

CHAPTER 6

The Competitive Years: 1894 - 1914

**" Universal Service,
One System, One Policy "**

Theodore Vail

The Founding of a Policy Regime

The expiration of the Bell patents in 1893 unleashed the forces of pent-up demand and competition. Although the Bell System owned all the long-distance lines, plus the sole manufacturer of telephones in the United States, the market forces that existed were potentially too lucrative to be ignored by new entrepreneurs. In a little over ten years after the expiration of the original patents the Bell System had expanded to 1,514 main telephone exchanges serving 1,278,000 customers, but the newly created independent telephone companies operated 6,150 exchanges, and served over 2,000,000 customers (Brooks, 1976: 83).

Beginning in 1895, the American Bell Telephone Company, under the direction of the corporation's President John E. Hudson, began a process of retaliation against the independent telephone companies. In addition to expansion of telephone service, American Bell also resorted to a strategy of refusing to sell telephone equipment to Independents, and denying them access to Bell's long distance lines. When competing telephone manufacturers arose in response to Bell's strategy, Bell refused to connect any of their lines, local or long distance, to non-Western Electric equipment. President Hudson also sought to develop a corporate goal of integrating both local and long distance access into a basic service package, and in order to encourage this package transferred, in 1899, all assets of the American Bell Telephone Company into its' long distance subsidiary, American Telephone and Telegraph (Finkelstein, 1989: 156).

The strategy of retaliation backfired on A. T. & T. The independent telephone companies continued to compete against A. T. & T., and were so successful that by 1906 net earnings for A. T. & T. had dropped to eight percent. The drop in revenue led to the replacement of Frederick Fish as President of A. T. & T. - who had succeeded Hudson after Hudson's death in 1901 - by Theodore Vail (Finkelstein, 1989: 156).

Vail assumed leadership at a time when the independents were turning to their state legislatures for protection against A. T. & T.'s tactics. Beginning in 1904, State Legislatures began to pass laws regulating the telecommunications industry. Generally the acts took the form of rate reviews by State Utility Commissions, and mandated interconnection between telephone companies. At first A. T. & T. had fought these laws, and successfully had some of them overturned. Their initial success was based on the fact that there did not exist, at this time, any legally recognized concept of telephones as a public utility (Finkelstein, 1989: 156).

At the same time, though, Federal concern about an unregulated telephone industry began to surface. This was brought about by the invention, in 1895, of the radio. The Federal government began to realize that the potential for another monopoly existed in the radio industry, and began to consider possibilities for regulation for all aspects of the telecommunications industry. Theodore Vail, recognizing the inevitability of regulation, developed a new strategy that dominated A. T. & T., and the United States telecommunications industry, until 1982. The new strategy was dependent on the ability of the telephone industry to influence the governmental bureaucracy at both the State and Federal level (Finkelstein, 1989: 157).

Driving Vail's concept was the fact that in 1907 the Morgan banking group had obtained majority control of A. T. & T.. The Group had observed the effects that the creation of the Interstate Commerce Commission had on the railroad industry. The I. C. C. had stabilized markets and rates, eliminating the costly price wars between companies, and yet not invaded management's administration of the railroad companies. The Morgan group sought the same type of stabilization in the telephone market, and directed Vail to achieve it (Gabel, 1969: 355).

Vail's strategy emphasized the development of a public utility concept of the telephone industry as a regulated natural monopoly. It stressed quality and expanded customer service, merger and acquisition of competitive companies, the creation of equipment dependency of the Independents by selling them Western Electric equipment, and the positioning of A. T. & T. as leader of a united force of telephone companies (Finkelstein, 1989: 157).

Vail realized that regulation has two components, public protection and utility protection. By developing a regulated industry AT&T would be barring competitive entry of outside groups, creating exclusive franchises for its services, and exercising the rights of eminent domain over established service areas, especially long distance lines. He called his strategy "UNIVERSAL SERVICE - One System, One Policy" (Gabel, 1969: 356 - 357).

Vail was successful. By 1910 Congress had enacted the Mann-Elkins amendment to the Interstate Commerce Commission Act. The amendment conferred regulatory authority over interstate telephone transmissions to the I. C. C. The original bill, under consideration by Congress in 1910, concerned appellate jurisdiction over I. C. C. decisions. There was no mention of telecommunications in the bill or Congressional hearings. The bill was amended from the floor, and conferred authority over telephone, telegraph, and cable companies to the I. C. C. In the twenty-four years that the I. C. C. regulated the industry, only four cases involving rates were ever considered, and no general investigations were conducted. During this time, the I. C. C. focused its' attention on the area of transportation, and deferred regulatory decisions to the state utility commissions. In essence the I. C. C. allowed telecommunications policy to develop, through default, by the State Public Utility Commissions (Gabel, 1969: 356 - 357).

Vail also established a legislative consulting office that provided help and advise to state legislators, and maintained continuing liaison with the regulatory commissions and staffs. Between 1910 and 1920 thirty-one states established commissions to regulate intrastate operations of the telephone companies. The state commissions generally followed the same policy format for regulating the industry:

- * A single interconnected network under the management of one firm (usually Bell).
- * Reduced price competition in local markets by setting rates toward Bell's higher prices versus the lower prices of the Independents.
- * Prohibition of anti-Bell services such as multi-party lines, part-time service, and toll rates for special customers.
- * Support for a public-utility common carrier model stressing Bell's corporate strengths of quality and consistency of universal service.
- * Mandated interconnection to Bell and AT&T lines.

For the most part the state Utility commissions and the I. C. C. carried on what they perceived to be a very rational public policy seeking to expand telephone access to the public. But the policy, in fact, led to A. T. & T.'s domination of the telephone market through the creation of a secondary level monopoly. The local Bell companies, regulated by the State public utility commissions, owned the local telephone exchanges, which everyone recognized as natural monopolies that could not and should not be duplicated. Through A. T. & T. and Western Electric, the Bell Systems also participated in two potentially competitive businesses that fell under the Sherman Anti-Trust legislation, but depended on access to the local telephone exchanges; One, long distance telephone

service which required access to the local exchanges to originate and terminate calls; and Two the manufacture of telecommunications equipment , which was provided exclusively by an A. T. & T. owned company to an A. T. & T. owned company, and depended on access to information about the technical characteristics of the local and long distance telephone exchanges. The Sherman Anti-Trust Act's section 2 held that a violation of a natural monopoly occurs if the natural monopoly leverages that monopoly to foreclose competition in a related market, even if the firm neither monopolizes or attempts to monopolize the secondary market. By controlling the local telephone exchanges, long distance lines, and equipment manufacturing, A. T. & T. had created a "strategic bottleneck" which limited all competition within the telephone industry of the United States, and thus violated the Sherman Anti-trust Act (Lipartito, 1989: 331 - 332).

Vail was supported in his strategy by the National Independent Telephone Association. The Association realized that it's members could also avoid competition if they were regulated and given exclusive control over areas currently served. Vail agreed, in general, to this principle, and also lifted the ban on selling Bell equipment to the Independents (this would also make future mergers easier). As a final enticement, Vail set-up financial loans and technical support for the Independents willing to connect to A. T. & T.'s long distance lines. The Independents and A. T. & T. thus formed a mutually supporting alliance which allowed for regulation, but, under the leadership of A. T. & T., protected their respective territories from encroachment by new companies while side-stepping the Sherman Anti-Trust laws (Lewin, 1987: 41)

During this same time period, 1909 to 1912, A. T. & T. purchased the controlling interest in Western Union. The Postal Telegraph, Western Union's only competition, petitioned the United States Justice Department to block the sale based on the Sherman Anti-trust laws. The Justice Department notified A. T. & T. of its intention to pursue such a suit. Afraid that the suit might lead to the dismantling of the Bell system and A. T. & T. under the anti-trust laws, A. T. & T. agreed to a settlement, in 1913, which became known as the Kingsbury Agreement. Under the terms of the agreement A. T. & T. sold Western Union, ceased purchasing independent telephone companies (until 1921), and allowed all Independents to connect to A. T. & T.'s long distance lines. The Justice Department agreed to the settlement, and dropped the suit. For the next forty-six years A. T. & T. would operate without concern for the requirements of the United States anti-trust laws (Lewin, 1987 : 40 - 41).

Vail's strategy was successful in establishing a de facto monopoly for A. T. & T. He was supported in his efforts by the various state commissions and the I. C. C., both of which agreed with Vail that a single national system was more efficient than multiple systems operating in a competitive market. Supporting the general mood was Vail's commitment to universal service, and the public goods nature of the telephone. This coincided with the state commissions and the I. C. C.'s commitment to wide access to the service, low but profitable rates, and financial stability for the industry. Thus regulators tended to support A. T. & T. and the Independent's existing positions, and formed public policy to match corporate operations. In addition regulators did not have sufficient technical knowledge of either the system's operating levels, or the economics of expansion, to make an informed decision on whether the United States should maintain a natural monopoly, or allow the market to stay open to competition. The European concept of government ownership was occasionally considered, but always rejected for the traditional stance of industrial capitalism and limited government developed during the Jacksonian period. The regulators did establish, though, some general principles to regulate the industry:

- * Service should have a consistent quality.
- * Service should be available on a non-discriminatory basis.

- * All companies should refrain from excessive competition.
- * All firms should always serve the public good.

In general, the regulator policy was not based upon a mixture of antitrust policies and regulations that would have balanced competition against system expansion. The policies adopted had little direct meaning, and appear to be almost a gentleman's agreement on how a civilized business should operate. Policies were easily manipulated by A. T. & T., and made A. T. & T. appear to be the logical conclusion of telephone evolution in the United States. The exclusion of other forms of systems left the country with only one set of telephone principles which were accepted as universal doctrines (Lipartito, 1989: 331 - 336)

"Confronted by the vigorous competitive inroads of independent companies, the Bell system sought to escape the unaccustomed hardship of competition by acquiring competitors, and by espousing the development of governmental regulatory functions. The public service commission, which ultimately stabilized rates and earnings, adopted the norms of business policy urged by the System and imposed strictures on the competition" (Gable, 1969: 358)

The Political Economy of the Founding of a Policy Regime

The External Political Framework

The expiration of the Bell patent in 1894 left American Bell Telephone Company in a unique position in terms of its relationship with the public sector. Other than Indiana and Mississippi's attempts at rate regulation, there did not exist at either the Federal or State levels any form of governmental institution with oversight on the operation of the telephone system. The telephone industry operated under a loose combination of Federal and State property rights concepts previously upheld under patent cases, and State based property rights defined under incorporation laws. But the advent of competition quickly began to change the nature of the relationship that existed between the private telephone company and the public interest.

During the time period from 1894 to 1914, A. T. & T. experienced forms of government regulation at three levels of public control: Municipal, State, and Federal. In addition, near the end of this period, A. T. & T.'s relationship with the public sector was further defined by an agreement with the United States Department of Justice which would become known as the Kingsbury Agreement.

Municipal Regulation

As competition increased between A. T. & T. and the independent telephone companies, public sentiment in the larger urban areas increased for public control or oversight of the telephone system. To some extent, competition in the urban markets was already restricted by municipal regulations requiring that utility lines be placed underground, and a desire to avoid further congestion and disruption by prohibiting the construction of more underground lines and conduits. Large businesses also did not favor competition, which only increased their costs to subscribe to competing telephone companies. For the most part, the business community was in the fore-front of advocating government regulation.

By 1902, one half of the incorporated areas of the United States had two or more competing telephone companies. The competition, while it expanded access, often resulted in poor service. Cities began to require that telephone companies receive a charter from the city to operate, and, in turn, accept city regulation of rates and rights-of-ways for telephone lines.

To A. T. & T., municipal regulation was a major problem. Between 30 to 35 percent of the total earning of the Bell systems were located in two cities, New York and Chicago. If the cities adopted regulated rates, A. T. & T. would have a problem in expanding its subsidized service into rural areas. In addition, the movement for city rate regulation was an extension of the general progressive reform movement sweeping the United States at this time. While, overall, the Progressive Reform movement advocated efficient and politically neutral government administration, the movement did not possess a uniform philosophy on how this level of efficiency was to be accomplished (Schiesl, 1977).

One element of the Progressive Movement advocated the accomplishment of efficiency through the adoption of a neutral public service applying the principles of Frederick Taylor's scientific management (Wilson, 1887; Goodnow, 1900). Another stream of the Progressive Movement sought to increase the level of institutional representation of social elites linked to a laissez-faire approach to economics and the private sector (Burgess, 1895, 1913). A third wing of the movement advocated public ownership of key areas of the private sector that were directly involved with public use industries exhibiting the qualities of a natural monopoly (Holmes, 1915).

Municipal governments were generally in the fore-front of the reform movement, but due to the large number of municipal governments, and their varying cultural values and political constituencies, there tended to be a mix of methods applied to government reform. Thus there developed a lack of uniformity in terms of approaches used with companies providing public services. In some areas these companies were highly regulated, in others they experienced a form of free market unregulated competition, and in other areas municipalities owned and operated the public utilities (Schiesl, 1977).

Further aggravating A. T. & T. was the fact, that, in terms of blocking the entry of competing independent telephones into urban areas already serviced by A. T. & T. and their Bell licensees, the company was losing the telephone war. Often local companies which already possessed a municipal franchise for other public services, such as street railways and electric lighting, would form commercial telephone firms. With their close local government and business contacts, and an already proven record for providing public services, these new entrants were able to secure franchises for competing telephone service (Stone, 1991: 138 - 139).

Faced with the potential threat of municipal regulation of rates, and possible out-right ownership of telephone systems, plus the lack of influence within the halls of city government, A. T. & T. sought to extend their control of the telephone industry by shifting the regulation emphasis away from city governments, and toward State government.

State Regulation

By regulating across a state, the costs for rural service could be rolled into the more profitable urban markets, and thus level the overall profits experienced by the company. Through service area consolidation, A. T. & T. could hide additional costs from direct review. Thus A. T. & T. pursued a strategy to support the development of state public utility regulation.

In order to accomplish the goal of state regulation, A. T. & T. had to develop a reasonable argument for State control which not only would benefit the firm's monopoly position, but also conform to prevailing concepts and beliefs in terms of limited government intervention in the operation of the Free Market. A. T. & T. found its answer in the works of the Progressive Era's most prominent economist, Richard T. Ely of the University of Wisconsin.

In 1898, the A. T. & T. licensee Central Union Telephone Company distributed a pamphlet which attacked telephone competition as both wasteful and an unnecessary duplication of public service. Under the argument advanced by Central Union, competition only resulted in rate wars, which eventually would lead to a decrease in the level of repair and improvements in the system, and, in turn, the quality of service provided by both firms competing in the same market. Because of the reduction in profits, eventually the firms would either: buy each other out; force one out of business; or divide the territory between them. In the end, the telephone customer would be left with both poor quality service, and increased rates (Central Union Telephone Company, 1898)

At this time, the concept of a "natural monopoly" as it was applied by local and state governments did not necessarily mean that there would be a single provider of the service. It was not uncommon for two or more companies to be awarded franchises for the same public services. Streetcars, electrical lighting, natural gas lines, all were areas where multiple providers would offer duplicate services within the same municipality. But invariably, where multiple franchises had been let, service began to deteriorate. The pattern was so consistent, that eventually economic scholars began to reexamine the concept of a natural monopoly and the provision of public services (Behling, 1938: 20).

One of the most influential progressive scholars in the area of economics was Richard T. Ely of the University of Wisconsin. Working off of concepts originally laid-out by John Stuart Mills, Ely shifted the focus of a natural monopoly away from comparing production and distribution costs based on the lowest cost available, to a concept predicated upon the greatest gain to be achieved to all the parties involved in an economic transaction. Under Ely's view, monopolies arise when a net gain accrues to all the parties involved in the transaction which is greater than the net gain that can be achieved through the sum of their individual efforts. Most importantly to A. T. & T. was the fact that one of the examples Ely used for his concept involved the telephone:

"The importance of unity must sooner or later overcome all obstacles standing in the way of combination of the various telephone interests . . . Two telephone companies cannot perform the same service which one can perform, inasmuch as complete unity is lacking. The object of the telephone is to bring people together, and the more completely it does this, the better it performs its functions. Two or more competing telephone plants, however, separate people, and thus operate antagonistically to the purpose for which the telephone was established." (Ely, 1900: 64)

By extension, under Ely's view, telecommunications is a natural monopoly that experiences greater gain to all the persons involved in the transaction as the network is enlarged, and more persons are connected to it.

When Theodore Vail returned to A. T. & T. as President of the Company, in 1907, he adopted the position laid out by Ely, and originally by Central Union Telephone, and began to advocate for State regulation of the telephone industry under the concept of a "natural monopoly". The Morgan banking group, which now controlled A. T. & T., sought to extend its control over the entire range of telecommunications within the United States. While no friend of government regulation, Vail

was able to persuade the group that some form of regulation was inevitable, and that the best defense would be a positive offensive.

"A prominent ex-city official who has had large experience in municipal matters now retained by the Telephone Company . . . maintains that sooner or later we are bound to be placed under the control of some public authority, and that coming forward now and agreeing to it, we may be able to obtain terms as to the method of this regulation which will be much less onerous than are likely to be established if we oppose the movement until it is forced upon us." (Vail, 1906).

Such regulation, though, needed to be accomplished in such a way that it would not impede the Company's operation, or its eventual long range plans.

"It is not believed that there is any objection to (public control) provided that it is independent, intelligent, considerate, thorough and just, recognizing, as does the Interstate Commerce Commission . . . that capital is entitled to fair return, and good management or enterprise to its reward." (Vail, 1907)

To Vail, pursuing State-based regulation offered the greatest potential for securing A. T. & T.'s position as the dominate telephone system, and ultimately the manager of the entire network of telephone service offered by both the Bell licensees and the independents. From a position of management control of the total network, A. T. & T. could set the agenda for service, and gradually extend its complete control over the industry. At the same time, A. T. & T.'s existing position would be protected against competition, and thus block the eroding effect that the independents were having on the system's current position.

"If there is to be State control and regulation, there should also be State protection - protection to a corporation striving to serve the whole community from aggressive competition which covers only that part which is profitable . . . That competition should be suppressed which arises out of the promotion of unnecessary duplication, which gives no additional facilities or service . . . Two exchange systems in the same place offering identically the same list of subscribers . . . are as useless as a duplicate system of highways or streets not connecting with each other." (Vail, 1910).

Initially the independent telephone companies had resisted A. T. & T.'s move toward State regulation, but after 1907, when Vail reversed A. T. & T.'s position on interconnection, the majority of smaller mutual and farmer line companies supported the company's efforts. Only the larger Commercial independents continued to oppose A. T. & T. None-the-less, in spite of the commercial firm's opposition, by 1911 twenty-eight States had granted authority over telephone systems to their public utility commissions, and A. T. & T. was squarely in charge of a coalition of telephone companies seeking to use the commissions to protect their areas of service from outside competing firms.

Federal Regulation

In 1892 Jay Gould died, and his large, and vast, estate passed to his son George J. Gould. While primarily an estate of railroad holdings, the inheritance also included thirty percent of the common stock holdings of the Western Union Telegraph Company. The Gould holdings represented the largest single block of stock held in the company, and the major controlling interest.

While George Gould had inherited his father's estate, he had not inherited his father's financial instincts. More interested in railroads than electricity, George focused his limited skills toward the rail holdings, and allowed Western Union operations to deteriorate. Before 1905 Western Union had a strong cash surplus of \$1,092,781. By 1907, cash surplus in the company had dwindled to \$171,169. In addition, Gould's indifference toward the company, and its employees, led to a nationwide labor strike against Western Union in August, 1907 (Coon, 1939).

The lack of attention toward Western Union by George Gould, allowed for the only serious competitor for providing telegraph service, the Postal Telegraph, to grow and expand its services. By 1908 matters had reached such an alarming point for Western Union, that the financial bankers of George Gould insisted, and were granted, the appointment of a committee that approved all of Gould's expenditures (Coon, 1939). At this time it appeared likely that the once great and mighty Western Union Telegraph Company would soon disappear.

Both Theodore Vail and J. P. Morgan were men possessed of a common perceptiveness on the concept of a free market. Morgan, the greatest monopoly creator in American history, did not believe that free market competition served either the best interest of business or the general public. To Morgan, consolidation meant efficiency, and efficiency, ultimately, meant higher profits and lower prices. Vail, on the other hand, had a strong background in public service, especially public service coordination, and also viewed free market competition as inefficient. To Vail, though, while profits were important, more important was efficient service, especially in any area dealing with the general welfare of society. The two men's somewhat different perspectives on the free market merged in one area of mutual agreement; namely that the United States needed a single unified telecommunications system, and that the system should be unified under the leadership and control of A. T. & T. (Brooks, 1976: 132 - 133).

As early as 1907, Vail had expressed an interest in acquiring the Postal Telegraph Company, and merging the company into the overall A. T. & T. operations. The motivation behind Vail's interest was the development and refinement of what became known as the "phantom-circuit". One of the original areas of Alexander Graham Bell's research, the phantom-circuit was not actually developed until the period from 1902 to 1905. By adding a third circuit into a set of two circuits used for transmitting and receiving messages, a single line was able to handle multiple messages simultaneously. When the phantom circuit was added to the existing "composite circuit" - a device that was used to transmit two signals at the same time, but at different frequencies -, one was able to combine the same wire for transmitting not only multiple messages simultaneously, but also transmitting both telegraph signals and telephone signals simultaneously over the same wire. Thus the existing telephone and telegraph lines could be used for both telephone and telegraph service (1909 Memorandum, AT&T, Box 65).

The economic potential of the phantom-circuit principle was too great to be ignored by A. T. & T.. Not only could both systems be extended without the infusion of new capital for line construction, but, in the long run, the cost of line maintenance could be reduced through consolidation of lines. Local service areas could be increased by passing telephone traffic over existing telegraph wires. Current and future rights-of-way for telephone service could be achieved by using Western Union's existing rights-of-way, which often were superior to A. T. & T.'s access corridors. Pay telephone service could be extended into railroad stations, and other public buildings which previously housed telegraph offices along the commercial routes of the country (1909 Memorandum, AT&T, Box 65). It was this technological innovation which allowed both Morgan and Vail the opportunity to realize their joint vision of a single, unified telecommunications system bridging the entire United States.

In 1909, Vail instructed A. T. & T.'s New York Bell licensee, New York Telephone Company, to open negotiations with George Gould on purchasing his thirty percent share of Western Union stock. New York Telephone Company contacted Gould and his financial bankers, and negotiated the sale of the Gould holdings in Western Union. A final purchase price of \$20,000,000 was agreed to, and, in late 1909, A. T. & T. became the major stockholder and owner of the Western Union Telegraph Company.

In the previous year, 1908, several bills had been introduced into Congress to restrict the possibility of discrimination in both telegraph and telephone rates. While the bills were considered by both House and Senate Committees, no action had been taken on the bills, and they remained in Committee during 1909 (United States vs. A. T. & T.: episode 3, par. 92). The news of A. T. & T.'s acquisition of Western Union, in late 1909, revived Congressional interest in the issue of Federal regulation of the telephone.

The National Independent Telephone Association had been lobbying Congress during the same time period, advancing a case that A. T. & T. practiced a form of rate discrimination - although they did not present any evidence to support their contention. After A. T. & T. acquired Western Union, the lobbyist for the National Independent Telephone Association were joined in their efforts by representatives of the Postal Telegraph Company, who felt that the merger of A. T. & T. with Western Union would ultimately result in the failure of the Postal Telegraph Company's ability to compete in the telegraph business (Bickers, 1988: 88 - 103).

At this time, early 1910, Congress was considering a bill related to the Interstate Commerce Commission known as the Mann - Elkins Act. The original bill had been drafted by the Attorney General to fulfill a promise made by President Taft during his first presidential campaign to extend federal regulation over the railroad industry. But the bill submitted by Taft, in fact, exempted railroad traffic agreements from the Sherman Anti-trust Act. It was immediately attacked by both Democrats and Republicans from the large agricultural states. In the process, the nature of the bill was changed. The powers of the Interstate Commerce Commission were expanded, giving the I. C. C. both the authority to open investigations into the reasonableness of rates being charged, and the power to suspend any rate increases during the time that they investigated and reviewed evidence concerning proposed rate increases (Sharfman, 1931: 52 - 53).

The bill offered an opportunity for the various telephone bills, which were still in both House and Senate Committees, to be advanced from the floor by amendment to the Mann-Elkins Act. Proponents of telephone regulation arose in both the House and Senate, and offered different amendments to the bill. In the floor debates over the matter of telephone regulation, there was no disagreement between either the proponents or opponents of the amendments as to whether or not the telephone industry could be regulated by the Federal government. There was general agreement that the telephone was now a vital mechanism of interstate commerce, and as such was well within the authority of Congress to regulate under the Commerce Clause of the Constitution. The only real disagreement was whether such regulation should proceed forward through the use of amendments to the Mann-Elkins Act, or whether the matter required a thorough evaluation by Congress, and, ultimately, a separate bill defining the methods and goals of regulation. In the end, amendments from the floor were allowed. Eventually two different bills were passed in both the House and Senate, and both bills were sent to conference committee for reconciliation (Congressional Record, 1910: 5533 - 5537, 6972 - 6977, 7264 - 7666).

While in conference committee, Attorney General George W. Wickersham, requested that the committee increase the Interstate Commerce Commission's authority over telephones by giving the Commission the authority to require interconnection of telephone systems. The Committee rejected

Wickersham's request for interconnection authority, but did give the Interstate Commerce Commission the power to declare long-distance rates as either reasonable or unreasonable, and to set new rates based on their review of evidence submitted by A. T. & T. - since this was the only company with long-distance capacity. The conference committee bill was voted out of committee, and immediately accepted by both Houses of Congress.

The end result of the Mann-Elkins bill was actually two-fold. The telephone industry was now considered an aspect of business covered under the Commerce Clause of the Constitution, especially the long distance service, and thus subject to Federal oversight and regulation. In addition, it brought the telephone industry under the authority of both the Interstate Commerce Commission, and the principles and concepts of the Sherman Anti-Trust Act. As a result of falling under the Sherman Act, the United States Justice Department also had the authority, if it sought to use it, to bring antitrust action against telephone and telegraph companies in the same way that it was, at this time, bringing actions against railroads and oil companies.

A. T. & T. thus found itself, at the end of 1910, in a new relationship with both the State and Federal levels of government. Rather than dealing with just the issue of interconnection and access at the state level, it would now have to consider the possibilities that might occur with two completely unknown federal agencies, and a new set of legal and economic principles. The complexity of the new relationship became evident very quickly.

After passage of the Mann-Elkins Act, the larger commercial independent telephone companies and the Postal Telegraph Company began to pressure the Interstate Commerce Commission to open anti-trust investigations of A. T. & T. But the I.C.C. was reluctant to act on the independent's request. To the Commissioners of the I.C.C., the Mann-Elkins Act was a bill primarily directed at the authority of the I.C.C. over railroads. The expansion of the scope of the bill to include telephones was an additional area of authority not sought, or wanted, by the Commission. To the Commission, the nature and regulation of telephone service was an area already being regulated under various state regulatory commissions. These state commissions were beginning to develop expertise and knowledge in terms of the factors and methods of regulation, and thus were seen, by the I.C.C., as the more appropriate area of developing regulation. As such, the I.C.C. ignored the independent's request for action against A. T. & T. (Bickers, 1988: 88 - 103).

Once it became evident to the independent telephone companies and the Postal Telegraph Company that the I.C.C. would not act on their requests, they shifted their lobbying efforts toward the United States Department of Justice.

The Taft Administration, and the Attorney General, George W. Wickersham, were also reluctant to move on the independent's request. By this time, 1912, state regulatory commissions were beginning to accept the concept of a "natural monopoly" as it related to telephone service, and instead of acting to promote competition, they were actually ruling to restrict free market competition in the telephone industry. Attorney General Wickersham also believed that the telephone represented a clear example of the new economic concept of a "natural monopoly", and even expressed this opinion to several leaders of the independent telephone companies (United States vs. A. T. & T., 1974: episode 3, par. 116).

But 1912 was also a Presidential election year, and in that year the full force of the Progressive Reform movement defined the nature of the national election. Of the four candidates running for the office of President, all four had a solid, and public, reputation for advancing the progressive reform of government. Taft, the candidate for the Republican Party, had been instrumental in implementing the reforms originally initiated under the Administration of Theodore Roosevelt. Taft

also had a sound record of actively pursuing the powers of the Sherman Anti-Trust Act, and had instituted over 65 anti-trust lawsuits against the largest American industries during his first administration. Woodrow Wilson, the candidate of the Democratic Party, as governor of New Jersey, had carried out one of the nation's most comprehensive progressive reform programs, and had a solid public record in his writings of advocating the development of a politically neutral and qualified government administration. The other two candidates, Eugene Debs of the Socialist Party, and Theodore Roosevelt for the newly created Progressive Party, also stood on impressive records of advocating reform of government, and redefining the nature of American business's relationship to both the State and Federal levels of government. The campaign eventually became a debate over whether or not the United States should continue to accept the increasing centralization of its economic and political life, or if government should actively intercede in both the public and private sectors to break-up the concentrations of power and wealth.

During the campaign, Taft defended his accomplishments against Roosevelt's charges that he had sold the hopes of the American people to the largest corporations in the country. Eugene Debs, on the other hand, made impassioned speeches advocating the creation of a socialist political philosophy that would achieve fairness through the expropriation of the wealth of the industrialist. While Taft and Debs tried to make their respective arguments, the national attention was focused on the race between Wilson and Roosevelt.

Both Roosevelt and Wilson engaged in a modern form of Federalist versus Anti-federalist debate. Roosevelt, borrowing heavily from the works of Herbert Croly, argued that the emerging economic trusts benefited society, and should not be destroyed. Rather government should assume the mantle of social welfare, and regulate these new industries in such a way that economic growth was sustained, but through a system of cooperation between management and labor. Roosevelt advocated the mutualistic relations and national economic development program that was at the heart of the older Federalist position in the Constitutional debates of 1787. Wilson, echoing the Anti-federalist, on the other hand, advocated a more open society in which opportunity for advancement was achieved through the structural authority of the government. In order to encourage the development of opportunities for new entrepreneurs, and the creation of a set of fair business principles for competition, Wilson saw the Federal government as the instrument enforcing anti-trust laws. By aggressively pursuing the industrialists tendency toward monopolies, breaking-up their holdings, and encouraging competition, there would be created a wide range of small competing units within the economy, and a restoration of the American principles of fair competition and dispersion of economic wealth to all the members of society.

Both Wilson and Roosevelt, while disagreeing on the means for achieving a fairer economic order, did agree that the role of government, especially the Federal government, needed to be expanded in order to deal with the new social order emerging in the Country. It was evident to all that the age of a large and active Federal government had arrived. In the end, Roosevelt and Taft split the Republican vote, and left Woodrow Wilson as the winner of the field. The Progressive Reform movement had reached its point of apogee, and stood poised to make its mark on both the government and the society (Bernhard, Burner, Fox-Genovese, 1992).

Attorney General Wickersham's thoughts about the "natural monopoly" aspects of the telephone industry, reflected, in many ways, the underlying debate within the presidential campaign. On one hand, Wickersham, as Attorney General, had pursued the Taft Administration's relentless enforcement of the Sherman Anti-Trust Act. On the other hand, though, his thoughts concerning a "natural monopoly" reflected Roosevelt's, and Croly's, views on encouraging the economic benefits of the emerging monopolies while still exercising a restraining hand on their more aggressive tendencies. While Wickersham debated the matter in his mind, his Assistant

Attorney General, A. J. Fowler, advocated the pursuit of an anti-trust lawsuit. Fowler argued that the I.C.C. had shown that it was incapable of dealing effectively with the telephone industry through its lack of action. Fowler had reviewed the complaints from both the independent telephone companies and the Postal Telegraph Company, and had come to the conclusion that their claims of unfair business practices by A. T. & T. were true. Only the Justice Department, Fowler argued, could step in and correct the abuses being created by A. T. & T., and it was morally imperative that the Justice Department act (United States vs. A. T. & T., 1974: episode 3, par. 120).

After the 1912 election results were approved, and it was clear that Wilson would now be President, Wickersham recognized that the new Wilson Administration would pursue a more aggressive anti-trust policy. In all likelihood, the new Attorney General would institute anti-trust action against A. T. & T. Faced with the inevitable, and the increasing pressure within his own department from Assistant Attorney General Fowler, Wickersham relented, and on January 7, 1913 transmitted a letter to the I.C.C. requesting that it open an investigation of both rates and practices within the telephone industry. While the I.C.C. Commissioners were still reluctant to become involved in regulating the telephone industry, they could not politically ignore the request of the United States Attorney General. The I.C.C. voted to open an investigation of the telephone industry, and informed both A. T. & T. and the independent telephone companies that they should prepare information for such an investigation and hearings that year; the actual date was not specified at this time (Walker Report, 1937: 32 - 33).

Shortly after the Wickersham request, Woodrow Wilson was sworn into office. On March 5, 1913, Wilson's new Attorney General, James C. McReynolds, took over control of the United States Department of Justice. During the same period of time, Assistant Attorney General Fowler had opened a new investigation into the proposed purchase of the Independent Northwestern Long Distance Telephone Company by the A. T. & T. licensee, Pacific Telephone and Telegraph. Northwest had been a new comer into the long distance business, offering service between Washington and Oregon states. While in fact Northwest was on the verge of insolvency, Fowler argued that Northwest was a viable company being forced into merger by the unfair business practices of A. T. & T. Fowler's arguments, presented to the new Attorney General McReynolds, in essence claimed that A. T. & T.'s acquisitions of Northwestern was a clear violation of the Sherman Anti-trust Act, and thus grounds for a lawsuit. McReynolds agreed, and on July 24, 1913 the United States Department of Justice filed an anti-trust lawsuit against A. T. & T. and Pacific Telephone and Telegraph Company (Peters, 1985: 253 - 255)

The filing of the anti-trust lawsuit, and the notification of the I.C.C. investigation, came at a time of transition for A. T. & T. Through 1912, Theodore Vail had been pursuing a policy of consolidating control over the telephone and telegraph industry of the United States. A great deal of the policy's force came from the fact that J. P. Morgan was pursuing a strategy of industry consolidation similar to past efforts he had made in other areas of American industry. Since Morgan controlled the majority of A. T. & T. through his various banking and investment businesses, Morgan's personal ambitions were translated into A. T. & T.'s corporate ambitions. But suddenly, in March, 1913, J. P. Morgan died, and with his death, his personal ambitions were no longer part of the corporate equations used within A. T. & T (Brooks, 1976: 134 - 135).

Without Morgan, the exclusive control of the development of A. T. & T. rested in the personal vision of one man, Theodore Vail, and there did not exist any internal corporate check on how he would exercise his authority in order to bring that vision into reality.

Recognizing that both the I.C.C. investigation and the Justice Department anti-trust lawsuit were only the beginning of federal government involvement in the telephone industry, Vail sought to develop a new policy that would protect A. T. & T.'s dominate position within the telephone industry, but, at the same time, address the competition issue in such a way that it would break further government regulation, especially by the Federal government, in the operations of the company. He immediately assigned one of A. T. & T.'s vice-presidents, Nathan Kingsbury, to open discussions with the Attorney General, and seek to develop a compromise solution to the increasing conflict.

At the first meeting held between Kingsbury and McReynolds, on April 8, 1913, the main issue of discussion centered on A. T. & T.'s practice of acquiring independent telephone companies. While Kingsbury sought to determine what the actual rules for acquiring independent telephone companies would be, McReynolds was reluctant to make those rules clear, preferring to treat each proposed acquisition on a case-by-case basis. At this time, Kingsbury advanced the argument that A. T. & T. was in the process of working with both the state and federal governments to develop a process of regulation that would both ensure the public good, and at the same time extend telephone service, ultimately, to all the citizens of the country. Kingsbury went on the state that it would never be necessary to bring an action against A. T. & T., because the minute any of the regulatory bodies felt that either a law or principle of public service was being violated, A. T. & T. would immediately cease the offending practice (Walker Report, 1937: 35).

While there was no definitive agreement reached at the April meeting between Kingsbury and McReynolds, the two men agreed to continue to meet on a regular basis, and to further discuss the issues. During the Summer and Fall of 1913, Kingsbury and McReynolds met, and finalized a series of agreements between the Justice Department and A. T. & T. Finally, on December 19, 1913, a formal letter of agreement was submitted to the Justice Department, and accepted by Attorney General McReynolds. The final agreement became known as the Kingsbury Agreement.

Under the terms of the agreement, Theodore Vail agreed to a one hundred and eighty degree turn in A. T. & T.'s corporate strategy. A. T. & T. agreed to divest itself of the Western Union stock that it owned, and operate the two companies as completely separate operations. Any use of the phantom circuit over either telephone or telegraph lines, would be monitored by separate companies, with separate operating agreements and ownership titles to both equipment and lines. A. T. & T. also agreed to stop the acquisition of any telephone companies operating in competition with either it's Bell licensees or A. T. & T.'s long distance service. In addition, any company which had already been acquired by Bell or A. T. & T. would not be challenged by the Justice Department or the I.C.C., and the acquisition would be treated as an integrated part of the A. T. & T. corporation. A. T. & T. also agreed to interconnection of both its Bell licensee's lines and A. T. & T.'s long distance lines with the lines of independent telephone companies, as long as the interconnections were established under the technical conditions and standards established by A. T. & T. to maintain the quality of line performance. The Justice Department agreed that the long distance interconnection would be directed at the local independent companies, and in essence, gave A. T. & T. exclusive technical control of the standards of the telephone network nationally (Walker Report, 1937: 35).

The Kingsbury agreement, almost immediately, resulted in the I.C.C. discontinuing the telephone investigation, and the Justice Department's dropping of the anti-trust lawsuit. Even President Wilson praised the agreement as an example of progressive reform's efforts to develop a new method of public/private cooperation. But the agreement also allowed Theodore Vail to develop a new policy for A. T. & T., namely the concept of the regulated network manager. In essence, while independent telephone companies could operate without fear of being taken over by A. T. &

T., and even extend their services through long distance interconnection, they were also required to operate under the rules set by A. T. & T.. A. T. & T. was designated the manager of the network, and set the technical and operating standards under which the system performed. Whatever technical or operating requirements A. T. & T. set on the system had to be met and maintained by the independents. Thus A. T. & T. was secure in its position and status as the premier telephone service, and all other telephone companies would have to strive to meet A. T. & T.'s agenda. In essence, the Kingsbury Agreement gave A. T. & T. the authority to set the rules.

Thus by the end of 1913 and the beginning of 1914 Theodore Vail had brought A. T. & T. away from the brink of anti-trust dismemberment, and instead to the position of being recognized as the manager of the telephone system at both the state and federal levels of government. Vail had achieved his goal of "Universal Service - One System, One Policy".

The External Economic Framework

American Bell Telephone's earlier decision to concentrate on expanding service in urban areas and long distance, meant that, by the end of Bell's patent monopoly in the late 1890s, large sections of the Midwest, Southeast, and Western states were either without telephone service, or underdeveloped. The lack of development in those states offered the newly created independent telephone companies their greatest potential for growth, and thus became the battleground for the emerging telephone war.

Farmers seeking access to urban markets for their produce and animal stock were the earliest consumers of the independent telephone companies. Often small groups of farmers would form mutual companies to develop the services. Stringing wires along fence posts, they created crude, but workable, systems that were both effective and cheap to operate - and required little capital investment. These local "farmers lines" were usually operated by the farmers themselves, and connected to a larger mutual firm located in a near-by community. In addition, these systems further reduced costs by utilizing party lines that allowed them to connect eight to ten individual circuits to a single line. The end result of this local development was that telephone access to farms rose quickly. While in 1902 only two percent of farms had access to telephones, by 1912 the percentage had increased to over thirty percent (Fisher, 1987: 5 - 26). This was especially true in the prosperous farm areas of the Midwest.

Farmers lines were usually connected to larger mutual companies that had been established in local towns that either had been by-passed by American Bell, or which were under-developed. These locally owned mutual companies generally were not organized on a profit basis, but rather arose through local businesses joining together to develop telephone service within their own towns. These companies were more formally organized, and usually owned switching equipment and leased telephones to local residents. While the service quality was poor, they developed a strong local support for their efforts, and often exhibited determined loyalty to keep control within the locally connected business community (Fisher, 1987: 5 - 26).

The final tier in the independent telephone systems were the Commercial firms. These larger firms were profit oriented, and often arranged for the manufacturing of telephone equipment from independent manufacturers who arose after the expiration of the Bell patents. Commercial firms served larger populated areas, often in direct competition with the local Bell franchise, and extended their area of coverage by interconnecting both the farmers lines and the mutual companies (Fisher, 1987: 5 -26).

The end result of the independent telephone development was the construction of a form of "organizational communities" composed of a collection of locally owned and operated systems spread-out over an extensive geographical area (Barnet and Carroll, 1987).

The rise of the independent telephone companies after 1894 fueled an expansion of telephone access. Ten years later, in 1904, the independent telephone companies had constructed over 6,150 telephone exchanges across the country, and served over 2,000,000 customers. During the same period of time, A. T. & T. had only opened 1,514 exchanges, and served only 1,278,000 customers (Brooks, 1976: 83). The independent telephone companies had seized the lion's share of the local telephone market.

As telephone use in the United States expanded during the late 1800s and early 1900s, the commercial value of the telephone increased. While, initially, a local service area communications system, the development and improved quality of long distance telephone service began to have an impact on business use of the system. Businesses sought to increase their access to wholesalers located in other urban exchanges, and some large farmers sought to expand their access into city markets through the use of long distance telephone service (Gabel, 1995: 21).

The increased demand for business long distance access, resulted in independent telephone companies seeking access to A. T. & T.'s long lines. When A. T. & T. refused interconnection, based on their claim that interconnection to the independents would lower the transmission quality of the whole A. T. & T. system, many independent telephone companies began the construction of telephone exchanges in the larger urban markets, and interconnected these exchanges to the mutual and farmer exchanges in the less densely populated areas. This move by the independent telephone companies caused A. T. & T. to reconsider its' previous position concerning the development of services into the rural and less populated areas of the country. Although revenues for service to rural areas would be less than the direct cost of access, to not develop these markets would mean that independent telephone companies would be able to create a market for services from secondary suppliers and buyers connected to the larger urban markets. Such a development would result in the independent telephone service having a greater value to urban businesses than A. T. & T.'s service (Cutler, 1900: 226).

As a result of the independent's movement in both rural and urban areas, A. T. & T. reversed their previous decision developed under the Forbes Regime, and decided instead to compete in the rural markets of the United States.

A. T. & T.'s decision, while beneficial to the rural areas, resulted in confusion and hostility within the urban business community. Since A. T. & T. still refused interconnection to independent telephone companies, urban businesses found themselves facing the additional expense of having to rent telephone access from both A. T. & T. and the independent companies in order to have as wide an area of coverage as was possible.

Further aggravating the business communities concerns was the issue of residential access. Residential customers represented a significant percentage of the business communities market for the use of direct telephone initiated orders. Residents, generally speaking, were unlikely to rent two telephone systems, and instead would select the provider who had the greatest penetration of access to other residential customers of the telephone. Both A. T. & T. and the independent telephone companies promoted residential access in order to raise their value to the business community. But in the case of both rural and residential access, rates for such services were below the actual costs of access. The difference between the rates charged for rural and residential access, and the actual costs of providing such services, were made-up, by both A. T. & T. and the

independent companies, by higher access charges to the local business community ("Walker Report", 1937: Vol. 2).

At the same time, though, that A. T. & T. expanded its access to rural and residential customers, the force of competition in the marketplace acted as a brake on increasing costs for both residential and business customers. Since, at this time, telephone access was not considered "essential" for either business or personal life, and since there often existed competing companies willing to lower prices in order to attract more customers, increases in rates were often met with the need to reverse course, and actually reduce rates. As a consequence, profits for A. T. & T. tumbled, and by 1907 A. T. & T.'s stock was selling for eighty-eight dollars per share - down one hundred and four dollars from its 1902 high of one hundred and eighty-six dollars per share.

At first, Theodore Vail continued the Hudson and Fish policy of direct competition with the independents. Vail took the position that telephone service was a form of natural monopoly in which competition simply did not fit. Rather, A. T. & T. began a process of direct stock acquisition of the larger independent telephone companies. While the strategy was aimed at decreasing the number of competing firms, it could not always be carried out, especially in markets which were either unprofitable, or where service rates and service quality were marginal (Garnet, 1985: 128 - 146).

In larger cities, A. T. & T. used its improved long distance service to gain the support of the local business community to stop city councils from awarding charters to independent companies. J. P. Morgan also helped by using his connections to close down financiers attempting to acquire and consolidate a number of independent telephone companies into long distance providers. (Bornholz and Evans, 1983: 11 - 12).

While the process of acquisition and local business community support slowed the development of the independent telephone companies, it was not able to effectively stop the creation of new companies. By 1910, it became evident to Vail that there simply were too many current and potential customers who preferred cheap local telephone service with limited connections, and as long as these secondary telephone markets existed, there would always be some form of competition within the telephone system. Rather than continuing to concentrate on driving the independents from every geographical area, Vail decided to concede the marginal areas to the independents.

The new policy that was developed was modeled after a strategy developed originally by E. J. Hall, President of Southern Bell from 1894 to 1909. As early as 1903, Hall had recognized that direct head-to-head competition in the Southeastern States would eventually result in the bankruptcy of Southern Bell. The close family and business relations that existed in the majority of Southern communities, made it virtually impossible for Southern Bell to either gain a franchise to operate in the smaller Southern communities, or entice customers away from the personal loyalties they had to the owners of the small, locally owned mutual companies. Hall developed a strategy of sub-licensing the mutual and farmer independent companies, allowing them to connect to A. T. & T.'s lines, and providing them Western Electric equipment. In turn the sub-licensees agreed to operate their systems under the standards set by A. T. & T., and to conform their local operational procedures and policies to Southern Bell standards (North Carolina Independents, 1903: AT&T Box 1340). Hall's strategy was successful in dampening the effects of competition on the earnings of Southern Bell, and in turn reducing the number of larger commercial firms operating in the urban areas.

Theodore Vail adopted a modified version of Hall's plan. Wrapping the new policy under the umbrella slogan of "Universal Service", Vail embarked on a strategy where-by the mutual and farmer independents would become junior partners in a nationally integrated telephone system. Under the new policy, the smaller independents were allowed to connect to A. T. & T. lines on the condition that they utilized Western Electric manufactured equipment, and operated under the same technical standards imposed on the Bell licensees. In order to entice the independents into the agreement, A. T. & T. also offered financial assistance for both capitalization and equipment purchases (Fisher, 1987: 295 - 327).

Many of the small independents agreed to the new sub-licensing agreements. While it generally was recognized that the strategy would perpetuate A. T. & T.'s dominance in the telephone industry, the solution also offered the smaller independents protection from direct competition with A. T. & T. in their local markets, and also assured them of current and future connection to long distance service. In essence, the agreement between A. T. & T. and the majority of small independents meant that the United States was divided into the equivalent of spheres of influence, and created a perpetuating system of mutual support within the entire telephone industry.

Vail also continued to pursue the gradual purchase of controlling stock in the larger commercial independent telephone companies. The agreements between A. T. & T. and the smaller mutual companies, reduced the scope of coverage offered by the independent commercial firms, and in turn forced many to withdraw from the larger urban markets already dominated by A. T. & T. Vail's strategy eventually resulted in A. T. & T. cutting the share of the telephone market held by the independents to forty-one percent by 1912 (Telephone Census, 1912: 35).

The Internal Political Framework

Competition with the newly formed independent telephone companies forced A. T. & T. to expand the physical aspects of the telephone system by building new lines, and improving the quality of service at both the local and long distance levels. At the same time, A. T. & T. sought to increase its control over the licensees by increasing A. T. & T.'s stock holdings in the licensee's companies. The expansion of service and the strategy of purchasing controlling interest in the licensees, required that A. T. & T. increase its capital debt. Between 1902 and 1907 debt in the company rose from sixty million dollars to two hundred million dollars (Brooks, 1976: 122).

Initially, capitalization was accomplished by the sale of new stock in the company. But the increase in stock sales also increased the number of stockholders, and in turn decreased the percentage of total stock owned by the Boston financiers in charge of the company. In 1880 the Boston financiers and their families controlled 56.4 percent of the company's stock, but by 1900 their share of the company stock had fallen to only 5 percent of the total shares of outstanding stock in the company ("Walker Report", 1937: Exhibit 2096, Schedule 2, Appendix 2, Sheets 6 and 8).

In spite of their decreasing share of stock ownership, the Boston financiers continued to control A. T. & T. by either a form of self-perpetuating appointment by the Board of Directors of the Company, or through the use of proxy votes from stockholders who were unable to attend the annual corporate meeting in Boston ("Walker Report", 1937: Exhibit 2096, Schedule 2, Appendix 3).

But the combination of competition with the independent telephone companies, which often resulted in forms of "rate wars" in local areas, combined with the increasing debt service level of the company, quickly led to a decrease in the net earnings of the company. By 1902 annual net earnings per telephone station had dropped from a high of thirty-two dollars per year to fifteen

dollars per year ("Walker Report", 1937: 135). Because earnings in the company were falling, the investment market became reluctant to advance the company additional money for its capital expansion program.

In 1902 a group of bankers under the control of J. P. Morgan bought fifty thousand shares of A. T. & T. stock on the condition that two of the bankers, George F. Baker and John T. Waterbury, would be elected to A. T. & T.'s Board of Directors. Faced with a reluctant investment market, and in sore need of additional capital for expansion, the Boston financiers agreed to the appointment. This was the first time that anyone had sat on the Board of Directors who was not closely connected with the controlling Boston financiers. Morgan's emissaries quickly made it evident what were Morgan's ultimate plans. Morgan was determined to gain control over both A. T. & T. and Western Union, and unite them into a single consolidated company that would control the entire spectrum of communications in the United States ("Walker Report", 1937: Exhibit 2096 A, Appendix 7, Sheets 1 and 2).

On March 25, 1902 Baker and Waterbury were appointed to the Board of Directors of A. T. & T. At the same meeting, Theodore Vail was also appointed to the Board of Directors. Vail, who had been engaged in work in South America since leaving A. T. & T. in 1887, was approached by the Board of Directors in 1901, and asked to serve as President of the Company. Vail had declined their offer, but did express an interest in serving on the Board of Directors. Shortly after the Vail offer, the Board of Directors elected Frederick Fish as the new President of the company, and also agreed to appoint Vail to the Board of Directors. To the Board of Directors, Vail brought a vision and talent to the company that had been missing since his resignation in 1887, and the retirement of Forbes the same year. Unknown to the Board of Directors, though, was the fact that Theodore Vail not only had close personal connections with J. P. Morgan, he also shared Morgan's vision of an integrated national telecommunications system. As a result of the Board of Directors decision to appoint Vail to the Board of Directors, three of the seven directors positions were controlled by J. P. Morgan (Danielian, 1939: 71).

Over the next five years, The Morgan interests and the Boston financiers engaged in an internal war of control over the company. The pressure for new capital continued unabated, and while Morgan offered to provide the needed funds, the Boston financiers avoided sales to Morgan in order to keep his holdings in the company limited. Sales for new bonds were let on the commercial market through competitive bidding, and often final sales were directed at any group other than ones controlled by the Morgan interests. But in 1905 A. T. & T. was required to float a new bond sale on the order of \$150,000,000. Baker, Waterbury, and Vail proposed that the entire bond sale should be let to the Morgan interests. They were opposed by the other four members of the Board of Directors. But a final decision was held-off until it could be presented to the annual stockholders meeting in December.

The Boston financiers expected that the stockholders, as they had done previously, would send in their proxy votes to the Board of Directors, and thus allow the decision to be made by the majority controlling group on the Board - and with their discretion as to who the bonds would be sold to. But the scale of the bond offering was so large, that many stockholders refused to cast proxy votes, and objected to giving the Board of Directors discretionary authority. The Boston faction was able to gain enough proxy votes to carry the measure, but on the condition that the sale of the bonds would be to the general public, and handled through a syndicate of banks. Under the new proposal, the syndicate of banks would advance the company the initial value of the bonds, and then would offer the bonds for sale on the general market. Part of the banking group approved for the initial purchase was the Morgan interests ("Walker Report", 1937: Exhibit 2096 A, Appendix 10, Sheets 1 - 3).

The 1907 bond market was already glutted with new issues, and as a result the banking syndicate was not able to obtain the original estimated cost or volume of sales. Between 1907 and 1908 only \$10,000,000 of bonds were sold. The lack of sales was used by the Morgan group on the Board of Directors to demand that the Executive Committee of the Board of Directors, which actually oversaw the day-to-day operations of the company, be increased to include the Morgan faction. Under financial pressure, the Board of Directors appointed both Waterbury and Vail to the Executive Committee on April 9, 1907. While the evidence of what next occurred is missing, within two weeks of the Waterbury and Vail appointments to the Executive Board, Frederick Fish resigned as President of A. T. & T., and Theodore Vail was appointed President of the company ("Walker Report", 1937: Exhibit 2096 A, Appendix 11).

With the removal of Frederick Fish, and the appointment of Vail as President, the Morgan interests were in control of A. T. & T., and able to move on Morgan's plan to consolidate the telecommunications sector of the United States economy into a single monopoly.

The Internal Economic Framework

After 1894, when Bell's patent monopoly finally expired, American Bell Telephone engaged in a direct head-to-head battle with the independent telephone companies. But the decision to aggressively compete, also forced Bell to increase its level of debt financing to cover the costs of system improvement and expansion.

While American Bell required a large infusion of capital, it was still a Massachusetts based company, and thus required to operate under the corporation laws of the State. At this time, Massachusetts had one of the most restrictive corporation laws in the United States. Three elements of Massachusetts corporation law had plagued American Bell's previous efforts at increasing capital within the company. The first element was the requirement that all increases in capitalization of Massachusetts based corporations required the approval of the State Legislature. Not only was a separate bill required for passage of an increase, the State Legislature could attach any form of restriction on the increased capital request. The Massachusetts Legislature, exercising their Reserve Powers, had, in the past, extended state regulatory control over American Bell each time it had requested an increase in its capitalization (Langdale, 1978: 145 - 159).

The second element poised an even greater concern for American Bell. Under the incorporation laws of Massachusetts, parent companies were restricted in the amount of direct stock the parent company could hold in solely owned subsidiaries. Since A. T. & T. was in charge of the long distance expansion, and a major component in American Bell's strategy to defeat the independent telephone companies, the stock restriction would reduce the potential level of control that the corporate officers could have over the operation of their long lines division (Langdale, 1978: 145 - 159).

The third element in Massachusetts corporation laws that affected American Bell's plans was a restriction on who the actual new stock could be offered to for sale. Under the state law, new stock in the company could not be offered to existing stockholders at a price less than that which it was offered on the general market. General practice, at this time, was that new stock offerings in a company were offered to current stockholders at a discounted price. The Massachusetts restriction would thus dampen the desire of current holders of stock, in particular the Boston financiers currently controlling the company, from buying additional stock in the new offering (Langdale, 1978: 145 - 159).

In 1889 and 1894, American Bell was successful in gaining the consent of the Massachusetts State Legislature to allow for an increase in its capitalization - \$20,000,000 in the 1889 issue, and \$50,000,000 in the 1894 sale. In both cases, though, the request for an increase had met considerable resistance from the State Legislature, and had resulted in calls for even greater regulation of the company by various state commissions. The current President of American Bell, John E. Hudson, recognized that the process for further capitalization would not abate, and that the corporation climate in Massachusetts would continue to restrict American Bell's expansion. After the 1894 increase, a decision began to be formulated to move the corporation's headquarters out of Massachusetts.

Corporation laws in New York State, at this time, were the most liberal in the United States. Corporations in New York State were able to increase their capitalization without approval from either the State Legislature or the Governor's office, and were virtually free to offer their stock at any price they wished to set. The American Telephone and Telegraph Company had been originally chartered in New York for the very reason that there was little or no state government interference in the corporations operation. Hudson, and the Board of Directors of American Bell, decided that the climate for business was better in New York City, and made plans to move the corporation there by 1899. American Bell Telephone, on the last day of 1899, transferred all of its stocks and equipment to the American Telephone and Telegraph Company, including its stock holdings in the local Bell licensees. Effective January 1, 1900, American Telephone and Telegraph Company became the parent corporation of the Bell system (United States v. A. T. & T., 1974: Episode 2, pars. 29, 30).

Shortly after the transfer from Boston to New York, Henry Hudson died. The Board of Directors initially offered the President's position to Theodore Vail. Vail declined the offer, and subsequently Frederick Fish was appointed President of the Company. During the Presidency of Hudson, Bell concentrated on increasing its owning of shares in its various licensees and moving the corporate headquarters.. Hudson had paid little attention to the need to develop either new organizational structures or methods of doing business. The pattern of internal neglect ended with the ascendancy, in 1902, of Frederick Fish to the position of President of the company.

Fish's basic approach was still grounded in the original plan, developed by Forbes, of gradually increasing control over the licensees, but instead of concentrating exclusively on the acquisition of stock in the member companies, Fish also extended control through the development of new procedures within both the newly created A. T. & T. and the member licensees.

One of the first areas of Fish's attention was the system of corporate accounting. In order to determine what areas of service were profitable, and which were not, Fish, in 1903, instituted a new system of accounting on both A. T. & T. and the member Bell companies. The old system of accounting had resulted in licensees developing different levels and types of services at differing rates. Many times the rates that were charged had no relationship to the actual cost of providing the services. Under the new system developed by Fish, accounts were standardized, with costs isolated for both equipment and operational costs to each service offered by the company. The new system allowed A. T. & T., for the first time, to actually assess the profit levels of each service, and also to monitor the operational practices of its member companies. While the local Bell companies accounting departments still controlled which accounts items were posted to, the standardized systems of accounts that could be used for posting purposes enabled A. T. & T. to gain a comparative view of the performance of each local licensee (DuBois, 1913: 7).

The new system of accounting also allowed A. T. & T. to estimate the capital needs for each of the various exchanges in the country, and to develop a detailed plan for financing the necessary capital

improvements. Fish revised the previous requirement that each licensee fund their own capital needs, and instead developed a plan for internally financing the licensee's capital requirements through A. T. & T. In order to accomplish the process of underwriting the capital programs, Fish instituted a system of Debt financing within A. T. & T. in which the company floated blocks of bonds on the investment market to cover the requirements of capitalization (Steham, 1925: 108).

The need for technical standardization that had been a trademark of the Vail years, after 1887 fell into a state of dishevel. Local companies demanded that special equipment be manufactured by Western Electric for their unique services, and maintenance and upgrade of the existing lines and equipment fell behind as the local exchanges met competition from the independents. While, in theory, the engineers of the Engineering Department had authority over the standards of the system, in fact their authority was limited, and could only be used when called in by a local Bell company. Under Fish, engineers from the Engineering Department were assigned to each of the licensee's operations, and were given the direct responsibility over inspections of the facilities, and the reporting of data regarding performance to A. T. & T.'s corporate headquarters. The placement of the engineers not only improved the levels of standardization, it also created an engineering ethic in the field where technical knowledge was fostered as a primary method for conducting "good" telephone business (Annual Report, Engineers Department, 1906: 2)

Two other areas of Fish's influence were the establishment of a centralized purchasing department for both A. T. & T. and the member Bell companies, and a change in the license contract fee formula from one based on the number of telephones in operation in each licensee's area to a new formula based on a percentage of the gross operating revenues of the licensee ("Walker Report", 1937: 30 - 31).

While Fish's reorganization efforts improved the performance of both the company and the telephone system, his decision to use debt financing to underwrite capital expansion resulted in his fall from the Presidency in 1906, and his replacement by Theodore Vail.

Vail continued the process of increasing control over the licensees. In 1908 he instituted a standardized budgeting system for the Bell companies. Under the new system, all estimated budgets for Bell companies had to be submitted to A. T. & T. in a uniform estimate package, and had to be approved by A. T. & T. management for the upcoming year. In addition, requests for capital construction programs were also submitted under the new system, with a full report on the progress made on the previously approved capital projects (Bloom, 1912).

Probably Vail's greatest achievement in terms of organization were his efforts in transforming A. T. & T. and the local Bell Companies from a territorial management structure into a functionally based management system.

Starting in 1907, Vail first reorganized the long lines operation of the company. Prior to 1907 long distance expansion had been achieved by extending lines and service into each of the local Bell exchanges. As the local exchange came on line, a subunit of A. T. & T.'s Construction Department would be created to service the operation within the newly established territory, and would be designated as the Maintenance and Operating Department for the area being serviced. Each of the M & O Departments created was fully self-contained, and included ten sub-departments which covered everything from attorneys and accountants to construction and contracts (Organization Charts of the A. T. & T. Company, 1905 - 1957).

As a consequence of expanding on a territorial bases, regional managers in each of the M & O operations were responsible for maintaining the technical quality of the system within their area.

The expertise of the regional managers varied from region to region, and resulted in differing levels of technical conformity across the country. Vail saw the functional reorganization of the long lines division as a way to reestablish a uniform level of technical standardization. By placing highly trained engineers in charge of the various functional areas of performance, A. T. & T. could assure itself that technical standards were maintained across the entire country, and that the long lines division would support the development and improvement of interconnection.

The Long Lines Division was reorganized into three units: Plant, Traffic, and Commercial departments. Plant was given authority over facilities and real estate, central office equipment design, and construction planning. The Traffic department was in charge of the flow of telephone traffic, service inspection, operator services, and operator training. The Commercial department had authority to determine toll rate schedules, revenue development plans, advertising, customer relations, and evaluation of competition strategies. A superintendent was placed in charge of each division. The three divisions were then divided into five regional units, with headquarters established in New York, Philadelphia, Chicago, Kansas City, and Atlanta. Each of the regional divisions were subdivided into the same three levels of the national office, plant, traffic, and commercial. A line staff hierarchy was constructed in which district managers reported up the chain of functional command to the national superintendent in charge of the specific functional area. (Organization Charts of the A. T. & T. Company, 1905 - 1957). One final move to promote standardization was the placement of Western Electric within the Engineering Division, and the prohibition of developing any forms of equipment for local exchanges without the prior review and approval of the Engineering Department review committee (Carty, 1907).

Once the Long Lines Division had been reorganized, Vail extended the functional reorganization to all the member Bell licensees. In October, 1909 A. T. & T. distributed a twenty-one page document entitled *Application of Some General Principles of Organization*. Heavily influenced by Frederick W. Taylor's scientific management principles, the document spelled-out, in no uncertain terms, the principles of functional specialization of work, and the requirement to standardize processes across all areas of the company's operations. While local operations were given some leeway to adapt to local conditions, initially, the exemption was only temporary. Ultimately, all local operations were to reorganize along the same functional lines as the Long Lines Division, and were to report on an annual basis their efforts at reorganizing local operations to come into compliance with the process of organizational standardization. As part of the standardization, the Engineering Department was given final authority for establishing and maintaining specifications and standards for local plant and traffic operations (*Application*, 1909).

One final area of internal reorganization, though, required that A. T. & T. regain the lead in the development of telephone technology. Hammond V. Hayes had been in charge of the Engineering Department since 1886. While the Engineering Department was in charge of research and development, Hayes generally felt that advanced basic research should be done in cooperation with outside research institutes such as the Massachusetts Institute of Technology and Harvard College. As a result of Hayes's timid position, A. T. & T. slowly fell behind in terms of both basic and applied research, and began to lose the technological lead that they originally had under the Vail administration of the 1880s (Hill, 1947: 151 - 173).

When Vail assumed his position with A. T. & T. he immediately replaced Hayes as Head of Engineering, promoting J. J. Carty to the Head of the Division. Vail financially supported Carty's efforts to reorganize the division, and to recruit new talent into the Engineering Department. Carty immediately reorganized the research and development aspects of the Engineering Department along the same lines as the functional reorganization of the Long Lines Division, and provided a direct link between the functional requirements of the field and the research efforts of the

Engineering Department (Carty, 1909). Carty also moved the Engineering Department within a short distance of Western Electric's Engineering Department, and set-up some research and development operations next to the equivalent departments of Western Electric., thus fostering close cooperation between research and development efforts and the actual manufacturing of equipment (Manufacturing and Engineering Conference, 1915: 24 - 28).

Fish and Vail's combined moves resulted in developing a company, by 1914, that had successfully integrated all aspects of both local and long distance service into a uniform operation across the United States. The emphasis on Standardization and uniformity created both the hierarchical control sought by A. T. & T.'s upper management, and fostered an engineering culture within the organization based on the concepts of scientific rationality.

Structuring Principles

During the third period of the development of the telephone policy subsystem, we see a major shift in both the methods and concepts used to define the nature of the relationship between the public and private sector. While these new methods and concepts are still grounded in principles that have been in existence in the United States since the original Constitutional Founding, they are being reinterpreted and applied in a manner that reflects the emergence of a new national order within the country.

The original premise of limited government, as defined by Hume and Locke, has now shifted toward the concept of expansive government. Late nineteenth and early twentieth century concern over industrialization's effect on the original Republican values, has allowed for the development of a societal intervention by government into the affairs of the private side of the public/private relationship. This expansive development, during this time period, affects all levels of both the Constitutional order, and the governmental administrative order.

Municipalities, an entity excluded from the original Constitutional recognition of authority, have now used their powers of licensing and control of the use of rights of ways, to extend their control over the private telephone industry. Under concepts of municipality incorporation laws dating back into Colonial America, municipalities have taken an active stance to seek to restrain the direction and development of telephone service. They are supported in their efforts by both the general citizen seeking to gain the benefits of the new telephone communication, and by the local business community who also seek to achieve benefits through a unified and interconnected system.

State governments have also taken on an expansive role, seeking to promote the development and use of telephone service, while, at the same time, ensuring that rates and access are fair and equitable.

While the municipal and state governments are expanding their direct control over the telephone industry, the Federal government also seeks to extend government control over the private side of society, and has enacted limited legislation to allow the Interstate Commerce Commission the power to oversee rates that are charged for telephone service offered through the national commerce.

While the nature of government interaction with the private sector has shifted from a limited position to an expansive position, the balance of Constitutional authority that has evolved under Dual Federalism is still maintained. While both the State governments and the Federal government have extended their influence over the private sector, they have also selected, in terms of the

telephone industry, two different directions that allow each to maintain their authority within their historically defined spheres of constitutional authority.

The State governments have limited their oversight to the arena of intrastate telephone regulation. Recognizing the commercial and societal value to be achieved through a unified telephone system, they have begun the process of empowering State Public Utilities with the authority to oversee regulation of the telephone industry. These State Public Utility Commissions, in cooperation with both A. T. & T. and the small to midsize independent telephone companies, have accepted the concept of a “natural monopoly” and the “network manager”. Seeking to promote the expansion of telephone use, and increase the value of the system through interconnection, these state bodies of authority have moved to reduce free market competition within the industry. Instead of competition, the industry has moved to a point of accepting limitations on its action, but with agreement that their respective positions of market control will be maintained. While the new position of the natural monopoly violates previous beliefs concerning the ill effect of monopolies on Republican values, the concerns are mitigated by the new concept of public oversight and regulation of the private sector when such oversight will be beneficial to the total society, and will result in a net social welfare gain greater than possible through the aggregation of individual efforts.

The Federal government has also expanded its authority, but still recognizes the original constitutional separation of power between the Federal and State governments. The powers of the Interstate Commerce Commission have been increased to include oversight of the telephone industry, but this power has been restricted to the existing view of federal authority being limited to only those matters related to national commerce. Thus regulation within the industry is only directed at the interstate aspects of the telephone industry, namely long distance service, and only to those aspects related to rates charged for such service. The concept of a “natural monopoly” has not been accepted at the federal level as being applicable to the area of national commerce, and thus federal authority over interconnection of telephone lines is not given to the Interstate Commerce Commission.

While direct Federal extension of authority is limited to only long distance rate review, the extension of the I.C.C. authority over the telephone industry under the Commerce Clause, allows the private sector to be further penetrated by the Federal level under the provisions of the Sherman Anti-Trust Act. Since the telephone industry is now recognized by the public sector as involved in national commerce, and since the anti-monopolistic position of the Sherman Anti-Trust Act covers all businesses engaged in national commerce, the telephone industry finds itself under the unwelcome control of the United States Department of Justice in addition to the Interstate Commerce Commission. The anti-trust sentiment evident in the actions of the early twentieth century presidents, is now directed toward the telephone industry.

The telephone industry thus finds itself caught between the conflicting values within the American Constitutional and governmental order. On the one side it finds support for its centralizing tendency within the State Public Utility Commissions acceptance of the concept of a natural monopoly. On the other hand, it finds itself the target of the historical American animosity toward monopolies, being directed at it from the Federal government. The original tension within the American social and governmental order between centralization versus decentralization of both power and resources, as evident in the original Federalist versus Anti-Federalist debate, is now played out again within the development of the telephone industry’s relations to the Federal and State levels of government.

In the end, A. T. & T. agrees to the conditions outlined within the Kingsbury agreement in order to achieve a new political and social balance. In turn, the Federal and State governments agree to accept A. T. & T. as the manager and coordinator of the network, while limiting A. T. & T.'s direct ownership of companies offering telephone service. As in the original compromise agreement between the Federalist and the Anti-Federalist in which central governmental authority was recognized but limited by the Bill of Rights amendments to the Constitution, now a new balance is achieved in the telephone industry in which A. T. & T.'s predatory commercial activities will cease, but its position of network manager and coordinator will be recognized by both the State and Federal levels of government.

Driving both the expansion of governmental control over the telephone industry, but also recognizing A. T. & T.'s importance to the development of telephone service, is the changing nature of the concept of the development of community wealth and welfare. The Lockean concepts of the reaping the benefits of one's individual labor, and the overall social welfare to be achieved by government limiting its actions to the protection of private wealth, has now shifted, in the late 1800s and early 1900s, toward a more collective orientation as promoted by the Progressive Reform movement. The side effects of fast industrialization, and in turn the concentration of wealth and power into fewer and fewer private hands, has run counter to traditional American values of economic opportunity and opposition to the creation of monopolies. This development in social concern over the concentration of wealth and power has found a voice within the Progressive Reform Movement's position that private economic development should be encouraged and nurtured, but in such a way that it will mitigate the more Hobbsian side of human nature's desire for competition and conflict. But once again, the old debate between the Federalist centralization versus the Anti-federalist decentralization is manifested in the way such a balance should be achieved. The Federalists position toward centralization and encouragement of industrial development is taken up by the Roosevelt Reformers who seek to regulate industry, but in order to nurture industrial and economic growth. The Anti-federalists position on decentralization and localized community is manifested with Wilson's position concerning trust busting in order to create more and smaller units of economic development.

While the two wings of Progressive Reform disagree on the means and end goals of government intervention into the private sector, they both agree that the public side of the public/private relationship has the right, and duty, to intercede in what are perceived as the abuses being manifested in the private sector. Thus government regulation and oversight is not only warranted, it is also a proper and legitimate response.

The Progressive's are supported in their position by the general members of the society, who, by now, have forged a sense of a national community. A general sense of uneasiness over the continued concentration of power and resources into fewer hands runs counter to traditional social values of the Country as a Republic of free and equal people. Thus the use of government authority as a means of protecting the citizen from predatory commercial and labor exploitation receives wide general public support, and legitimizes the anti-trust sentiment of the Progressive's.

One final area of value shift has also occurred, but it has manifested itself within the private sector rather than the public sector. The original familial structure of ownership of American business had rapidly fallen, during the late 1800s, into a new network of personal and commercial relationships. This new network of ownership was manifested in either groupings based on social and economic relations, such as the structure of the Boston Financiers of A. T. & T., or large combinations of commercial banking interests controlled by a handful of wealthy capitalist, such as the Morgan Banking group that eventually wrestled control of A. T. & T. away from the Boston families. In either case, though, the dominant financial group controlled the ownership and operation of the

corporation, and exercised their direct control over corporate management as part of their private property rights concepts. While these groups may not have controlled the majority of stock held by investors in the corporation, their position as the single largest stockholder usually assured them that they would have direct administrative control over the companies involved. This general attitude toward control of the day-to-day operations of the organization by the majority stockholder was the underlying conflict that existed in the struggle between the Boston Financiers and the Morgan Banking Group, and the reason why the Morgan Banking Group sought representation on the Administrative Committee of A. T. & T. During the first quarter of the twentieth century this concept of private ownership and administrative control over the corporation began to change.

As the industrialists and financiers pushed American industry into consolidation and, eventually monopolies, they in fact destroyed their ability to exercise administrative control over their corporations. As the corporations began larger, they also became more technically complex. While A. T. & T. was involved in the general concept of telephone service, which could be understood by the corporate owners, the way that it provided such service began to become increasingly complex and technical. The technology that drove the expansion of the firm's business, also increased the degree of knowledge required to understand how the business was actually operated. In what Marx would find as an ironic turn of events, the very technical specialization and fragmentation of process promoted by these industrialists, also resulted in their losing understanding of the nature of their business. Technical decisions on capitalization, planning, financing, and expansion of the firm became increasingly the responsibility of the managers of the firm, not the owners. As the scientific management movement moved into the private sector, and the development of an engineering culture spread across A. T. & T., the owners of the firm became more and more dependent on the knowledge of the managers and technical staff to actually operate the firm. As management's position increased in importance, the influence of the owners became less important, and a subtle shift in the concept of ownership occurred.

While large stockholder's influence was still a factor in management decisions, the technical knowledge of the managers also became a factor in the actual sale and issuance of stock in the corporation. Thus the concept of the rights of private ownership in the firm began to lose its influence, and instead was replaced by the idea of corporate ownership. Under the newly developing concept of ownership, the investor had a right to expect a reasonable return on their investment, but not to interfere in the ability of corporate management to run the firm in such a way that it would achieve those expected profits.

We thus see, at this time, the beginnings of the emergence of the concept of the Chief Executive Officer, CEO, within the private sector, and the beginnings of the end of the concept of ownership control of the operations of the firm. Theodore Vail was becoming the model for the modern corporate CEO.

Driving both the public and private sector at this time is an underlying structural development that has slowly been emerging in the American society since the expansion of industrialization starting in the 1880s. As both the intended and unintended consequences of industrialization have surfaced within the society, the level of social complexity has increased. The traditional views of American Life, a form of 'republican mutual knowledge' shared by all the members of the society, has begun to be displaced by new areas of "knowledge" and new views of life within the country. This process of knowledge displacement has created an overall sense of "ontological insecurity" within the entire society.

Seeking to clarify this change, and to reestablish a sense of mutual knowledge and ontological security within the society, new theories are being advanced at all levels. While the new theories

often do not agree with each other, all of the theories share two common elements: they are grounded in previous social knowledge, and they are scientifically rational.

Previous assumptions concerning the character and nature of American life are not discarded. Since these previous beliefs are the foundations for both social and legal systems of conduct, abandonment of these assumptions would threaten the entire structure of perceived "legitimate" and "authoritative" allocations of both power and resources within the society. Such a move would lead to even further destabilization within the society. Instead of abandoning such assumptions, they are retained, but are reinterpreted. Thus the 'practical consciousness' of the society is retained, and only the "discursive consciousness" is altered.

Focusing on the 'discursive consciousness' segment of society's "mutual knowledge" leads to the second element shared by all the new theories, namely the emphasis on scientific rationalism.

The emphasis on "scientific" explanation has taken on two distinct patterns. Originally the process was grounded within the intellectual development of academic areas of study found in the institutions of American Universities and Colleges. This level of development was an extension of principles derived, originally, within areas of scientific methodology, philosophy, and history. This area of study tended toward macro levels of explanation, seeking to understand broad areas of human nature and conduct.

While the macro level area of explanation sought to interpret the overall mutual knowledge of society, the second pattern of scientific explanation was more relevant to the development of the telecommunications industry and the regulatory movement in the public sector.

This second level of explanation was grounded in American traditions of applied knowledge. Since the founding of the Constitutional system of government, both the Federal and State levels of government had encouraged and supported the development of applied research. This emphasis focused on the actual development of products and services. From this applied tradition grew the field of engineering, which was widely adopted into the process of industrialization. Within the society, a great deal of the credit for the expansion of the American economy was credited to newly professionalized field of engineering.

The engineering emphasis, as opposed to the academic emphasis of explanation, focused on the micro level of social actions and needs. It's concentration on specific areas of action, generally mechanistic in nature, led to a series of improvements in both processes and methods used to control the operations of both the public and private sector. The success in this area also led to a view that solutions to specific problems could be discovered by focusing on specific aspects of the problem, and refining the processes within the area of study.

Eventually, both the macro and micro levels of explanation were directed at the discursive consciousness of the society, and were used to offer new interpretations as to why and how the society were changing. In addition to explaining the changes occurring within the society, the theorists used these methods to offer prescriptions as to possible solutions to solve the problems emerging within the society. These explanations, at the time, were accepted by the overall society, and led to the establishment of a new structuring principle within the social order, namely that society could be scientifically "engineered".

This new concept became incorporated into both the private and public sides of American life. While the new concept had varying levels of influence on the actual operations of certain sectors of

industrial life, within the telephone and telecommunications industries of the United States it was adopted completely, and formed a bedrock article of faith.

Process Model

The Competitive Years, 1894 to 1914, was the time when the newly created American Telephone and Telegraph Company sought to create a comprehensive telecommunications monopoly covering all forms of electrical wire transmission. Under the direction of J. P. Morgan and Theodore Vail, A. T. & T. engaged in a competitive struggle with the newly emerging independent telephone companies, and sought to not only regain the telephone monopoly it had previously held under its original Bell patents, but to also extend that monopoly to include the telegraph industry of the United States.

But Morgan and Vail's strategy was attempted at a time in United States history when the role of government was expanding in the society, and government authority over the private sector was increasing. The Progressive Reform Movement, which, in the previous Monopoly Years, 1880 to 1894, had only begun to emerge as a force in the society, now was a national movement influencing all levels of government. and redefining the relationship between the public and private sides of society.

Fueling the growth of the Progressive Reform Movement was a general societal uneasiness over the growing concentration of power and money in the hands of a few wealthy industrialists and financiers. The previous decades abuses of the spoil system, coupled to the ruthless financial tactics of the industrialists, had led to both public scandals and financial uncertainty for millions. Traditional American Republican values of fairness, opportunity, and equality, seemed to be threatened, and many citizens sought to achieve a return to these early Republican principles, but still retaining the overall social benefits that would be achieved under the new economic expansion being experienced by the country. The Progressive Reform Movement offered the general citizen a way to supposedly achieve both traditional Republican values and economic growth, and thus the Movement's growth was supported and encouraged.

The increasing competition for local telephone service resulted in regulatory pressure manifesting itself, first, at the local government level. Local business community concerns over subsidized rates, lack of interconnection between competing exchanges, and deteriorating quality of service, resulted in business pressure being exerted on municipal authorities. At the same, extension of service to residential customers, and the additional building of telephone wires for access, was beginning to disrepute both traffic flow, and impacting on the esthetic qualities of local communities.

While A. T. & T. objected to local municipal regulation of the industry, municipalities began to assert their authority by first controlling rights of way access for lines, and then by assigning charters to provide telephone service to two or more companies. Eventually these municipal efforts were supported by the independent telephone companies, who saw it as a way to curtail A. T. & T.'s influence, and also as a method to force interconnection. Eventually, municipalities began to require interconnection, and to approve rates that could be charged local subscribers, through their local city councils.

The development of local telephone regulation added to the concerns felt by A. T. & T. Realizing that competition required that it extend service as broadly as possible within the society in order to maintain its position, A. T. & T. sought to extend service to both residential and rural customers by setting-up a two tier system of charges whereby business customers charges subsidized part of

the costs associated with extending service to homes and farms. Rate review by municipalities would mean that cross-subsidization of rates would not be possible outside of municipal boundaries.

In order for A. T. & T. to achieve a monopoly position once again, the local Bell systems and the long distance lines needed to be interconnected across the United States, and large competing companies needed to be blocked from access to the interconnection. By blocking, or limiting interconnection, A. T. & T. could increase the value of its service over its competitors. But complete blockage of the interconnection would not be possible since both local and state governments sought to increase public access to the total telephone network. A. T. & T. would have to agree to interconnection, but needed to control that interconnection so that its dominant position would not be undermined.

Basing its arguments off of the Progressive economist Ely, A. T. & T. defined the problem as not one of interconnection, but rather one of public good as defined by the concept of a “natural monopoly”. In order to advance their position as a natural monopoly, A. T. & T. allowed for interconnection of local lines, but under the standards and equipment both set and manufactured by A. T. & T. A. T. & T. also advanced the concept of the need for a “network manager” in order to ensure technical quality in the total system. The smaller independent telephone companies joined A. T. & T. when it was agreed that their existing market shares would be respected, and interconnection to long distance lines would be assured.

The newly emerging state public utility commissions accepted A. T. & T.’s position concerning a natural monopoly, and also its position as the network manager. Thus A. T. & T. was able to maintain its equipment, standards and long distance control of the telephone system, while also becoming the leader of a coalition of telephone companies with strong connections to both local and state governments.

With local competition somewhat under control, and the level of competition subsiding because of corporate buyouts by A. T. & T. of smaller telephone companies, A. T. & T. embarked on its long range plan of total consolidation of all wire telecommunications. The acquisition of Western Union allowed A. T. & T. to exercise direct control over the majority of long distance communication in the United States. But the acquisition of Western Union threatened the few remaining large independent telephone companies, and the only surviving independent telegraph company in the United States. The two groups joined forces, and argued to Congress that A. T. & T. was practicing both unfair business practices, and setting rates at an unreasonable level.

Congress sought to define the problem in terms of the Commerce Clause of the Constitution, and concluded that the telephone was now a part of national commerce falling under their authority. Congress used the existing debate over the Mann-Elkins Act as a tool to extend Federal authority over the telephone industry. Thus the I.C.C. was granted rate review and setting authority, but was limited to only long distance service. Congress refused to recognize the concept of a “natural monopoly” on a national level, and thus restricted the I.C.C.’s authority in the area of requiring interconnection.

But the extension of I.C.C. authority over the telephone industry, and Congressional recognition that the telephone was now part of national commerce, allowed for the telephone industry to also fall under the scope of Federal control established within the Sherman Anti-Trust Act. The definition of the problem now shifted to the United States Department of Justice, and the question was presented in terms of whether or not A. T. & T.’s business practices were in fact violations of

anti-trust laws. The Justice Department eventually judged that A. T. & T. was violating the anti-trust act, and filed suit to begin the process of breaking-up the Company.

The fortuitous death of J. P. Morgan allowed Theodore Vail the opportunity to change the policy of A. T. & T., and to develop a new approach toward controlling telephone and telegraph service within the country. Reversing long standing positions within the company, Vail was able to secure the Kingsbury Agreement. The Agreement allowed for the creation of a new policy and industry regime in which some level of limited competition was allowed, but also A. T. & T.'s position as network manager was recognized and accepted at both the State and Federal levels of government. In turn, A. T. & T.'s concession of total interconnection, allowed it to set the standards for the system, and to control the equipment utilized within the system.

Thus by the end of 1914 a new policy regime had been created in which municipalities controlled access and rights of ways, state public utility commissions controlled rates and interconnection, the I.C.C. controlled long distance rates, and the United States Department of Justice oversaw the agreements and access required to create a total national telephone network. In return, A. T. & T. was recognized as the network manager on all levels of government, and the underlying concept of a natural monopoly was accepted directly by the state governments, and indirectly by the Federal government through the United States Department of Justice.

From 1894 to 1914, the telephone policy subsystem has finally emerged. The system that has come into existence is composed of the following components.

The private side of the public/private relationship is composed of a dominant company, namely A. T. & T. The Company has formed both formal and informal structural relations with the independent telephone companies, Western Union, and Western Electric. This coalition of firms and corporate subunits control completely the entire structure of wire-based telecommunications within the United States. A. T. & T.'s position as the dominant firm is recognized both by the size of it's network, and it's acceptance as the overall "network manager".

The public side of the public/private relationship is composed of two levels of government, namely the various state governments and the Federal government. The state government interests are represented by the authority granted the State Public Utility Commissions to regulate intrastate wire communication. The Federal level of government is represented by two separate agencies. The Interstate Commerce Commission has been given authority over rates for long distance service, and any Federal issues related to interstate wire communications While the I. C. C.'s authority is limited, the second agency of Federal government representation, namely the United States Department of Justice, has extensive authority to intervene in the industry if any of the agreements reached under the Kingsbury settlement are violated.

The final subsystem arrangement that exists is actually a regulatory triangle. State government interests related to intrastate are represented by the Public Utility Commissions. The Federal government's interest in interstate communications are represented by the Interstate Commerce Commission. The private sectors interest are represented by the Vail coalition, with A. T. & T. serving as the main broker through it's position as network manager. Overseeing the operation of the triangle is the United States Department of Justice, which in essence services as the enforcement arm of the arrangement.

Driving the emergence of the policy subsystem has been a learning process. Both broad social and economic forces have come into play, causing changes within both the industry and the society. At the same time, various levels of social agents on both sides of the public/private relationship have

sought to develop new and effective methods to deal with the problems that have emerged as competition has spread into the network. The ensuing levels of conflict, have led to a variety of methods being tried which have sought to deal with the problems of competition. Eventually, a series of solutions tried during the learning process are adopted as the basis for the final institutional arrangement that is selected.

Considering various theories of policy subsystem development, and seeking to relate these theories to the historical record, one must conclude that, in terms of this specific policy system, an issue network developed first, specifically after competition entered the communications sector in 1894. The issue network then engaged in a learning process over the next twenty years. In the end, a series of solutions were selected which coupled various public and private agencies together into a formal policy subsystem.

The Duality of Structure

By the end of the “Competitive Years”, 1914, the telephone industry had been incorporated into the general theory of the public interest, and institutionalized within the regulatory functions of government. Driving this change in the relationship between the telephone industry and government was the recognition that voice to voice communication had become integrated into both the personal and commercial aspects of society, and was playing a larger and growing role in the development of society. As in previous decades, the penetration of the telephone into both the commercial and social aspects of society drew the attention of government, and legitimated the right of government to exercise oversight on its operation and development.

While the expanding use of the telephone legitimated the intervention of government into the industry, the grounds for legitimating the new relationship were, at first, fragmented and somewhat contradictory. Municipalities took the initial lead in penetrating the private sector of telephone service. Basing their justification on the commonly accepted principle of protecting the public safety, municipalities extended their authority by first controlling rights-of-ways and ordinances for extension of telephone lines. Gradually, the municipal sector further extended its authority under public safety concepts, moving into both issuing charters for service, and eventually controlling interconnection and rates.

The development of a variety of differing municipal interpretations, resulted in the industry leader, A. T. & T., seeking to move the regulatory regime to a larger geographical area. In order to do this, the Company adopted the newly emerging principle of a “natural monopoly” to support its position. This new principle of a natural monopoly allowed for a change in public perception of the concept of a monopoly. Traditional hostility toward centralization of both political and economic power was overcome by shifting the perception on a monopoly away from negative connotations, and toward a positive public image grounded on the belief in protecting the common good. This new view of a monopoly sought to overcome Anti-federalist and Jacksonian values of dispersion of economic and political power, by replacing the traditional values with ones that emphasized the greater public benefit to be achieved through consolidation. At the same time, in a bow to traditional American principles of public control, independent commissions were created at the State level which accepted the principle of a natural monopoly, but also appeared to represent the public interests in their oversight of the industry. Thus the balance between economic benefits and public responsiveness was achieved through the creation and empowerment of public utility commissions.

At the Federal level, the continued desire to sustain the constitutional order through dividing power between the Federal government and the State governments was maintained. While Federal

authority over interstate telephone service was recognized, such authority was limited to only the review of rates. The concept of a natural monopoly on a national level was rejected, and in its place authority was limited to reasonableness of access, and charges for such access.

But extension of the Federal power over the interstate aspects of the industry, allowed for the surfacing of basic anti-monopoly feelings within the society through the extension of the Sherman Anti-Trust Act into the telephone industry. In order to maintain its position of dominance in the industry, A. T. & T. relinquished its position of interconnection and access, and agreed to accept the rulings of the Federal Department of Justice. In return, the Federal government tacitly recognized A. T. & T.'s position as the "network manager", allowing it to coordinate the telephone traffic, but limiting its ownership of various service providers.

The traditional anti-monopoly values of the Anti-federalists and Jacksonians was thus dampened under the influence of the Progressive Reform Movement which sought to balance economic growth against public welfare and responsiveness. The concept of the network manager appeared to offer such a solution and balance, and was readily accepted by A. T. & T. and the Federal and State regulators overseeing the industry.

One other value also exhibited itself during this time period, and related to the rights of ownership in both the private and public sector. As industries grew and became more complex, and government response to private abuses also caused an increase in both the size and complexity of government, the knowledge to understand both the operation of private business and government business became more technical. The technical complexity of both public and private sectors began to take understanding of the business of both government and industry out of the hands of both investors and elected officials. Instead, decisions on the operation of both the public and private sector became grounded in the upper levels of management, and gradually out of the control of either investors or elected officials. The original concept of the rights of ownership shifted to the rights of corporate ownership controlled by upper management in the private sector, and the rights of upper management to run an increasingly complex government based on technical and rational processes rather than expressions of the public will through elected officials. Thus ownership rights in both the public and private sector were displaced, and fell under the control of management with the corresponding believe in running both sides of the public/private relationship under principles of scientific management.

Unintended Consequences

The failure of Congress to address the telephone industry under the 1880s legislation creating the Interstate Commerce Commission had created a vacuum in terms of government authority over the industry. As a result of the Congressional inaction, each level of government, during the period from 1894 to 1914, assumed portions of the regulatory regime.

The failure of Congress to address the telephone industry under the initial legislation creating the Interstate Commerce Commission, created a vacuum in terms of both government oversight of the industry, and development of the industry after the expiration of the Bell patents in 1894. As a result of Congressional inaction, competition in the telephone industry reached a fevered pitch shortly after the expiration of the original patents. The ensuing competition between A. T. & T. and the independent telephone companies resulted in a wide range of services and quality of services that entered into the marketplace. Compounding the problem of variety, both competitors resorted to unrestricted competitive practices that proved to be disruptive to society.

In response to the deteriorating competitive environment, municipalities attempted to regulate the industry through their right-of-way authority within their municipal jurisdictions, and the chartering of public service providers. While the municipal effort was successful in its intention of creating some order within its own service area, the municipal move into the area of rate regulation and costing undercut A. T. & T.'s desire to extend service to other areas, and apply rate subsidization to underwrite the cost of such service into both residential and rural areas.

In response to the municipal efforts, A. T. & T. sought to place regulatory authority within the State governments. Under the plan proposed by A. T. & T., state oversight would allow for the increase in areas of service to both residential and rural customers, and achieve the cross subsidization of rates necessary to achieve their end goal. While A. T. & T.'s plan was successful in accomplishing its initial goal, it had the unintended consequence of escalating the competitive conflict. The larger independent telephone companies realizing that A. T. & T.'s alliance with the smaller independents would place it at a disadvantage with the State Public Utility Commissions, escalated the conflict by seeking to extend Federal authority over the industry.

The independent telephone companies efforts to extend federal authority over the industry was successful, but the failure of the Interstate Commerce Commission to take action against A. T. & T. led to a further escalation by the independent telephone companies. The Executive level of the Federal government was convinced to challenge A. T. & T. under the Sherman Anti-Trust Act. But A. T. & T.'s decision to avoid further Federal intervention by altering its local practices and acquisition process, defused the conflict. In return for its acceptance of Federal oversight on its operations, A. T. & T.'s position as "network manager" was unofficially recognized by both the Federal government and the State governments. While the independents were successful in achieving interconnection and stopping A. T. & T.'s acquisition policy, they also now faced the unintended consequence of official recognition of A. T. & T.'s dominate position within the industry, and its right to set and maintain the technical standards for the entire telephone system.

In the end, the process of extending government control and oversight over the telephone industry resulted in the intended consequence of resolving the problems of market competition within the industry, but also led to the unintended consequence of fragmenting government oversight of the industry into four separate spheres of authority.

Theodore Vail's strategy of acquisition of competing telephone companies, and the sub-licensing of smaller independent telephone companies, led to A. T. & T. reducing the level of competition it faced from the larger independent telephone companies. Vail's efforts resulted in the rollback of market share controlled by the independent telephone companies, and the restoration of A. T. & T.'s dominate position within the telephone industry.

While the agreements reached under both the newly created sub-licensing contracts and the Kingsbury Agreement left A. T. & T. in a strong position within the entire telephone industry, it also resulted in the United States being subdivided into various telephone areas controlled by a variety of different types of telephone companies with varying levels of capital funds and resources.

In addition, the Kingsbury Agreements recognition of A. T. & T. as network manager, left the entire telephone system's long distance interconnection in the hands of one company. As the necessity for long distance interconnection became more important in maintaining the quality and value of telephone service to society, the more dependent both citizens and independent telephone companies became on the financial and managerial health of A. T. & T. While the system of mutualism within the industry spread the use of telephones, the more telephone use spread, the

more dependent everyone became on the continued operation and oversight of the system by the network manager, A. T. & T.

The internal struggle for control of A. T. & T. between the Boston Financial Group and the Morgan Banking Group, resulted in A. T. & T. developing a strategy, under both Morgan and Vail, of creating a national telecommunications monopoly. In many ways, the strategy was the re-establishment of both Alexander Graham Bell and Theodore Vail's original vision of a "Grand System". The new strategy allowed the company to achieve a sense of internal cohesion and purpose, and an ultimate goal for its existence.

But the development of the new vision led to two unintended consequences. The first consequence was that A. T. & T., in order to achieve its vision, resorted to debt financing to expand its national network. The use of debt financing made A. T. & T. more and more dependent on the commercial investment markets for capital funds to handle both expansion of the network, and upgrade of the existing network facilities. As the number of investors increased in the firm, the influence of any single investor decreased. In addition, the dependence on investment markets for on-going capital meant that A. T. & T.'s financial return on investment became a critical factor in defining future strategies the company would take in terms of both services offered by the company, and types of technology that would be developed for the network.

The second unintended consequence of developing the telecommunications monopoly strategy was that A. T. & T. was viewed with suspicion by both the Congressional and Executive arms of the Federal government. While, in general, the expansion of the telephone network was encouraged and supported by both citizens and government agencies, the attempt to create a single monopoly played against existing fears concerning the concentration of wealth and power in the nation into fewer and fewer hands. The Kingsbury Agreement helped offset this initial fear, but left behind a lingering suspicion in both the minds of the citizens and government agencies that A. T. & T. required constant scrutiny and watchfulness. Thus A. T. & T.'s ultimate motives as a firm became part of the equation used to access and evaluate the companies actions.

The initial consolidation of the Bell system under A. T. & T., was followed by further internal consolidation and reorganization under both Fish and Vail. As a consequence, by 1914, A. T. & T. and its regional Bell Operating Companies, BOCs, had been restructured into a firm that was both vertically and horizontally integrated across the entire United States. In addition, the firm's stress on both scientific management principles, and engineering standards for quality of service, had resulted in a firm that was grounded in a culture of scientific and technical knowledge, and whose decision making premises operated on rigidly adhered to mathematically based models.

The integration of A. T. & T. did result in the intended consequence of creating a firm that was operated efficiently, and delivered a high standard of quality service. But the pursuit of scientific standards of operations also resulted in the firm becoming increasingly complex in its operation, and dependent on advanced knowledge in both engineering and management to understand how the firm actually operated.

The unintended consequence of the increasing technical nature of the firm resulted in the corporate owners and investors becoming less aware of how the business actually operated, and more dependent on the managerial and technical staff to assess future investments and strategies for the firm's growth. Gradually, over the period from 1894 to 1914, investor's and owners control of the operation decreased, and managerial control increased. By the time that J. P. Morgan died in 1913, corporate control in the firm was squarely lodged in the hands of the managers of the firm, and specifically in the hands of the Chief Executive Officer, Theodore Vail.

To a lesser extent, the same process of change in decision making processes was occurring, during the same time period, in the public sector. As government increasingly responded to the problems arising from the fast industrialization of society, and extended its oversight further into the private sector, the technical nature of government also became more complex. Decision makers in government became more dependent on the expertise of government managers specializing in these technical areas. As the complexity of the government grew, decision makers in government were less and less able to exercise direct knowledge of the workings of government over the areas of new authority, and became more dependent on the knowledge of "experts" to assess the impacts of various courses of action.

The net result, for both the private and public sectors, was that the process of decision making in both spheres became grounded in the managerial staff.

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