pricing standards that were binding on the states, and hinted that any such effort by the F. C. C. would be challenged in Federal Court.

In spite of the opposition, the F. C. C. proceeded with its rule making process, and on August 1 the Commission adopted a series of requirements for local interconnection. Under the new rules, the F. C. C. mandated that the State PUCs had to establish formulas for discounting local interconnection to resellers. In the event the States did not adopt such formulas, the F. C. C. required that a default discount ranging from seventeen to twenty-five percent, depending on specific conditions, would go into place. The new rules also required that the RBOCs unbundle portions of their networks, and resell them to newly emerging competitors at discounted rates. The rules were to become effective on September 30.

Within a month of issuing its rules, GTE and Southern New England Telephone Company appealed the rules in the United States Court of Appeals in Washington on the grounds that the rules were unfair, and required them to sell services at below costs. At the same time, NARUC and the South Dakota Public Utilities Commission also appealed the rules to the Federal Eighth District Court in St. Louis. The NARUC request stated "The F. C. C. exceeded the authority granted it by the Telecommunications Act and recklessly invaded the jurisdiction of state commissions". On September 28, the Eighth District Court in St. Louis agreed to the NARUC request, and ordered a stay on the F. C. C. rules.

The F. C. C. immediately appealed the stay order to the Court of Appeals for the Eight District. But, on October 3, the Court of Appeals refused to lift the stay order. Realizing that the entire process of interconnection access rule making was at stake, the F. C. C. sought to have Supreme Court Justice Clarence Thomas, who had jurisdictional authority over the Eighth Circuit, to overturn the stay order, but once again the F. C. C. met with defeat when on October 30 Justice Thomas left intact the Appeals Court stay order. Seeking relief, the F. C. C. appealed the Eight Circuit ruling to the full Supreme Court, but on November 10 the full Court rejected the F. C. C. appeal. Thus, by mid November, the entire matter of jurisdictional authority over local exchange access was back in the Eight Circuit Court, and F. C. C. authority at the local level was nullified until a final ruling was issued by the St. Louis Court. A full court hearing was set for January, 1997.

While the Eighth Circuit Court problem escalated, the F. C. C. continued to work on the issue of access charge reforms and universal service. In November the Joint Board finally issued its recommendations for funding the new support systems. Under the Board's proposals a universal support fund would be established based on each telecommunications carriers total revenues from both interstate and intrastate services. The funds that would be collected would be available to

under write costs for access to the various designated groups based on sliding scales ranging from twenty percent to ninety percent - depending on conditions of local costs.

Once again, the issue of jurisdictional authority raised its head, with PUCs in Alabama, California, Colorado, Georgia, Illinois, Iowa, Kansas, Kentucky, Maryland, Missouri, New York, and Utah arguing that the new law did not give the F. C. C. the authority to base a new universal support fund on the intrastate portion of telecommunications revenue. The threat of another Federal Court intervention slowed the final rule making process.

By February, 1997, one year after the passage of the new law, the entire process of creating competition in the local and national exchanges had slowed to a crawl. In addition to the St. Louis lawsuit, and the threat of another State initiated lawsuit if the Universal support fund revenue contribution was not changed, other Court actions were appearing. GTE filed another lawsuit in Texas against a decision by the State PUC's arbitration decision concerning A. T. & T. access to its local exchange. This Texas suit followed similar court actions by G. T. E. in Illinois, Pennsylvania, Virginia, Washington, and Missouri - all directed at the State regulators. MCI filed a complaint with the F. C. C. that U.S. West's switching fees - the charge for switching customers from one long distance customer to another - were excessive and unjustified.

Complaints against the F. C. C. began to be heard from across the telecommunications regime. Bell Atlantic claimed that the F. C. C. was increasing regulations rather than decreasing them. Senator John McCain began to attack the fact that both cable and telephone rates had risen rather than fallen. Representative Billy Tauzin (R., LA) berated the F. C. C., and claimed that it was the major impediment to creating competition. And even Vice-President Gore was admitting that the benefits of deregulation would take several years to be seen by the average consumer.

At this point in time, the entire process of deregulation and competition is stalled and awaiting decisions from the Eighth Circuit Court. Both the access and universal support issues will probably be appealed in Court, and further delays in telecommunications reform await our future.

One needs to ask what is missing from this new regime that has caused such a major failure at the implementation stage. In order to provide that answer, one must look back into the political and economic history of the development of the telecommunications network and policy subsystem.

In terms of the theory of policy subsystem development, we see that the concept of the "network" has played a major role in defining both the development of the telecommunications industry, and the policy subsystem membership.

The "network" concept developed very early in the establishment of telecommunications within the United States. By the late 1940s, the concept of network development was already recognized by the industry. Grounding this concept of a network were principles of economic competition which were also recognized by the early industrial developers.

In order for the "network" to be economically viable, two factors needed to be exploited. The first factor was customer access and pass through. Under this concept, the greater number of customers connected to any one network increased the overall value of the network due to the fact that signals within the network could be passed through without having to be retransmitted across other networks. Thus a single line of transmission, unimpeded by other connection requirements or charges, leads to a straight line of transmission, and an increase in speed of transmission with a decrease in technical coupling plus costs.

The first factor leads then to the second factor of economic viability, namely that the more comprehensive and wide spread the network access is to customers, the more valuable the network becomes in terms of both customer demand and industrial position. This factor leads to the development of the principle, within the industry, of expansion of each network to cover as broad an area, both geographically and socially, as is possible in order to capture market share, and raise each company's position in terms of other companies competing within the industry.

This principle of "network" comprehensiveness was recognized very early in the development of the industry, but was not echoed in the Congressional debates over whether or not the telegraph system should or should not be nationalized. Other nations, also facing the same principles, recognized the economic principle and decided that the nature of the industry required government ownership and control. But the United States rejected the government ownership and control concept, opting instead to allow the development of the industry to occur within the private sector.

The United States's decision was based on a single Constitutional concept that dominated this early debate, and that concept was referred to as "dual federalism". In essence, at that time, dual governmental authority within the United States was split between both the Federal and State levels of government. While the Whig party, at this time, would have preferred a form of limited national development policy, the underlying social order's support of limited and split governmental authority restricted the ability to form such a national policy. Thus economic development of the early telecommunications industry was left in the hands of each state government, and was similar to the economic development policy pursued in other forms of "transportation industries" such as railroads, canals, and roads.

The failure of the national government to recognize the "network concept" completely undermined the split economic development policy. The early telecommunications industry, responding to the economics of network development, quickly began to move toward consolidation and merger. Thus, within fifteen years, the industry moved from a series of local and regional networks into a single national communications network, and eventually into a national telegraph monopoly.

With the emergence of a national network and monopoly, the national government recognized that the split authority model of policy development had failed. While Congress struggled with the problem of developing a new policy regime for a national network, it was hampered by the continuing use of dual federalism concepts to actually create a new policy regime.

In this atmosphere of confusion and limitations on governmental authority, the telephone network emerged in the 1870s. Due to the technological limitations on early telephone service, namely the distance limitations within the communications network architecture, the government, at both the Federal and State levels, extended the older split government development policy to the telephone industry. But, once again, the government had failed to recognize the underlying principles of network development within a communications system.

While the government had failed to recognize the principles of network development and building, the industry not only recognized the concepts, but developed a long term strategy to create such a national network. Aiding the industry in their long term strategy was government's inability to extend national authority over network building.

Theodore Vail, while still limited by the existing technological platform, recognized that eventually such a national network would emerge. Pursuing such a long term goal led to A. T. & T. creating a fully integrated company and network which controlled not only the local and long distance aspects of the network, but also built a patent wall around the technological developments within the



industry. Since Bell's proprietary rights were recognized as exclusive, the company was able to create the basic structure necessary to dominate the voice grade network, and to do so with limited government interference or oversight.

Thus, initially, the telephone industry was able to develop under an almost exclusive Sectoral development model, with little or no government involvement in the expansion of the network, or the development of customers services. At this time, the only issues facing the industry are in fact the relations between other members of the industry.

Governmental involvement in the industry begins to emerge in the late 1890s. This development occurs because two factors, simultaneously, emerge. One factor is related to the industry itself, and the other factor is related to the overall society.

The industrial factor that emerges is the rise of economic competition within the network with the expiration of the original patent rights of Bell Telephone. Once the exclusive knowledge held by Bell Telephone passes into the public domain, industrial competitors arise to challenge Bell's position, and to develop alternative networks.

The rise of alternative networks, though, does not undermine the basic economic principles of network building within the industry, namely access to customers and the limiting of pass through transmissions through other networks. A. T. & T., as the only national long distance network provider, blocks access to the national network it has created. This blockage fuels industrial competition and hostility, and leads to calls from other competitors to have the government either mandate interconnection or dismember A. T. & T.

This level of industrial conflict emerges during the same time that society, recognizing the failure of the split governmental authority model to oversee national industrial development, begins to redefine the role of the national government in terms of national commerce. While, initially, the new oversight role for government is focused on other areas of industrial competition, the telephone industry's conflict is also moved into this new governmental reordering. While the defined roles of either the industrial members or governmental members of this new arrangement have not yet been established, they do form a mutually linked group centered around the issue of network access.

At this point in time, the early 1900s, the telephone group has moved to a configuration similar to the concept of a policy issue network. While each member in the group has a somewhat different agenda and area of concern, they find that they are unable to separate their issues from one another due to the fact that each is dependent on the viability and scope of the national network. It is during this period, that government at both the Federal and State level recognizes the underlying principles of network interconnection and building, and moves to formalize the relationship between the industrial members and the government.

A. T. & T., recognizing that the governmental role has now entered the industrial arena, and seeking to blunt any movement toward nationalization, relents on its policy of blocking interconnection. In its place, A. T. & T. advances the concept of "universal access", and the necessity of maintaining transmissions standards within the total network. From its position of dominance, A. T. & T. positions itself as the "network manager", and forms a mutually supporting relation with its industrial competitors. The government recognizes the new industrial relation, and in the process certifies A. T. & T. as the "network manager".

At this point, the 1910s, the issue network evolves into a policy subsystem composed of State and Federal regulatory agencies, and industrial members grouped under the authority of A. T. & T.'s network manager position. Technical standards and rights of access are defined by A. T. & T., and a public service model is developed for the corporation based upon the economic proposition which has been developed known as a "natural monopoly".

During the 1920s, A. T. & T. uses its position as network manager to extend its influence and control over the entire national communications network. The company's inclusion in the development of the newly emerging broadcasting industry further solidifies its position, and this position is further certified by the government through excluding the company from any anti-trust actions based upon its acquisition of other telephone or communications companies. A. T. & T.'s position is further supported by segmenting the "network" into two distinct spheres. Voice grade networks are divorced from broadcasting and wireless networks, and each placed in separate areas of both technical knowledge and legal foundations. This separation and splitting of the concept of the network, successfully shields A. T. & T. from a further round of industrial competition, and reinforces its position as the network manager. Thus, by the end of the 1920s, the policy subsystem has moved to the classical position of an "iron triangle", and is controlled by the industrial members of the policy subsystem with A. T. & T. as the dominate member.

The iron triangle configuration falls during the 1930s. The failure of scientific management to avoid the economic crisis of the Great Depression completely undermines any public confidence in the leadership of the private industrial sector. Responding to the crisis, governmental authority on the Federal level is extend across the entire industrial arena of the United States. The telephone policy subsystem is also included in this newly emerging relationship, and is finalized in the creation of the Federal Communications Commission. At this time, the telephone group moves back toward a policy subsystem model.

The newly created Federal agency, though, is hampered by three structural factors previously developed. The first factor is that A. T. & T. is exempted from any anti-trust action based upon its merger with other telephone companies. The second factor limiting the agency is the continued split of the concept of the network into two spheres, namely voice wire based networks versus wireless based networks. The final factor is the continued reification of the split authority of regulation between the Federal AND State levels of government. This splitting, in essence, limits Federal action to only those aspects of the network dealing with vice grade long distance transmissions.

The newly emerging Federal agency, though, also has received a Congressional charge to oversee the "public interests" in terms of network access, and to also pursue possible anti-trust actions against A. T. & T. for violations of secondary equipment monopolies. While pursuing this avenue toward industrial oversight, the agency initiates an investigation that leads to the recommendation of dismemberment of A. T. & T., and the development of a new form of industrial structure.

The recommendation, though, is rejected not only by the industry, but also by the political leadership. Unable to advance a new industrial order, the agency retreats, and the existing policy subsystem structure remains in place.

While initially successful in defeating the government challenge, the industry once again encounters the old issue of network access. As the patents begin to expire on the wireless control over vacuum tubes and other forms of technological innovations within the communications industry, a new round of technological competition arises within the industry. New competitors from other industrial sectors enter the arena, and tap the emerging wireless communications platform. As these independent platforms emerge, demands arise, once again, for interconnection

to the entire national network. Conflict is further aggravated by the fact that the new communications platforms are able to bypass the direct control of the "network manager", and thus threaten the existing power relationships within the national network.

As the level of conflict rises within the network, and the number of groups tapping the network expands, the policy subsystem model begins to break down. In place of the policy subsystem, the telephone regime once again evolves into an issue network with various groups pursuing conflicting agendas and issues, but still dependent on their ability to interconnect to the total network. At this point in time, the 1970s and early 1980s, the conflict still remains centered around the telephone network.

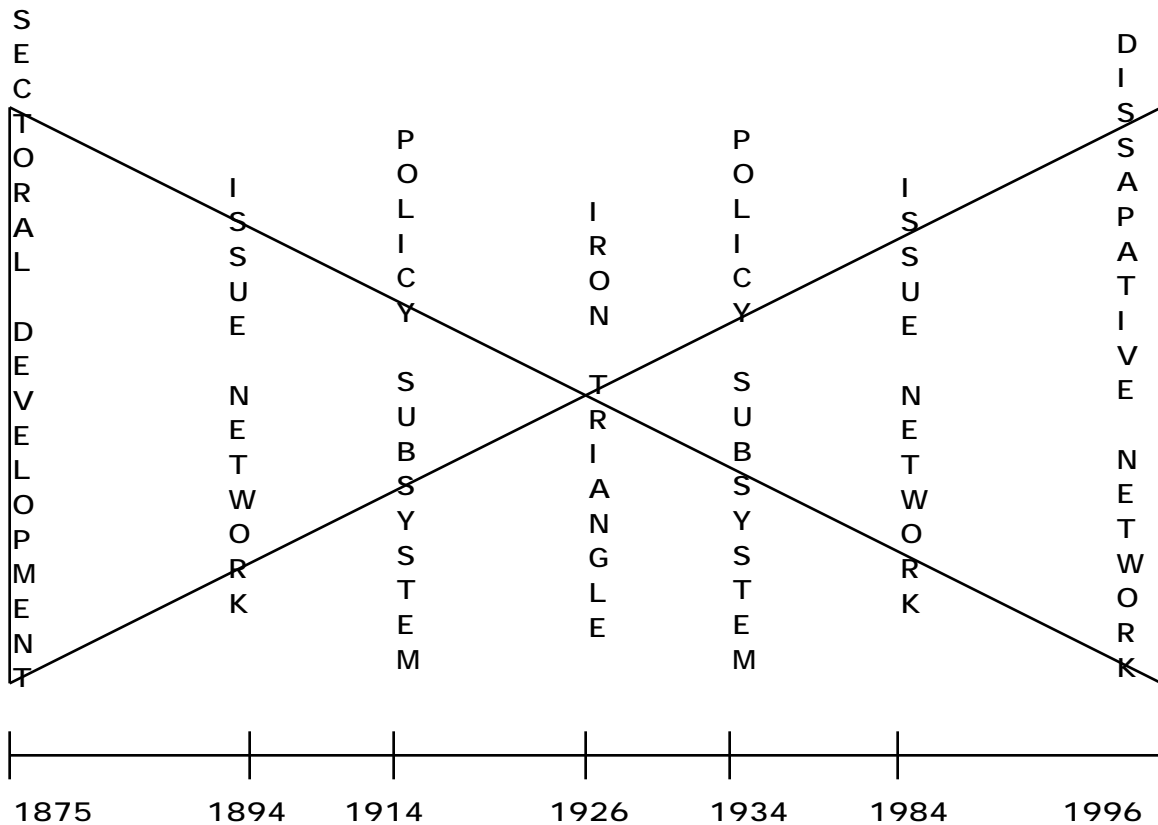
After the MFJ decision of 1984, though, the conflict actually escalates. Driving the escalation is the expansion of the global economic issues into the network, and the technological convergence of the communications platform between the various communications industries. The national network has been decoupled into seven regional local networks, along with a variety of independent local and long distance networks. As various communications industries also begin to use a variety of communications networks to transmit a wide range of types of communications, the traditional boundaries between the communications industries also begin to fall, adding even further chaos into the network itself.

Finally the issue of network access becomes so all encompassing, taking in all national and international communications, and all forms of communications, that the elements holding the issue network also fail. Access to the network now is the only critical factor as different groups, with completely different historical, legal, and technical foundations find themselves in conflict with each other - but all needing and seeking access to all the networks.

By 1996, the issues have become so conflicted that the entire policy regime has been decoupled from any legal or technical base, and evolves into a form of dissipative network grounded on mutual access to the network, but sharing no commonality of interests or knowledge. The governmental leadership, unable to conceptualize this newly emerging system of communications, decoupled all the networks from the historical foundations of government regulation and oversight. In the process, the older regulatory regime is charged with a new role, namely overseeing access to all of the networks, and the next round of competitive evolution is allowed to enter the social order.

From a historical standpoint, we thus see that the evolution of the policy subsystem appears as follows.

## EVOLUTION OF THE TELEPHONE POLICY SYSTEM



While the above model shows how the telephone policy system evolved over a 121 year period, it still does not totally explain why the policy system evolved along this particular path. In order to discover this underlying structural process, one has to look more carefully into the related social history that surrounded this development.

The Constitutional Debates of 1787 were centered on a discussion over the social and economic merits of a powerful central government overseeing a group of weak state governments, versus the greater sense of community and personal commitment that would be found in a weak central government controlled by powerful state governments. In essence, it was a discussion over whether or not the United States would develop a Constitutional order that was centralized or decentralized. The Centrists position was, in general, favored by the Federalists, while the decentralization position was favored by the Anti-Federalists.

In the end, the Constitutional order that was created combined elements of both forms of government into a single "system" of government. A "Centrists" government was created and located within the national capital. But the Centrists government was offset by an additional dispersion of authority within the legislative bodies of each of the member States. The compromise, which was the creation of James Madison, became known as Compound Federalism.

Originally, areas of authority were divided between the two levels of government, and a form of independent sovereignty of action resided in the defined areas. Thus there was an institutional

separation of authority premised upon beliefs in terms of whether or not the affected area of action was national in scope (such as defense). or local in scope (such as the chartering of businesses).

Yet in spite of the division of authority and rights of actions, the two levels of government were linked together in a unified system of authority and rights. This linking of the two levels of government into a unified "system" allowed for the unresolved issue of centralization versus decentralization to coexist without ultimately destroying the entire system of constitutional government.

Holding the process of government together was an underlying concept of the "constitutional rights of place". Each level of government had both legitimate rights and powers defined within the new constitutional order. Holding rights of office in either level of government meant that there were both legitimate rights of independent action, and, at the same time, limits or constraints on independent actions. Thus the final process that was forged in Philadelphia created a series of boundaries between the two levels of government, and prescribed limits on the levels of actions that either level of government could take in terms of either affecting the other level of government, or breaching the established boundaries of authority and rights.

In order to allow for "adjustments" over time, a third body of government was created to serve as an arbitrator between the two levels of government. This third body was the Federal Court system, which was empowered to rule on the propriety of actions of either body, within the limits of the constitutional order, and their respective authority to act within the defined limits of the constitutional order.

The creation of this "system" of government allowed an adjustment mechanism to be placed within the belief system of the society. As the "system" of American existence moved across time, and encountered new issues and factors not previously understood, the "system" was able to move authority in either a centralist manner or a decentralization manner. But since the "system" also contained two opposing positions, each established with defined levels of authority and rights of actions, movement in either direction, centralist or decentralization, had to occur within a constraint, namely the opposing position, which would prohibit the system from ever totally reaching either a complete centralist or decentralization position. Thus the system could adjust in either direction, but could not ultimately reach the outer limits of either direction.

It is this "flex" within the system of government in the United States that allows the society to adjust its power and resource allocations within the society depending on the external pressures it experiences over time. Yet the combined existence of both forms of government within the same system also allows for both beliefs to coexist within our social existence, without ever, though, dominating the entire society. Thus a primary structural principle within all policy subsystems of the United States must be a recognition of our split belief concerning both centralism and decentralization of governmental authority, and our acceptance of mechanisms for adjusting the mix of authority arrangements depending on the external and internal factors we encounter, and the subsequent types of pressures that are brought to bear on the specific policy area under consideration.

But the division of political authority and power within the society was not limited to only the public aspects of our existence, but also included the private aspects of our commercial life. The United States, at the time of its creation, was unique not only in the sense that it was the creation within a belief in representative democracy, but also because it was the one of the few times that the private side of social existence created the rights and limits of the public side of existence.

Prior to the American Revolution, the development of private rights had occurred as a result of struggles by individuals and groups to force the public side of society, government, to recognize both individual rights of actions, and the right of private actions independent of control by the public side of our social order. Each of these struggles was an attempt to establish a boundary of private rights of existence independent from the overall authority of government. In almost all cases, the public side of existence, government, had to agree to concede a part of its authority in order for there to be established an area of private and personal rights.

But the American Revolution, and the eventual Constitutional Convention, was unique for it in fact reversed the established process of establishing the boundary between both the public and private sides of society. Once the American planters, merchants, and tradesmen broke their ties with the English Crown, the only force binding them together in a public order was their personal inclination. In fact, at that point in time, all decision making authority within the United States existed within the private side of society, and was not qualified by any existing or binding public institutional authority able to coerce or force compliance with any public act or law - only force of arms could dominate within the social order. Within each of the States, bodies of authority were created, overseen by the private side of existence, which limited the reach and base of governmental action. Any form of national authority was strictly voluntary, and could be rejected by any of the member states and its legislative members.

In essence, the United States was created within a process in which all authority was held in the private side of our social existence. The creation of the State legislatures, the Articles of Confederation, and eventually the Constitution, was a process whereby the private side of existence agreed to give-up certain rights to the collective in order to create a system of uniform governance and stability. Thus the creation of the public side of social existence within the United States was limited by the private side of our existence, and rather than having to fight to establish private rights within the United States, the greatest challenge facing the newly formed Republic was the creation of public rights. This was especially the case in terms of the rights of property ownership, and the limits of such ownership in terms of overall social benefits.

This debate over private property and the development of commercial existence also became embroiled in the underlying tension between the unresolved question of centralism versus decentralization. Very early in the infancy of the new Constitutional order, a political confrontation occurred between Alexander Hamilton's vision of a centrist economic position versus Thomas Jefferson's belief in a decentralized economic order which created equity between all members of the society.

Alexander Hamilton was an early advocate of the development of economics, and was one of the few men in the early stages of the development of the United States that had studied Adam Smith's theories of economics. But rather than accepting Smith's arguments for Laissez Faire capitalism, Hamilton rejected Smith's opposition toward government intervention in the economy. Hamilton, instead, supported the perpetuation of Mercantilism within the American economic order, and sought to entice both business and government elites into accepting an interventionists role for the government in the development of the national economy. Hamilton sought to build upon the existing strengths of American Commerce and industry, promoting the further growth and expansion of those industries.

The Federalists Party, which Hamilton almost single handily created, sought to have government intervene directly in the economy to support business growth. In addition, Hamilton's agenda also sought to have the business elites actively participate in the creation and development of the

national economic order, and to support their individual growth and consolidation of industries within their personal areas of expertise and endeavor.

The political culture developed under the Hamiltonian Centrists position had a belief in a strong national government influence on both economics and industry. This strong centrists position, it was felt, would lead to efficiency and an effective exchange system for industry, and would be guided by both the political and economic elites of the society who would personally benefit from their efforts. As the economy grew, all society would eventually benefit, even though wealth might become concentrated in fewer and fewer hands. Thus government had a limited role in promoting the development of this expanding economy, but was critical in assisting the social and economic elites in guiding economic society to the proper position.

Opposing Hamilton's Centrist position was Thomas Jefferson. Jefferson followed in the tradition of the Anti-federalists confederation principles, and the belief that power was state-centered. Under the Jeffersonian concept of dual federalism, the states were sovereign, and the central government was dependent on the states for its continued existence. Following from this belief, power and privilege were local in nature, not national, and lead to a strengthening of local cultures and commitments to the principles of republicanism and democracy. This principle was also applied in the area of economic development and power.

The localization of power and resources, under Jefferson's view, perpetuated populist democracy by emphasizing dispersion of both individual liberty and economic equality across the broad base of the society. Rather than having government at the national level promote the expansion of national industrial development and economic concentration, Jefferson's view mirrored the anti-federalist position toward decentralization and a dispersion of wealth across the society in order to create equality among all members of the society, both politically and economically.

The conflict over Hamilton's economic centralism and Jefferson economic opportunism has played itself out over time within all of our policy areas. It has generally manifested itself within our society's use of government authority to set or not set limits on the levels of the accumulation of wealth, and the tools we have developed to enforce our regulatory systems.

The tension between economic centralism and decentralization has manifested itself in various forms. Hamilton's centrists position has been manifested in the conflict over the creation of a national bank, the late nineteenth century protectionism of big industry by the Supreme Court rulings, the evolution of regulatory centralism after World War II, and even the expansion of intergovernmental grants to foster the development of social welfare programs.

On the other hand, Jefferson's decentralized approach toward economics manifested itself during the early 1800s by the dominance of state governments in the development of the early transportation and communications systems, and the grants of lands for settlement within the newly acquired western territories. While the concept of dual federalism declined after 1930, it eventually had a resurgence during the 1960s and 1970s under the Administration of Richard Nixon and his "New Federalism" program. This trend, which prevailed through all administrations in the 1970s and 1980s, sought to decentralize government power by returning decision making to the state levels. In addition, though, to decentralizing political power, the Jeffersonian tradition sought to decentralize economic concentration by deregulating society, and expanding the areas of economic competition available for potential entrepreneurs.

The net result of the conflicting value over decentralization versus centralization of economic power, is that we have, in addition to the ongoing Federalist/Anti-Federalist position over political

power, another adjusting mechanism within our society that allows us to move the accumulation of private resources either in the direction of centralization, or in the direction of decentralization. Tools such as the Sherman Anti-Trust Act and the Tunney Act can be used if any one person or organization gains too much control over any aspect of the private economic sector. The government is then able to intercede, and require that wealth be redistributed through the use of anti-trust actions and orders.

Once again, we have been able to create a system of beliefs within our society, in terms of personal wealth, that allows us to accommodate two opposing positions within a single belief structure and system of governance.

The net result of these two structural properties is that the United States contains two balancing mechanisms within its governmental and business order: i.e. in both its public and private spheres of existence. On one hand is the balancing of governmental power, and the location of that public power, and on the other hand is the balancing of economic power, and the location of that private source of power. The mechanism might be conceptualized as a box in which two sets of sliding scales are located. One scale moves up and down, the other scales moves right to left. The first scale represents the dispersion of public power through the political order, and the second scale represents the dispersion of economic power through the private order. Surrounding the box is the society, and the environmental factors affecting society through time.

Mounting pressures in the external environment produces a sliding of the two scales. When the scales reach a point in which the external pressure is relieved, the system stops and reconfigure both the allocation of public and private resources and power. But since the system contains both opposing values, the scales can never travel completely to either a total centrists or decentralization position - the existence of the opposing value within the system produces a constraint within the system blocking passage to either extreme.

Thus as one moves closer to centralism, resistance from decentralization increases, and places a drag on the direction of force. Eventually a braking pressure occurs, and stops all forward momentum.

Within the telecommunications policy subsystem the control over movement toward governmental centralization or decentralization has been exercised by the split regulatory authority found within both the Federal and State levels of government. This division of regulatory authority has limited development in either direction. In addition, the economics of the industry has also been a major factor in constraining the system from economic movement in either direction.

In terms of the private application of resources, the system has been constrained by the high capitalization costs required to build and service the telecommunications infrastructure. This high cost factor has tended to push the industry toward consolidation and centralization. Constraining this tendency, though, is the anti-trust enforcement authority found within the various laws of the United States which have supported the original concepts of Jeffersonian economic equity.

Over time, we see that the telecommunications policy subsystem has moved from various locations on the two scales based on social environmental factors it has encountered. Sometimes it has tended toward centralization in both its corporate structure and its governmental regulatory structure. Other times, such as the turn of the century and the period from 1984 to the present, it has moved toward the decentralization end of both governmental and corporate forms.



Driving the systems tendency to move in either direction has been the level of social concern and perception of problems within the overall social order. As crisis has mounted within the society, the system has tended toward centralization of both governmental and corporate forms. As a sense of crisis has abated, and pressure within the overall society has decreased, there tends to be movement toward decentralization in both the governmental and corporate structure. But the interesting thing is that in either case, increased pressure or decreased pressure, the system does not move totally to either end of the scale.

As with any type of system, the level of energy within the policy subsystem, in terms of social concerns, has a direct impact on the level and direction of movement of the policy subsystem. One might see this movement as actually a form of energy cycle that has both high and low points of power output, and yet is seeking to maintain an average rate of output around some point between either total centralism or total decentralization. An increase in energy output in one direction is caused at the expense of the energy level of the opposite extreme. Eventually, the energy cycle drain against the opposing position reaches a point that no longer is viable, and forces a reduction in the level of energy output. When this occurs, the cycle cuts back, and slides back toward a point of equilibrium within the energy field.

Thus the movement within the policy subsystem is not actually linear in direction, but rather is cyclical, moving around an average level of energy output. In essence, the system moves in a circular manner around a central point of equilibrium, first in one direction, then in another, but always maintained in its cycle by the limits of energy output and drain on either end of the cycle.

Should the cycle, for whatever reason, push itself beyond the limits of equilibrium, and in essence create a critical drain on the level of energy on the opposite side of the cycle, then the system is thrown out of equilibrium and will begin to cycle in an eradicate manner. The lack of symmetry of energy exchange will further escalate the eradicate swings, and cause an even greater drain on energy.

This process will continue until one of two possibilities is reached. The first is the possibility of eventual energy dissipation where all energy exchange is stopped. This point of entropy will signal the death of the policy subsystem. The other option will be the establishment of a new energy cycle range established around a new point of average exchange. If this occurs then the system will reconfigure its energy waves in such a way as to reach a new form of equilibrium. It is exactly this cyclical exchange pattern that we see manifested within the history of the telephone policy subsystem of the United States.

All capitalistic systems attempt to use free market principles to eventually eliminate the level of commerce in various commodity exchanges by reducing the number of competitive parties engaged in the selling process within the commodity chain. This is a basic principle of free market competition that is usually manifested under the idea that competition will result in a lowering of prices, and a driving-out of the commodity exchange the less efficient and less productive sellers of the various commodities.

In the case of a telephone network, though, state power is used to constrain the potential number of competitors which would be allowed to sell within the commodity exchange. Thus the initial capitalistic principle is evident, reduction in the number of sellers in the commodity exchange, but the method used to produce the reduction is not market competition but instead is market licensing. Only a set number of corporations are licensed to provide services within the telephone commodity exchange. This is due, in principle, to the high capitalization costs involved in the creation of the

network, and the guaranteeing of a market sale price high enough to generate a margin of profit sufficient to offset the high initial start-up costs.

Within the American Constitutional and economic system, though, the creation of a state granted monopoly advocates the centrists position of Hamiltonian economics, and challenges the traditional Anti-Federalists/Jeffersonian concepts of dispersion of economic opportunity and decentralization. Historically, the decentralized position toward economic development and industrial growth has advocated a limiting of the size of any one firm within any commodity exchange. By limiting the size of each firm within the exchange, you limit the ability of any one firm to fill the total demand for the commodity within the exchange. This limiting of firm size in relation to total demand, leads to an increase in the level and number of firms engaged in the commodity exchange. The chain thus becomes longer, more complex, and less likely to be controlled by any one firm within the exchange.

While the Anti-Federalist position would concede that this increase in competition within the exchange would not, by itself, completely block the development of a monopoly, especially on a regional basis, they would argue that the potential number of monopolies that could be created would increase and in fact restrict the ability of any one firm to dominate the exchange. Thus this process of limiting total firm size in relation to the total level of demand within the exchange, can lead to a level of control over prohibiting unequal exchanges and setting the conditions for profit making.

Thus within the American system of regulatory control there exist two concepts of industrial development. The Hamiltonian centrists position would advocate restricting the number of competitors within the commodity exchange through the granting of monopoly licenses. The Jeffersonian decentralization position, on the other hand, would advocate restricting the size of the firms within the commodity exchange in order to encourage an increased number of sellers within the exchange. The Hamiltonian position would have advocates under the concept of a telephone network as a "natural monopoly", while the Jeffersonian position would be found manifested under the principles of anti-trust laws and free market competition.

The history of the telephone policy subsystem shows a tendency for the subsystem to move back and forth between these two conflicting principles, Hamiltonian centralism and Jeffersonian decentralization. The history of the subsystem also shows a deliberate attempt on the part of corporate management to balance both positions, and to establish a point of equilibrium between the two conflicting values. The movement of the policy subsystem between these two opposing values creates a similar type of cyclical exchange pattern described earlier in terms of the policy subsystem seeking to maintain equilibrium. In fact, the telephone policy subsystem moves, over time, between both centrists and decentralization positions in terms of its relationship and adjustments to either the national government or the state governments.

To some extent, the strategy is successful in that A. T. & T. maintains a dominate position within the policy subsystem. But, since the underlying cycle is actually an underlying conflicting value within the governmental order of the United States, one that produces an ongoing level of tension, the telephone policy agents have never able to completely remove conflict from the policy subsystem.

From the perspective of the social agents, both public and private, engaged in the telephone policy subsystem, there was, and is, an assumption that the system itself is deterministic, and the equilibrium between centralization versus decentralization can be maintained by the use of rationalism and science. As political and economic pressure within the subsystem mounted, the

social agents acted as if the system was a form of open system capable of adapting its internal processes based on the levels of feedback it was receiving from the external environment. Over the majority of the subsystem's existence, the use of incrementalism and adaptation was sufficient for the subsystem to maintain an overall sense of self-identity; autopoiesis.

But the subsystem, in fact, was also grounded on another central tenant, namely that the government played a crucial role in defining who was allowed to participate within the subsystem, what were both the legal and corporate rights of the subsystem participants, and what was the ultimate goal being sought by the creation and designation of various rights and responsibilities within the policy subsystem. To a great degree, this designated governmental role was a critical factor in the strategies that were developed within the policy subsystem.

What has created confusion, though, for the social agents engaged in the policy subsystem was the changing nature of the governmental role over the twentieth century. Once again, in order to understand this changing role, we must return to the original economic debates between Hamilton and Jefferson.

Jefferson's position concerning the decentralization of both political and economic power, was an accurate reflection of the society that existed during Jefferson's time. Both political and economic power were localized, and dispersed across the base of society. In a sense, Jefferson's position was an accurate assessment of the United States during the late 1700s and the early 1800s.

Hamilton's position, though, was not so much a reflection of what was, but rather was a vision of what was to develop during the nineteenth century in the United States. Hamilton saw the Age of Industrial Capitalism, and sought to create a centrists economic development policy that would promote the emergence of industrial capitalism.

When the Age of Industrialization finally emerged in the second half of the 1800s, government policy at both the State and Federal level began to move toward Hamilton's concepts of industrial and economic growth. But movement toward Hamilton's position also generated a social desire for promoting Jefferson's concepts of economic dispersion and opportunity, and a fear that complete movement toward Hamiltonian centralism would undermine Jeffersonian concepts of equalitarian republican values.

In order to accommodate both beliefs, economic centrists growth and economic decentralization opportunity, the Progressive Reform movement sought to develop a public policy that manifested both values - the benefits of industrial growth coupled to the concept of equity of economic opportunity. This attempt to merge the benefits of both Hamiltonian centralism and Jeffersonian decentralization became the underlying structuring principle of regulatory action within the telephone policy subsystem during the twentieth century. Whether the banner was Progressive Reform, Hooverian Mutualism, Roosevelt's New Deal, Eisenhower's Industrial Promotion, Nixon's New Federalism, Reagan's Deregulation, Clinton's New Covenant, or Gingrich's Opportunity Society, the underlying common value shared by all the movements was to achieve the magic combination of the benefits from modern industrialization coupled to equalitarian economic opportunity. The only question in all of these various movements was the level of incremental direction that should be taken either toward economic centralism or decentralization. In the end, the bottom line agenda was the same, give us both. This search for combining the benefits of both positions, but avoiding the negative consequences of either position, is, once again, seen in the current telecommunications law.

Understanding the development of the telephone policy subsystem has also been complicated by the fact that its growth and evolution has spanned two centuries in which two different underlying assumptions have been dominant within the social and political order of the United States. This development, and the traditions that have followed from its historical path, have often led to confusion on the part of both sides of the relationship, namely the corporate and government agents engaged in the policy process.

Initially, the telephone policy subsystem operated under principles of minimal government interaction with the corporation. While Federal officials worried about the effects of increased industrialization on society, and eventually passed laws regulating them under the concepts of anti-trust, the telephone network was exempted from such national scrutiny. The corporation held a proprietary right to the technology, and thus was the exclusive provider of services. During this initial development period, the relationship to government was strictly limited to business chartering laws in various states. The firm, following the principles of engineering science prevalent during this time, pursued the traditional concept of developing a completely closed system in which all aspects of the business were incorporated within the firm. This was the basis for A. T. & T.'s vertical and horizontal integration of all aspects of the telephone business.

Up to end of this period, 1894, the firm actually was engaged in a true closed system of existence. The firm was completely self-reliant, and was able to structure itself internally in such a way that it could maintain its own processes without concern for external environmental factors. In many ways, A. T. & T. reflected the traditional model of industrial development prevalent within the United States during this same time period, namely a completely closed, self-reliant system, linked together either through complete organizational integration or the use of an over-arching corporate trust.

During this same time period, private property rights, supported by various Federal Court rulings, perpetuated the closed system model, and allowed the firm to operate with a great degree of independence from governmental agents.

But the system of both corporate and government relations radically changed after the expiration of the patent monopoly in 1894. The expiration of the patents opened the entire commodity exchange in telephone service to traditional economic competition. At this point in time the firm moved from a closed system approach to an open systems approach. The subsequent level of competition within both the local and national markets caused the major firm, A. T. & T., to adopt various types of competitive strategies and internal organizational structures to meet the rising level of competition from the newly emerging firms.

But the movement of the firm toward an open system model also occurred at the same time that the Progressive Reform movement began to advance its agenda for achieving industrial growth benefits while seeking to maintain economic opportunity and equity of access. Thus the firm moved toward an adaptive strategy based on external feedback, while the public side moved to a strategy of achieving equilibrium between the interaction of both centralism and decentralization in economic development.

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In essence, the firm adopted a concept of an open system, while the governmental side of the relationship adopted the form of a dissipative system.<sup>122</sup> Thus the firm viewed the world in terms

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<sup>122</sup> A dissipative system is a form of entity which exists within a turbulent environment. In such an environment, the system, seeking to maintain equilibrium and stability, must realign both its external and internal structures as conditions change within the environment. Usually such realignment results in a more complex organizational structure which is able

of linear relationships, while the governmental side of the relationship viewed the world in terms of nonlinear interactions, or, to phrase the matter in simplistic terms, the firm saw the world in terms of economic cause and effects, and the government agents saw the world in terms of social interactions; namely the politics of constitutional balance and adaptation.

Eventually the mismatch between perception and actual results became evident to the management of the firm. It was at this point that the firm adjusted its position in order to achieve a new point of equilibrium.

The original point of equilibrium within the system related to the self-reinforcing relationship established between A. T. & T. and the various State Public Utility Commissions. In order to encourage expansion of the network, and its use by all the members of society, A. T. & T. and the State Public Utility Commissions developed the initial concepts of cross-subsidization. By charging higher rates for commercial access, residential rate access was under-written, and network expansion was encouraged.

In one of the most unusual moves in American Corporate history, A. T. & T. reversed the traditional "capture" theory commonly held by the Progressive Reformers. Rather than holding the private customers captive to corporate interests, A. T. & T., in cooperation with the State Public Utility Commissions, held the business community captive for the benefit of the average residential customer. This capture strategy, in essence, achieved the underlying principle being sought by the Progressive Reformers, namely a way to achieve the economic advantages of industrial consolidation, but also providing the economic opportunity principles of the classical Anti-Federalist/Jeffersonian theory of economic equity.

It cannot be said, though, that the business community, at this time, was an unwilling partner in the capture strategy. In fact, early telephone expansion during this century, and the use of a two-tier rate schedule, was supported by the business community. The commercial benefits available from a single unified network, plus the economic cost benefits achieved through a single provider subscription, found wide-spread support within the business community, which encouraged the development of cross-subsidization.

The inclusion of the equipment monopoly also was supported by the State Public Utility Commissions, local businesses, and residential users. Working under the assumption that the technical standards of the network should be maintained at a high quality level, and that profits from equipment leases further subsidized local rates, customers and regulators supported the incorporation of the equipment monopoly as another element within the system's structure.

Thus, by the early 1920s, the telephone policy subsystem has also achieved the structure of a dissipative system operating within a set range of equilibrium. The combination of cross-subsidy payments, equipment integration, and allowance of interconnection with independent firms has created a situation where the policy subsystem is able to operate in balance with the conflicting values of centralization versus decentralization of both political authority and economic power. This relationship is further codified through the passage of the Mann-Elkins Act, the Kingsbury Agreement, and the Willis-Graham Act.

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to break down older functional systems, and generate new ones, on a fairly regular basis. This constant re-adaptation allows for the system to sustain a sense of equilibrium within the changing environment, but, at the same time, continue to maintain a sense of self-identity - autopoiesis. Thus the system itself has no fixed internal structure to restrain it from adapting other than it's own sense of self-purpose.

But while the policy subsystem had achieved a point of equilibrium, factors also appear at the same time that will eventually undermine the balance that has been achieved, and once again throw the system out of equilibrium.

The development of wireless communications challenged the existing relationship by introducing a form of technology not only capable of competing against the existing dominate technological base, but also allowing for the development of this new communications format outside the constitutional governmental order which had been achieved through the balance between centralization versus decentralization of spheres of authority. This new factor, in essence, was completely within the realm of the national centrist government's authority, and thus could nullify the rights of the state governments in regulating a new technological platform.

In an attempt to maintain the existing policy subsystem, the body of knowledge overseeing the new technology was divided in half. Both proprietary and regulatory rights were set based upon the division of the underlying technical knowledge and applications. While, initially, successful in maintaining the existing equilibrium within the system, the agreements did not resolve any of the future conflicts that would arise as the two forms of technology developed, and eventually converged on each other's respective areas of business and service.

The division of technological knowledge was, in fact, a response to another cycle of economic development which occurs in all capitalistic systems. Capitalistic systems are technologically sensitive, that is all capitalistic systems are deeply affected by the introduction of new technological methods of production. The reason for this sensitivity to technological development relates to the previously discussed concept of the commodity exchange.

All commodity exchanges are predicated on a form of competition based on a standard method of product production. Since the base for production is uniform across the exchange, the method used to drive competition out of the exchange is based on incremental improvements in the production process. Small gains in step efficiency within the production process ultimately lead to an aggregation of efficiency improvement, and a reduction in cost along with an increase in quality.

But the introduction of a new technological platform, one which generates large scale improvements in both efficiency and economy of production, displaces the existing technological platform of the other competitors within the commodity exchange. This displacement leads to an increase in the importance of certain competitors within the exchange, and a subsequent reduction in the number of other competitors left within the exchange. In general, long wave economics has shown that such technological displacement patterns occur within capitalistic societies approximately every fifty to seventy years.

This pattern of technological displacement is very evident within the wire-based communication systems of the United States. Approximately sixty years after the invention of the telegraph in the United States, the telephone network begins to displace the telegraph as the dominate form of both commercial and news communication network. In theory, fifty to seventy years after the introduction of the telephone in the United States, another technological system should have emerged which would begin to displace the wire-based telephone networks domination within the communication sector. In fact, that did occur with the development of wireless communications.

In order to hold-off the challenge to the existing communication paradigm, A. T. & T., along with the members of the radio patent pool, selectively divided the application of the new technological platform, and the base of technological knowledge, in such a manner that it allowed for the development of commercial broadcasting, but maintained the existing wire-based communication

network's control over two-way voice grade communications. The Federal government certified the division, and, in essence, short-circuited the potential competition that could have arisen from the new technological platform.

While the agreements reached, and eventually certified under the Federal Radio Commission legislation, maintained the equilibrium within the existing system, they did not completely remove the eventual conflict. While the knowledge could be maintained by the members of the agreement, eventually, because of time limits within patents laws, the knowledge would once again enter the common public area, and would be available for exploitation by potential competitors within the exchange. Thus the division was only a temporary reprieve from the eventual technological conflict that would have to arise in the near future.

Still the patent agreement, and the subsequent division of technological knowledge and application, maintained the equilibrium within the telephone policy subsystem, and the balance sought between centralism and decentralization. What eventually threw the balance off was the decision by the Federal government to create the Federal Communications Commission.

The creation of the F. C. C., and the consolidation of all Federal aspects of telecommunications within the single agency, was done in an atmosphere of suspicion and confrontation. While the F. C. C., in theory, inherited the existing authority of both the I. C. C. and the F. R. C., it also was charged to pursue a form of anti-trust action against the telephone policy subsystem, and specifically A. T. & T. The Congressional Special Telephone Investigation resolution passed at the time of the F. C. C.'s creation expanded the initial charge of the agency. The decision on the part of the F. C. C. to pursue A. T. & T.'s corporate structure, and to attack the equipment monopoly, struck at the very heart of the cycle of equilibrium created between the telephone network and the State governments.

The subsequent confrontation between the F. C. C. and A. T. & T. over the Walker report, and the defeat of the F. C. C. in its anti-trust efforts, reinforced the existing balance within the system, and maintained the telephone policy subsystem. But the confrontation also had additional consequences that developed from the confrontation.

The first consequence was that another actor became active within the telephone policy subsystem. The failure of the F. C. C. to pursue an anti-trust position in relation to the network, caused the anti-trust, decentralization, issues to fall into the hands of the United States Justice Department. The Justice Department, which had been excluded from the policy subsystem by the Willis-Graham Act, now asserted a right to intervene within the system under the concepts of anti-trust and anti-monopoly laws. Thus the decentralization position, and the mantel for its legal enforcement, passed to the Executive Branch of government. The process also allowed for a new agent to enter the policy subsystem, the United States Justice Department, and empowered that agent to begin to make demands on both the construction of the political allocations within the subsystem, and the economic distributions within the private corporate sector of the industry.

While the policy subsystem was able to eventually curtail the influence of the new agent within the system by use of the Executive Office of the President, the cost for curtailing the influence was a further restriction on the wire-based systems ability to exploit the technological base that had developed within the wireless area. In essence, the system was able to maintain the equilibrium between centralization and decentralization, but at the cost of restricting it's future growth areas.

By the early 1950s, the telephone policy subsystem was entering a period of symmetry breaking in which the cycle of equilibrium established in the 1910s and 1920s began to crumble under pressure

from both the Justice Department's decentralization approach to economic development, and the eventual emergence of the dormant technological platform issue previously side-stepped in the 1920s.

The development of alternative wireless communications using microwave systems and satellite links directly challenged the balance that had been established within the policy subsystem. The potential loss of the large corporate users of the network, and the impact that loss revenue would have on the subsidized rate base, directly threatened the balance within the cycle between centralization and decentralization. In addition, the complete control of the wireless spectrum under Federal authority directly challenged the historical constitutional balance between the Federal centrists government and State decentralization.

The F. C. C. 's decision to allow for the experimental development of alternative microwave transmission, in essence, unfroze the existing subsystem arrangements. During this unfreezing period, the F. C. C.. encouraged the development of both technological experimentation, and the creation of new forms of organizational and industrial configurations.

This process of experimentation also occurred during a time when the social and political order began to shift toward a more decentralization position, and advocated increased competition within all sectors of the society which had previously been operating under Hamiltonian centrists concepts.

As the levels of experimentation increased, and the support from both the private and public side grew for decentralization, the existing policy subsystem found itself engaged in a process where part of it sought to maintain the older system of equilibrium, while the other half sought to create a new system of equilibrium based on an increased level of competition in the telephone commodity exchange. The lack of agreement within the policy subsystem on maintaining the existing system of equilibrium, lead to a division within both the public and private sectors, and fueled the conflict over the underlying issue of centralization versus decentralization.

As the policy subsystem began to oscillate erratic, swinging first toward centralization, and then toward decentralization, the subsystem lost control of it's internal dynamics, and its ability to maintain it's internal structure. The failure of the subsystem to resolve its internal conflict, and to achieve a new sense of equilibrium, opened the opportunity for the anti-trust agent, the United States Justice Department, to once again enter the area of contention. This new agent, though, instead of seeking to resolve the issue within the policy subsystem, selected the constitutional option of appealing to the Courts to resolve the conflict.

Eventually, the Courts sought to reestablish the balance between centralism and decentralization by dividing the subsystem into two spheres, one national in scope, the other localized. The eventual division, in which long distance service was pushed into the decentralized competitive arena, while local and regional service was retained within the centralized concept of a natural monopoly, was a flawed distinction that further added to the disequilibrium within the system.

The Court failed to recognize the interconnected nature of the telephone and communications network, and the dependency both aspects had to each other in order to be viable. In addition, the division occurred at the same time that the network's access was becoming global in nature, and the technological platform, which had been falsely suppressed since the 1920s, began to merge across all levels and types of communications. Both the Courts and the United States Justice Department failed to understand the basic technological and economic evolution that was occurring within the telephone commodity exchange. The over-riding legalistic basis for understanding the



policy subsystem was not compatible with the scientific or economic factors driving the technological evolution within the system. The end result was a complete misreading, on the part of the legal community, into the nature of change that was occurring within both the industry and the public aspects of the technology.

Rather than resolving the issue between centralization versus decentralization, the Court's decisions further destabilized the system. As the levels of conflict and eradicate decisions became more evident, the legislative arm of government sought to reestablish a new point of equilibrium within the subsystem.

But the technological convergence that was impacting on the industrial structure further complicated the process of achieving a legislative resolution. The expanding nature of the technology also expanded the number of groups engaged in the policy area. Each of the existing subsystem members, and the newly attached members, came from varying levels of regulatory development, and varying emphasis on either centralization or decentralization. As the Congressional and Executive Branches of government sought to craft a new point of equilibrium within the system, they once again found themselves under the constraint within the system between movement toward centralization versus movement toward decentralization.

Further complicating Congress's task was the fact that the very meaning of a network had also changed. The previous separation of the telecommunications industry into separate spheres had allowed for the development of different types of communications networks. Each of these separate networks concentrated on the provision of specific types of communications mediums. In addition, the communications base of each of the types of networks were also separated by different principles of scientific knowledge.

In their attempt, though, to create more efficient systems of communications, each of the separate networks pursued technical development policies which tapped the newly emerging utility of digitalization. In the process of innovating these new upgrades into their separate networks, each of the networks came to a common transmission base. Once the networks shared a common technical base of communications, the older industrial boundaries between the networks fell.

Once the boundaries fell between the industries, it was possible to use all the networks to transmit all the various types of communications mediums. In addition to being able to transmit all the various types of mediums, the new platform also allowed for different types of communications to be mixed together to form new communications mediums.

But in the process of achieving this new technical convergence, a new problem arose, and that problem was defining what was this new type of communications. The older industrial boundary definitions did not fit the new communications model. In addition, the older regulatory separation based on types of mediums of communications were also no longer relevant. And, according to the industrial members, the future development of types of communications and forms of communications was just beginning to emerge.

In such an environment, Congress, and the communications industries, were unable to clearly define the new nature of the network, and to relate it to any single historical path of development. Having no way to actually define this new communications medium, Congress found that it was also not capable of framing a development policy for the various industries

Unable to craft a new point of equilibrium, the legislative and executive community drafted a series of general principles and guidelines to instruct the regulatory bodies, and directed the creation of a

body composed of both the centrists, F. C. C., and decentralization advocates, the State Public Utility officials, to craft a new balance for the new policy regime. With the passage of the general bill, the Legislative and Executive Branch of government claimed credit for the creation of a new balance between centralism and decentralization, and then placed the responsibility for creating such a new balance in the hands of the system's regulators.

But the Legislative Branch, like the Court's before it, has failed to recognize the true nature of the older telephone policy regime, and the fundamental structuring principle that maintained the system of both political and economic existence. The division of regulatory authority between the States and the Federal government, coupled to the balance struck between industrial centralization linked to social and economic opportunity, formed the points of equilibrium that ultimately led to the United States success in creating the most advanced telecommunications system in the world.

The underlying principle of balance between centralization and decentralization allowed for the creation of a regime that was able to not only respond to national priorities, but also to place the technology into the every day social and commercial existence of the citizens in relation to their own localized existence. At its most basic level, the older regime represented the balance sought by the original founders of the republic between the economic and political forces that existed on opposite extremes of the spectrum, but within the same "system" of public and private existence.

The new law, and the specified "principles" outlined within the law, rejected the older regime's mechanisms for creating equilibrium, but failed to define any mechanisms to establish a new level of equilibrium. Instead, the new law embraced free market principles that would allow the industry to move toward consolidation and centralization, while seeking to mitigate the economic impact of such a move on the poor and disadvantaged telecommunications consumers. Thus the principles of decentralization that promoted economic opportunity were redefined to include only those persons engaged in the industry itself, and not the wider impact that the technology offered the entire commercial users within the society. In essence, the policy makers, once again, failed to recognize the broad utility of the network to the entire structure of our social and commercial existence.

In the end, the policy subsystem was left in a state of chaos, with no clear direction as to what the new balance should be. The passage of the new law has left the system in a state of disequilibrium, continuing a series of eradicate cycles, and eventually still seeking a new point of equilibrium between the historical tension of centrists versus decentralization beliefs within both the subsystem's political and economic levels of authority.

This on-going search between these two opposing positions, centralization versus decentralization, forms the underlying belief that has been reified through the existence of the telephone policy subsystem. In essence, this balance between the two positions is what Giddens refers to as the Duality of Structure, and has been manifested in every transformation that the policy subsystem has experienced during the 150 years of its existence. It is its continuing search for this balance that presently drives the subsystem.

Unless the subsystem can successfully locate a new point of equilibrium between these two positions, it will not be able to sustain itself as a unified economic or policy subsystem, but rather will eventually fragment and be re-configured in a totally new arrangement. It is this continuing search for balance which drives the subsystem's actions as it seeks to implement the vague and confusing charge passed by Congress.

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