the expenditure or investment necessary for mere duplication and straight competition. In other words, the profits should not be so large as to warrant duplication of capitalization in the competition for the same business.

When thoroughly understood it will be found that "control" will give more of the benefits and public advantages, which are expected to be obtained by state ownership, than could be obtained through such ownership, and will obtain them without the public burden of either the public office-holder or public debt or operating deficit. It is conceded that as a rule private management is better, more economical and more efficient than public management, and much more advanced and enterprising. The economical margin between public and private management has been shown by experience to be more than sufficient to secure the best private administration.

When through a wise and judicious state control and regulation all the advantages without any of the disadvantages of state ownership are secured, state ownership is doomed.

State control of public utilities should not prevent progress, should be sufficiently unrestricting to encourage the introduction and demonstration of the value of any new or novel enterprise, and should allow sufficient reward for the initiative, enterprise, risk and imagination of the adventurers behind such enterprises. It should discriminate between the useful adventurers or promoters, pioneers in fact, and those pirates or sharks who, on the strength of other successes, extravagantly capitalize undeveloped ideas, and exchange the worthless securities for the savings of deluded and credulous investors. Corporate control and restriction should always exist to a sufficient degree to prevent such speculative promoting, and such stock-jobbing schemes.

The regulation or control of any new or novel thing

which is a mere convenience and not a necessity can be left largely to the laws of trade; such a thing, if offered, must be offered at a price acceptable to the public, who are the customers, at a price which in the opinion of the purchaser leaves him a margin of profit either in convenience or enjoyment. Under such control private initiative can be depended upon for the introduction of everything believed to have possibilities.

The combination of the promoter, investor and capitalist, with their imagination, personality, optimism and desire, has been at the bottom of every development of every kind or nature which has benefitted the human race in the way of utilities, and still is the only way in which new utilities can be developed. Whenever any great works have been undertaken by governments they have been on lines of old development, based on experience of that which has been developed by the persistent genius and application of some individual or group of individuals.

State control or regulation, to be effective, should when exercised, be accepted and acquiesced in by the public. If all the decisions not in exact accord with the desire or contention of the public are condemned, if it is expected and required that all decisions be against the utilities controlled, if politics and political effect are to govern decisions, if decisions go for nothing with, and are not respected by the public, failure and disappointment are bound to follow, self-respecting men will refuse to act, the standard of appointments will fall and state control and regulation will become a disgrace, and the evils which it was intended to correct will multiply.

If any company gives good service, meets all the reasonable demands of the public, does not earn more than sufficient to provide for the maintenance of its plant up to the latest standard and for reconstruction of plant when worn out or obsolete, pays

only fair dividends to its shareholders—if a company is only doing this its rates and charges to the public cannot be unreasonable.

Competition vs. Control or Regulation.

Effective, aggressive competition, and regulation and control are inconsistent with each other, and cannot be had at the same time.

Control or regulation, to be effective, means publicity; it means semi-public discussion and consideration before action; it means deliberation, non-discrimination; it means everything which is the opposite of and inconsistent with effective competition.

Competition—aggressive, effective competition—means *strife*, industrial warfare; it means contention; it oftentimes means taking advantage of or resorting to any means that the conscience of the contestants or the degree of the enforcement of the laws will permit. To make competition effective great and uncontrolled latitude of action is necessary; action must be prompt and secret.

Aggressive competition means duplication of plant and investment. The ultimate object of such competition is the possession of the field wholly or partially; therefore it means either ultimate combination on such basis and with such prices as will cover past losses, or it means loss of return on investment, and eventual loss of capital. However it results, all costs of aggressive, uncontrolled competition are eventually borne, directly or indirectly, by the public.

Competition which is not aggressive, presupposes co-operative action, understandings, agreements, which result in general uniformity or harmony of action, which, in fact, is not competition but is combination, unstable but for the time effective.

competition + regulation mutually exclusive

Competing Exchanges.

Two local telephone exchanges in the same community are regarded as competing exchanges, and the public tolerates this dual service only in the fast disappearing idea that through competition in the telephone service some benefit may be obtained both as to rate and efficiency. Competition means that the same thing, or a satisfactory substitute, is offered. In this sense there can be no competing exchanges unless each exchange has substantially the same list of subscribers, which is in itself inconceivable.

It is not telephone service *per se* that an exchange affords; it is a particular, definite telephone connection between two people which can only be given between two parties connected with the same exchange or the same system. Each of the several independent exchanges in the same community offers you telephone service, but telephone service only with its particular list of subscribers.

Opposition exchanges compete in the same way as do two street railway lines, each starting in the center of the city, running a short distance through the same main street, and then branching off, each supplying an entirely different district of the city. Those traveling only from point to point on the main street can use either line, pay one fare; there is to this extent competition—there is a choice. Beyond that, to reach the other districts, there is no choice, there is no competition; one line or the other must be taken, depending on the particular district wished to be reached.

In the case of the street car service, payment is made only to the line used, when used.

To be in a position to obtain full telephone service where there are opposition exchanges, subscriptions to all are necessary.

In all other opposition utilities, to get the full service one or the other is paid—not both.

As before said, the purpose and object of an exchange is to afford a direct speaking circuit between parties at points distant from each other, to afford a highway for personal communication between any two. The exchange gives nothing but that connection, does nothing but provide that highway of communication, and place it at the service of the two parties desiring to communicate. The actual communicating is done by the parties themselves over this circuit placed at their exclusive service for the time being. To get this service, however, both parties must be connected with the same system; if not, the telephone circuit between the two parties cannot be made.

In two exchanges each having 2,000 subscribers, Messrs. A, B, C, D, E, F, G, H, I, J, K, L, M, N are connected with one, and Messrs. A, B, C, O, P, Q, R, S, T, U, V, X, Y, Z, connected with the other. Messrs. A, B, and C can use either exchange to connect with each other, but to connect with each other one exchange with one subscription and with but one payment would be sufficient. This is not competition; this is duplication.

Messrs. A, B, C can connect with all the others on both exchanges only by two subscriptions and two payments. There is no choice; there is no competition.

Any competition between opposition exchanges is confined to obtaining new subscribers—to increasing their subscription lists. Neither the same thing nor what could possibly be called a substitute is offered. Each exchange affords that connection between the subscribers on its particular list and that is all—between Messrs. A, B, C, D, E, F, G, H, etc., or between Messrs. A, B, C, O, P, Q, R, S, T, etc. A subscription to only one exchange is of no benefit when a connection with the other exchange is wanted, subscription to the other exchange is also necessary. This is not competition in any beneficial or any other sense.

When anyone decides to become a subscriber to an exchange he does not go to the one which offers any other inducement than the ability to connect with the people with whom it is the habit or necessity of the person subscribing to communicate. If it is his habit or necessity to communicate with some or all of those on both exchanges, subscriptions to both exchanges are necessary; in other words to get the advantage of complete local telephone service in a community, subscription to every local exchange in that community is necessary.

The fundamental idea of the Bell System is that the telephone service should be universal, intercommunicating and interdependent; that there are *certain people* with whom one *communicates frequently* and *regularly*; there are a *certain few* with whom one *communicates occasionally*, while there are *times* when it is *most necessary to get* communication with *some other one*, who, until the *particular necessity* arose, *might have been unknown and unthought of. It is this necessity, impossible to predetermine, which makes the universal service the only perfect service.*

universal service is (monopoly?) the only proper phone service →

On the assumption that a perfect telephone system must afford this direct highway of communication between any two desiring to converse, this system must reach everyone; must be universal, comprehensive. To the extent that any system does not reach everyone it is not perfect; to the extent that any system does not reach everyone, it is not in competition with the one that does; and to the extent that both systems reach everyone it is merely duplication; it is not competition.

Two exchanges may compete for subscribers, but not by offering the same list of subscribers; it would be impossible to keep the list of subscribers to any two opposition exchanges the same. One may offer a more desirable list of subscribers from your point of view than the other, therefore you will subscribe to that

one, but if both offer an equally desirable list of subscribers to you then you must choose between them, or you must subscribe to both exchanges.

One may call the carriage industry and the automobile industry competing. They are in a sense, or one is a substitute in a very general sense for the other. One might say the wholesale or retail flour merchant and the rice merchant are competing, as one is a substitute for the other, but two exchanges offering different lists of subscribers are not competing even in that sense, as neither is a substitute for the other, in that on one you may have communication with certain people, and on the other with certain other people; therefore they are not competing.

Two exchange systems in the same place offering identically the same list of subscribers, if such a thing can be imagined, are as useless as a duplicate system of highways or streets in a village not connecting with each other, but each reaching all the residents.

Duplicate services are ~~wasteful~~ useless ←

Physical Connections.

Physical connection. What is meant by it? And what object is it intended to accomplish?

Where there are two or more so-called competing local telephone exchanges in the same territory, each offers a particular service; each offers a connection with its particular list of subscribers.

Physical connection would connect these separate exchanges by trunk lines the same as exchanges belonging to one system are connected.

This in itself would be an easy matter in many cases, and would allow the subscriber to one local exchange speaking connection with the subscribers to the other local exchanges. A fairly satisfactory service could be given if all of the exchanges had the same general style of equipment, uniform operating methods, and if harmony and concert of action between the

operators of entirely independent and rival exchanges could be assured.

But what has been accomplished? You have enabled any subscriber to any exchange to communicate with any subscriber to any other exchange. You have not avoided the objectionable duplication. You have not given service to all the exchanges for one subscription. This can only be done through merger or combination, not by physical connection. Physical connection implies separate and independent entities. For the privilege of this physical connection with the other exchanges the subscriber to any one of the exchanges must pay. This payment or toll must be more or less the equivalent of what the regular subscribers pay, otherwise there would be discrimination.

If the equipment and the operating methods of the opposition or independent exchanges physically connected are different, the service is bound to be unsatisfactory. No one of the exchanges can have any control over the operators of the other exchanges. There is bound to be strife and contention between the operators, resulting in delays and poor service. Each exchange must necessarily give preference and attention to its own service.

From the standpoint of local telephone exchange service, therefore, there can be nothing to gain from physical connection, either in economy or quality of service.

The most important matter to consider in connection with physical connection, the one that has the greatest bearing on the subject, is the character of such physical connection between telephone exchanges, and wherein it differs from regular exchange of service or physical connection between other public utility companies.

A telephone exchange does not furnish a commodity, does not transport goods, nor does it transmit messages.

What the telephone exchange does is to place at the disposition of any subscriber a telephone circuit, consisting of two wires, connecting such subscriber with another person at a distant point. This circuit enables them to carry on speaking communication with each other; it must be continuous and unbroken; it is for their exclusive use and while the circuit is at their service it cannot be used by any others desiring to communicate, or for any other telephone purpose. The employes of the exchange render no other service than selecting and connecting the wires together to form this circuit, and putting the parties in communication. To do this, and do it satisfactorily, the operators making up the circuit must have absolute control of the wires necessary for these circuits over the whole distance between the points of communication; that is, the operator at the starting point must have either control of or perfect working unity and harmony of action with all the operators of all the trunk lines and exchange lines necessary for this circuit.

These conditions can only exist where there is a strong, common interest or control.

Physical connection between independent or opposition exchanges means, therefore, the placing of the wires necessary to give it effect out of the control for the time being of the owning company and under the control of a competing, opposition company, to enable that competing, opposition company to give its subscribers the use of property, equipment, facilities, operating staff, other than its own, and for the time being depriving the owning company and its subscribers of the use of such facilities.

Physical connection demands the exclusive use of an integral part of the property and facilities and operating staff of one company for the customers of a competing company, no matter how urgent may be the owner's necessity for the immediate use of such property and facilities, nor how small the surplus facilities beyond the owner's requirements.

If the service consisted of carrying packages or transmitting messages along with other packages or other messages, or hauling cars to their destination, or accepting through tickets or transfers from connecting or cross lines of travel, it would be very different. In such cases the property, facilities and operation remain in the control of the owning company or its operating staff; no property intended for the benefit of the customers of one company is put to the exclusive use of another company; all that is done, is the same as is done with and for all comers. The package or passenger is carried, or the message transmitted, to its destination at the convenience of the company, along with other packages or messages.

So far we have considered only the local exchange. Physical connection between independent or opposition telephone systems or between an independent local exchange and a telephone system presents not only the same but many more complications, and is far more objectionable.

To better understand what is meant by physical connection and what it is meant to accomplish, a knowledge of the evolution and development and policy of the Bell System is necessary, and what that policy and belief is.

Repeating what has been said above, it believes that the telephone system should be universal, interdependent and intercommunicating, affording opportunity for any subscriber to any exchange to communicate with any other subscriber of any other exchange within the limits of speaking distance, giving to every subscriber every possible additional facility for *annihilating time or distance by use of electrical transmission of intelligence or personal communication.* It believes that some sort of a connection with the telephone system should be within reach of all.

This is what the Bell System aims to be—one system with common policy, common purpose and

Service should be universal →

"One system...." →

common action; comprehensive, universal, interdependent, intercommunicating; like the highway system of the country, extending from every door to every other door; affording *electrical communication of every kind,* from every one at every place to every one at every other place.

To create this system has been the policy of the Bell interests from the beginning. It is the only way by which a satisfactory telephone service—satisfactory to the public or profitable to its owners—can be maintained.

The Bell System as established is as advanced and extended as the country as a whole will warrant. Its policy of extension carries it a little in advance of the public demands. In any effort to cover the whole country many unremunerative exchanges and toll lines have to be constructed and operated. Some of these will in time become remunerative; some never will, and those, for the benefit of the whole system, will have to be carried at the cost of the whole system.

Most of the opposition exchanges have been built up in a selected territory with capital obtained by the promise of, or in anticipation of large profits; as a rule capitalized far in excess of the plant value or construction cost. Subscribers have been obtained by promises of improved service at low rates. Many of such exchanges owe what success they have, where there is any success, to personal local influence or interest. Many, if not all, have been a disappointment. The day of local telephone exchanges or limited telephone systems has gone. This is recognized and fully appreciated by those who have exploited or are operating them.

The idea of physical connection is born of a desire to get for these local and isolated competing or opposition exchanges or these comparatively limited exchange systems, the advantage of the more extensive, comprehensive Bell System. To get for the subscrib-

ers of these so-called competing, opposition exchanges the connections which their own systems do not give them, to get for their subscribers all the advantages enjoyed by subscribers of the Bell exchanges by giving them the use of a part of the Bell System.

Physical connection would force the Bell System to place at the disposal of and under the control of any opposition company, Philadelphia for instance, for the time being, one of its circuits from Chicago to Philadelphia, to connect that Bell circuit with the circuits and system of the opposition company and disconnect it, for the time being, from the circuits of the Bell System.

This is not carrying packages or transmitting messages for the subscribers of the opposition Philadelphia exchange; it is turning over to that exchange for the use of its subscribers the property of the Bell System.

The fact that the opposition exchange could get such facilities would enhance its importance at the expense of the Bell System.

Physical connection would force the comprehensive Bell System, which has been built up with foresight and enterprise and is being maintained in its completeness at the cost of maintaining unremunerative exchanges and unremunerative lines, to turn over to, and put under control of, any opposition system for its use and benefit, for the time being, a physical part of the property of the Bell System and at the same time deprive the subscribers to the Bell System of the use of such property. Physical connection would oblige any system to construct and maintain surplus facilities and employ a surplus staff of operators for the benefit of any so-called competing or opposition—but less enterprising—company.

No possible compensation would be adequate for such service or such deprivation.

One of the arguments for physical connection is that

it will stop duplication. How? All agreements as to territory, rates or character of opposition; all arrangements which would come under the head of combination or pooling; all understandings or anything that would be equivalent to consolidation or combination, must be eliminated; this is not what is meant by and is not a part of, physical connection. Leaving all understandings out of consideration what effect would physical connection have on the local opposition exchanges? Neither exchange could stop competing for subscribers. The exchange that did would soon dwindle to a point of absolute undesirability; in other words, to a point where the subscription list would offer no inducements to others to join. Consequently activity must be maintained, each exchange making every effort not only to retain all on its list of subscribers but to add more. The same territory must be covered, the consequent duplication of conduits, pole lines, central and branch offices must continue; in fact the strife or competition would have to be more severe.

It is claimed that physical connection would bring about one system, where any one telephone subscriber could obtain connection with any other telephone subscriber within the limits of possible communication. With physical connection that would be the case, after a fashion, but what kind of a system would it be? It would be imperfect in that it would still be a dual system, with dual charges, made up of heterogeneous units of exchanges and lines, operated under independent managements with different operating methods and interests, with no common control over operators, without which service can not be satisfactory; in fact with all those imperfections that it has taken the Bell interests years to correct—imperfections which can be removed only by combination, agreement, understanding, which would be in effect consolidation.

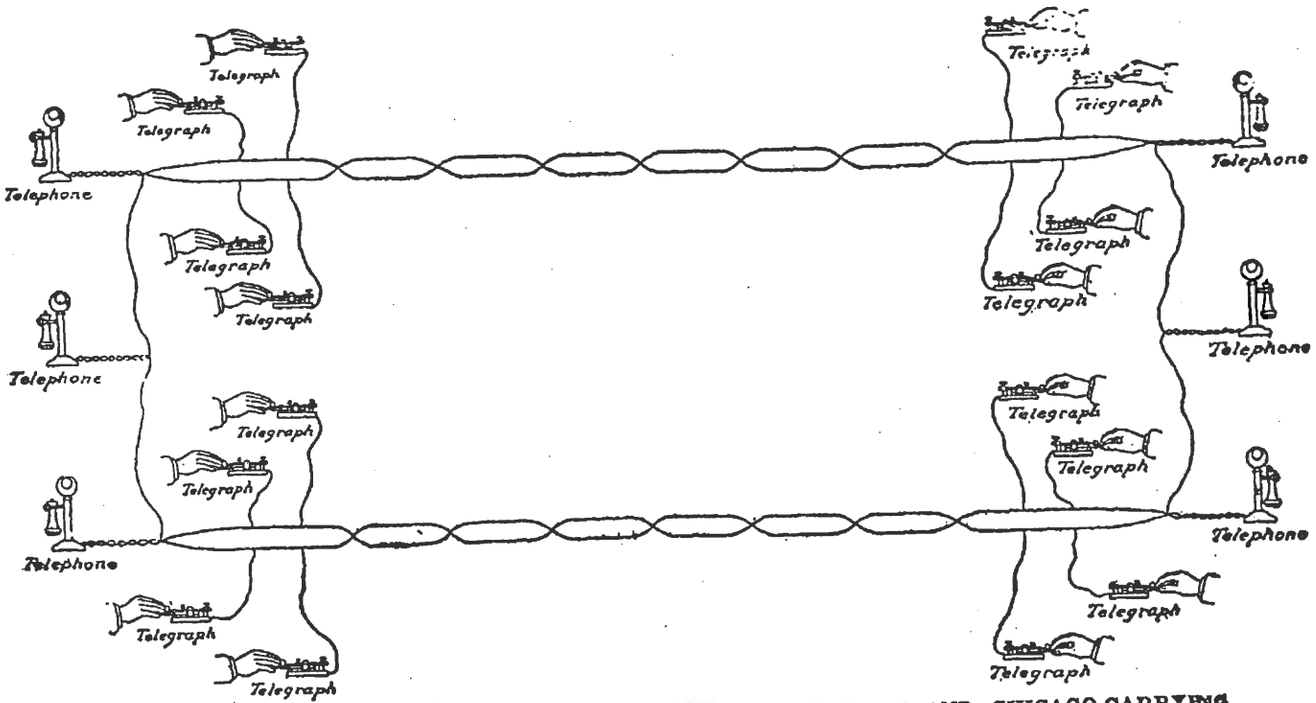
Such demand as there may be for physical connection from opposition exchanges is a recognition of supe-

Connecting Bell w/ compet Co's is a bad idea b/c ① would give these cos access to Bell property that Bell worked hard to create for no $. ② It would patch 2 very different syntes together - Bell's, great, + other cos that haven't worked out all their imperfections ③ competition + duplication would continue

rior facilities and comes from a desire to get the benefits of those superior facilities.

So far as it comes from the public it is an expression of weariness with dual service or so-called competition.

Is there anything in practice, law or precedent that can compel one system, built upon a comprehensive basis, and trying to meet all the requirements of the public, to turn over its physical property for the use of so-called competitors—opposition exchanges built in selected territory with selfish views or motives? Is there anything to compel one to share the prosperity of a business created by enterprise and advanced policy with those who wish to appropriate the benefits of such work? Can any public utility company be compelled to divest itself of the operating control of its own property which was created for and may be needed at any time in the conduct of its own business? This is not the kind of interchange of business contemplated by the rules governing common carriers. It is not co-operation. It is pure and simple confiscation.



TWO TELEPHONE CIRCUITS IN DAILY USE BETWEEN NEW YORK AND CHICAGO CARRYING THREE TELEPHONE CONVERSATIONS AND EIGHT TELEGRAPH MESSAGES SIMULTANEOUSLY WITHOUT INTERFERENCE WITH EACH OTHER.

Telephone + telegraph ~~are associates~~ complementary not competitive

TELEPHONE AND TELEGRAPH.

The relations between the telephone system and the telegraph system are complementary.

Telephone service is furnishing for the personal use of the public an electrical circuit for personal communication between distant points. Nothing is carried by the telephone company, no commodity furnished, nothing transmitted by its staff, and nothing done except to make up a direct circuit between, and place it at the disposal of, the parties.

It annihilates distance in that it brings parties at distant points into speaking distance with each other.

Telegraph service is the electrical transmission, by the operating staff of the telegraph company, of written communications for others.

It annihilates time in that it instantaneously transmits written messages between different points.

The telephone provides something to be used by the public themselves.

The telegraph performs a distinct service for the public.

A telephone "circuit" consists of two copper wires of superior construction, arranged in a particular relation to each other, forming a metallic circuit equipped with auxiliary apparatus, loading coils, etc., connected with a switchboard—all very complicated and elaborate.

A telegraph "circuit" consists of one wire at most—a grounded circuit. This wire can be divided into several distinct "circuits."

A telephone "circuit" cannot be used for telephone purposes by any but the two parties in communication, during the time of such communication, but the same telephone "circuit" can, at the same time it is being

used for telephone service, be divided into two, four or even eight telegraph "circuits," each of which can be used for the transmission of telegraph messages.

While the existing telephone toll and long-distance lines can be used for telegraph purposes, the existing telegraph lines cannot be used for telephone toll and long-distance purposes until reconstructed and arranged as described above.

There are two factors which determine the cost of both services—Plant Cost and Operating Cost. The total of these costs must be distributed over the actual service performed, and the cost of each item of service, whether telephonic communication or telegraph message, varies directly with the total amount of that service. The more the capacity of the plant in service is utilized the less the cost of each particular item of service.

The plant cost is the fixed charge on capital invested in plant, the cost of its maintenance and the depreciation reserve.

The operating cost is more or less a constant initial charge on each item of service, i. e., telephone connection or telegraph message. In the telephone service it is the cost of the time of the operators in putting up the circuit or connection for the use of the parties, and getting them into communication with each other. It is relatively small in that one set of operators can care for a number of circuits. In the telegraph service there is a large constant initial cost, for each message, made up of the cost of the skilled and expert operators on each circuit, offices with clerical and messenger staff for the collection and delivery, receiving, recording and preparing messages for transmission, insurance against mistakes in transmission or delay in delivery, etc.*

* NOTE. It seems unreasonable that a telegraph company should have a possible liability of many thousands of dollars for a single message at ordinary rates. There is no other business where there is not some additional charge for insurance beyond a minimum.

The possible use—the number of hours during which a telephone circuit can be used as well as the number of items of service, i. e., communications or connections, which can be given within those hours—is limited by the necessity of the *personal presence* on the circuit of the parties communicating; by the time necessary to get both parties on the circuit; by the time taken by the communication; and by the intervals lost while waiting for parties.

This limited capacity, together with the costly character of the telephone circuit, makes the plant cost of each connection or communication very large. The operating cost is relatively very small in that one set of operators can take care of the connections of a number of circuits.

The relatively small operating cost and large plant cost make *distance* the important controlling element in the cost of telephone toll line or long-distance service.

In the telegraph service the messages are transmitted by the operating staff, one after another, with the speed of writing. There are no lost intervals during the busy hours. The plant cost of each item of service, i. e., the telegraph message, is relatively very small, while the operating cost, for reasons given above, is relatively very large for each message.

The relatively large operating cost and small plant cost per telegraph message make distance a subordinate factor in the cost of telegraph service.

The ratio of the possible number of telegraph messages over the same wires compared to the possible number of telephone communications is very large.

It is possible to "telephone" messages, but while the operating cost would be somewhat larger than in the case of "telegraphing," the plant cost would make telephoning messages prohibitive over long distance under ordinary conditions. The use of the telephone for that purpose is therefore limited econ-

omically to short distances, or some situation where the plant cost would be almost or entirely negligible.

The small operating but very large plant cost of the telephone communication and the large operating but relatively small plant cost of the telegraph message limit the possibility of either being used indiscriminately or interchangeably to *very short distances, or to other particular situations.*

Under existing conditions or the present state of the art, the "telephonic" transmission of written messages cannot take the place of "telegraphic" transmission in the regular conduct of the business.

In a large way the complementary character exists in the joint occupancy and joint use for both purposes of the trunk line plant of both companies. For the general service of each the operating staffs of the telephone and of the telegraph are in every respect distinct and different, and not in the slightest degree interchangeable. Each function requires an independent operating organization, made up largely of experts in each particular business, complete in every respect. Any attempt on the part of a telephone company to do a regular "telegraph business" would necessitate a "telegraph" operating organization in addition to its "telephone" operating organization.

Before a telegraph company could do a "telephone business" it would be necessary to reconstruct and rearrange its entire wire plant; to construct and equip central offices, distributing subways and lines, subscribers' connections and stations, at a cost of several times its existing telegraph wire plant, and also to create a distinct "telephone" operating organization.

While the large economies are in the joint occupancy and the joint use of the trunk "wire plant," there are great advantages and large economies in the utilization for both purposes of other plant and operating facilities which must be maintained for a single purpose in any case, and which could bear the additional burden

of the service of the other without an additional cost. There are in the distributing and branch lines of both services large plant and operating facilities which are only being utilized to a small part of their capacities; where the business of either company is not sufficient to maintain either office or operating staff; where to maintain any office there must be utilized the office and employees of some business which has first claim on the service and attention of such employees. Under these conditions satisfactory service is impossible, and to a great degree affects the reputation of the whole service, particularly that of the telegraph. This large economic waste incident to separate service could be almost entirely eliminated by joint use or occupancy, and by bringing the business entirely under one common control or influence the efficiency and the reputation of the service could be greatly improved.

The utilization of plant and operating staff not fully employed makes it possible to collect and deliver messages by telephone and to connect exchanges and subscribers' stations by telephone toll lines with the night telegraph offices at other points.

To the extent that these waste facilities are utilized for public benefit and private profits, just to that extent regular standard service could be cheapened or *new service* and *additional facilities* given to the public.

The idea of universality has been referred to in connection with the telephone system. This idea can be broadened and applied to a wire system. We believe that the future development of the wire system in the United States will afford facilities for the annihilation of both *time and distance* by the general use of *electrical transmission* for *written or personal communication,* and will afford electrical communication of every kind of intelligence from everyone at every place to everyone at every other place. It will be comprehensive, universal.

To do this efficiently and economically means the combination of every kind of electrical transmission of intelligence into one system in order that new and additional uses may be developed and that the wire plant and other facilities may be utilized to their fullest extent.

Cheap service comes from full loads. In the wire service this can only be had by employing the plant to its full capacity, *all the time.* The charts on pages 56 and 57 will show to what a limited extent this is now being done.

In some lines of business like the transportation of passengers, where the unit of service is the car mile, and the overload capacity of the car is large, the average load can be greatly increased by making use of the "overload" during the few hours of maximum business. In no other way could the prevailing cheap fares be afforded for such long hauls.

In the electrical transmission of intelligence each item of service, the "message" or "telephonic connection" occupies the wires and the time to the exclusion of all else, and the law of increasing returns therefore works within the narrow limits of the capacity of the line. There can be no overload. *Cheaper service can only be given by the development of new or additional uses which can be distributed over the time now unused.* In the telephone business what can be done in this direction is restricted by the necessity of the personal presence of the parties using the telephone, which limits the use of circuits for telephone purposes to certain hours of the day. In the telegraph and cable business, under present conditions, it is different. There is a large capacity unused waiting to be utilized.

Expedited service means a large surplus plant to meet maximum demands, unutilized at all other times. The cost of the unutilized facilities must be borne by the expedited service. The result is high charges, due to small average load with consequent large plant cost.

Up to the present time the telegraph and cable business has been developed wholly on lines of *expedition* and the business that has been developed is such as will stand the extra cost of expedition. Theoretically at least, there should be no possibility of any further expedition, of any rush or special service, beyond what should be, if it is not now being given.

To do anything which would retard the expedition of the business as now developed would be detrimental to the social and business organization of the world; as in expedition lies the prime value of the present service.

Under a universal wire system operated on the lines and in the manner indicated above, the additional services will be given to the public at rates commensurate with the value of such services, and in the great possibilities of electrical transmission of intelligence some uses will be found or developed to absorb and utilize this enormous waste, and also relieve any congestion now suffered by the more important business by furnishing a service which would be satisfactory to such of the existing business as has heretofore had no alternative, but would prefer the new service.

The Night Letter—the first attempt—met with popular reception and is filling a definite place in the business and social world. The Day Letter, so recently introduced that its possibilities cannot yet be determined, will doubtless find its place. Depending upon the reception of these, other services will be introduced.

It is also intended to extend some of these new classes of service to the transatlantic cables as soon as

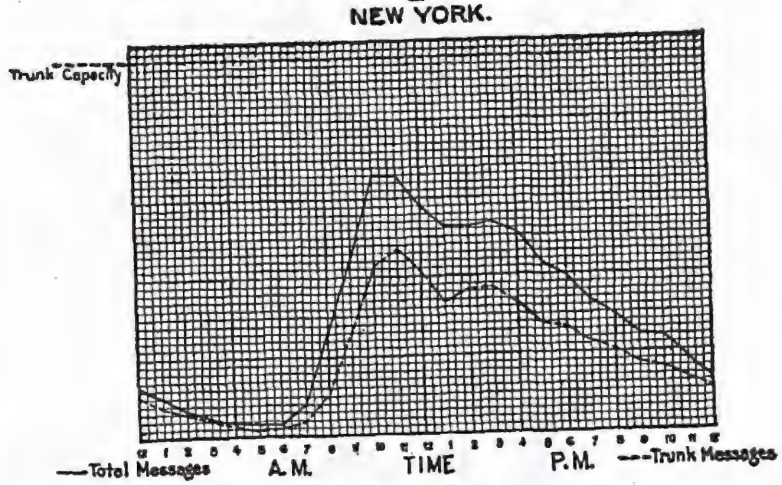
W. U. TELEGRAPH CHART

SHOWING

RANGE OF SENT AND RECEIVED BUSINESS

AT

NEW YORK.



CABLE CHART

OF

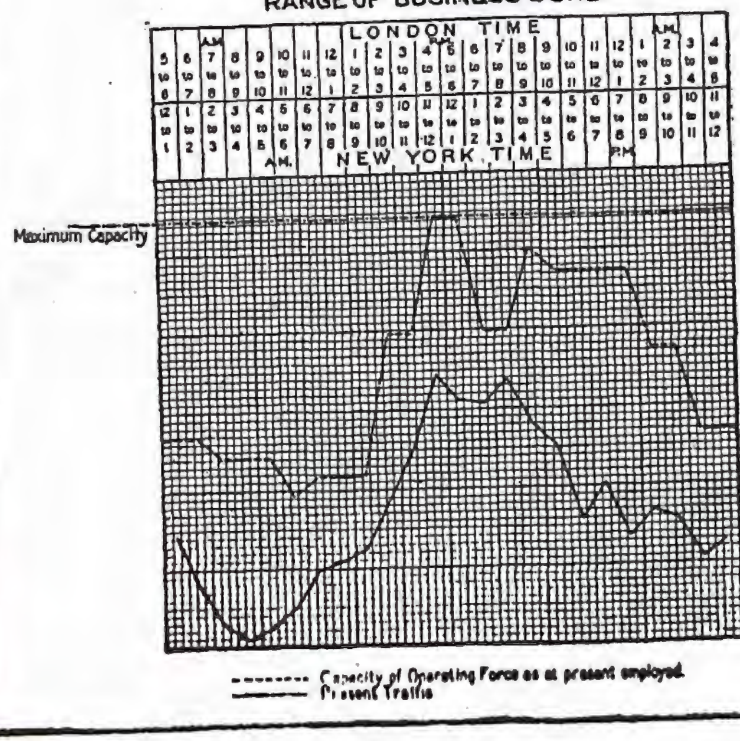
TRANSATLANTIC BUSINESS

SHOWING THE

CAPACITY OF OPERATING FORCE

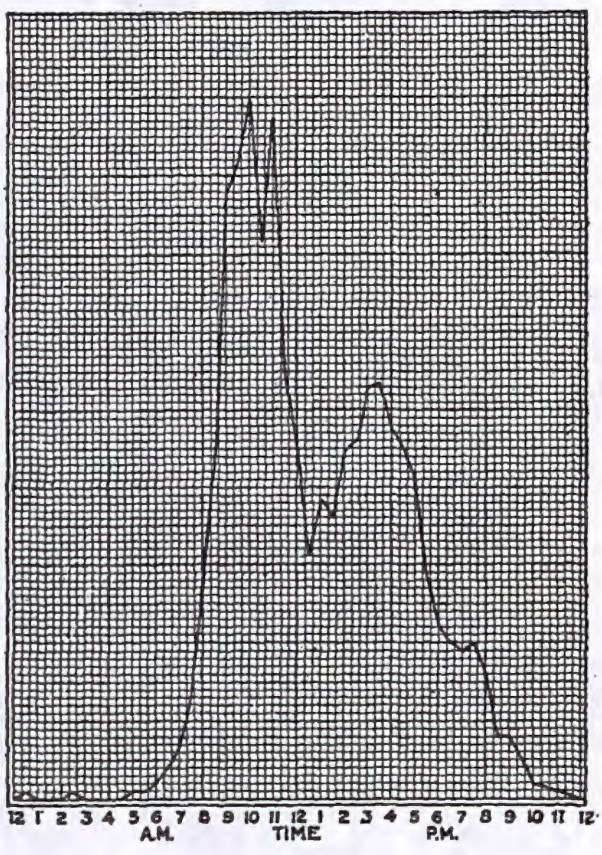
AND THE

RANGE OF BUSINESS DONE.



TELEPHONE CHART

TYPICAL LONG DISTANCE TRAFFIC RECORD



it is made possible by the completion of negotiations and arrangements now pending.

Until the economies, which may result from the joint occupancy or joint use and the consequent utilization of these now unutilized facilities, are determined, there will be no changes made in the present conduct of expedited or regular service. Whether all or only part of the economic waste will be absorbed in the other classes of service is a question yet to be answered; until answered anything that might result adversely either to the quality of the service, the extension and introduction of new service, or to the reasonable profits to which the companies are entitled, would be foolish and uncalled for.

RÉSUMÉ AND CONCLUSION.

The following condensed summary of some of the principal things shown in this and previous reports is made with the purpose of taking away any excuse for further repetition or publication of those misstatements, distorted facts and erroneous conclusions which, for various reasons, are circulated from time to time.

It is shown that the total outstanding obligations of the Bell System in the United States, not including the manufacturing company, amount to $580,000,000. All the capital of the various companies composing the System not included in this consists of inter-company items and duplications.

It is shown that the book value of the property representing these outstanding obligations is $696,700,000, $116,000,000 in excess of the outstanding obligations. It is shown that in all cases of official appraisement the actual value of this plant has been found to be above the book value.

It is shown that there is no water in the capital of the American Telephone and Telegraph Company; that each $100 of outstanding obligations is represented by more than $100 cash paid into the treasury; that the excess of cash paid into the treasury over the outstanding obligations at the close of the year amounted to nearly $17,000,000.

It is shown that the construction costs of the Bell System are small. The cost per exchange station is but $117.12. The cost per exchange station, including the extensive system of toll lines, is but $142.13. This valuation includes the first class exchanges and exchange construction. All or substantially all of the cheaper class of construction, the rural co-operative and association lines, is embraced in the sub-licensee or connected companies, constructed on the basis of giving a low-cost local service.

It is shown that the cost of construction per exchange station has steadily decreased from $199.00 in 1900 to $142.00 in 1910, notwithstanding the great increase in the investment in real estate, underground construction, toll line construction and copper wire.

It is shown that instead of increasing and oppressive rates there has been a continual decrease of the average annual charge for exchange service from an average of $44.68 in 1900 to $31.28 in 1910.

It is shown that the taxes paid in the year 1910 by the Bell System amount to over 5 per cent. of its gross earnings, 16.4 per cent. of its net earnings, and 1.4 per cent. of the value of its telephone plant.

It is shown that the control of the company is not vested in any one interest nor has it been used for the

benefit of any individual or group of individuals; that the shareholders, recognizing an uninterrupted administration of their affairs in their interest have continued the Directorate on the same lines or the lines of natural succession from the beginning.

It is shown that the American Telephone and Telegraph Company is not in the accepted sense a trust nor has it been built up by absorbing competing companies or in restraint of business. That while the Bell System is made up of separate corporations, these corporations are not, never have been, and never could be in competition, and also that under any system of organization or under one ownership, separate companies are necessary for purposes of State jurisdiction.

That a universal and comprehensive telephone system cannot have any operating limits, but must give unbroken, continuous, connecting circuits under one control, from every subscriber's station in every direction to the limits of telephone speaking possibility.

It is shown that bona fide competition between local exchanges cannot exist, owing to the peculiarities of the service rendered by these exchanges.

It is shown that physical connection does not and cannot bring about any economical or beneficial result and increases instead of decreases the evil of dual construction and subscription.

That physical connection would give to subscribers of an opposition exchange the service and use of property provided for the use of others, and for which others pay.

We are charged with maintaining a large experimental and patent organization largely for the purpose of suppressing new inventions and improved methods. The Bell System does maintain a large experimental and engineering department, but for the purpose of developing the value and efficiency of anything that is now; what it really does is demonstrated by the fact

emphasizes that AT+T is not a trust

universality mandated + competition non-viable

that the construction, equipment and operating methods of the Bell System are the standard the world over. That the equipment of the exchanges of the whole world is either the same as, or is modeled upon that of the Bell System. And that no construction, equipment or operating methods rejected or "suppressed" by the engineering experts of the Bell System have ever yet come into permanent use.

We are charged with making abnormal profits on the equipment, supplies, etc., furnished the operating companies by the Western Electric Company, and in this way increasing the cost of service to the public. It is shown that the profits on Western Electric sales to the operating companies of the Bell System are less than on sales to the independent companies, to the extent at least of the saving in the cost of selling to the operating companies.

It is also shown that the telephone service and the telegraph service are complementary, not competitive; that each has its own proper place; that joint use and joint occupancy of wires will reduce operating cost, maintenance charges and construction investment. That utilizing the unutilized facilities of both will make possible large economies and improvement in the wire service as well as new, additional and useful services of both telephone and telegraph, for the benefit of both the corporations and the public.

For the Directors,

THEODORE N. VAIL,
President.

BELL TELEPHONE SYSTEM IN THE UNITED STATES.

	Dec. 31, 1895.	Dec. 31, 1900.	Dec. 31, 1905.	Dec. 31, 1909.	Dec. 31, 1910.	Increase, 1910.
Miles of Exchange Pole Lines	25,330	30,451	67,698	113,893	120,175	6,282
Miles of Toll Pole Lines	52,873	101,087	145,535	164,111	167,827	3,716
Total Miles of Pole Lines	78,203	131,538	213,233	278,004	288,002	9,998
Miles of Underground Wire	184,515	705,269	2,345,742	5,337,436	5,992,303	654,867
Miles of Submarine Wire	2,028	4,203	9,373	22,698	24,636	1,938
Miles of Aerial Wire	488,872	1,252,329	3,424,803	5,119,892	5,625,273	505,381
Total Miles of Wire	675,415	1,961,801	5,779,918	10,480,026	11,642,212	1,162,186
Comprising Toll Wire	215,687	607,599	1,265,236	1,804,552	1,963,994	159,442
Comprising Exchange Wire	459,728	1,354,202	4,514,682	8,675,474	9,678,218	1,002,744
Total	675,415	1,961,801	5,779,918	10,480,026	11,642,212	1,162,186
Total Exchange Circuits	237,837	508,262	1,135,449	1,829,942	2,082,960	253,018
Number of Central Offices	1,613	2,775	4,532	4,968	4,933	35†
Number of Bell Stations	281,695	800,880	2,241,367	3,588,247	4,030,668	442,421
Number of Bell Connected Stations	27,807	55,031	287,348	1,554,445	1,852,051	297,606
Total Stations	309,502	855,911	2,528,715	5,142,692	5,882,719	740,027
Number of Employees	14,517	37,067	89,661	104,956	120,311	15,355
Number of Connecting Companies				10,354	12,300	1,946
Exchange Connections Daily	2,351,420	5,668,986	13,543,468	19,925,194	21,681,471	1,756,277
Toll Connections Daily	51,123	148,528	368,083	517,341	602,539	85,198

* Includes Private Line Stations.

† Decrease.

BELL TELEPHONE SYSTEM IN THE UNITED STATES.

ALL DUPLICATIONS BETWEEN COMPANIES EXCLUDED.

COMBINED BALANCE SHEETS AT FIVE YEAR INTERVALS, 1885-1910.

	Dec. 31, 1885.	Dec. 31, 1890.	Dec. 31, 1895.	Dec. 31, 1900.	Dec. 31, 1905.	Dec. 31, 1910.
ASSETS:						
Contracts and Licenses	$16,732,100	$18,925,700	$20,005,300	$14,794,300	$13,313,400	$2,943,381
Telephone Plant	38,618,600	58,512,400	87,858,500	180,699,800	368,065,300	610,999,964
Supplies, Tools, etc.	348,500	1,021,800	1,810,000	6,464,400	11,069,500	20,987,551
Receivables	1,450,900	1,761,600	3,746,600	13,644,000	26,220,800	26,077,802
Cash	1,792,600	1,183,300	2,484,100	3,223,000	11,005,900	27,548,933
Stocks and Bonds	1,138,800	2,697,400	4,480,500	11,400,400	23,041,200	64,766,089
Total	$60,081,500	$84,102,200	$120,385,000	$230,225,900	$452,716,100	$753,323,720
LIABILITIES:						
Capital Stock	$38,229,200	$43,792,800	$57,462,700	$130,006,900	$238,531,100	$344,645,430
Funded Debts	367,400	6,473,100	10,074,100	44,137,900	93,079,500	224,791,696
Bills Payable	2,618,900	1,323,000	2,000,000	7,000,000	35,000,000	42,566,943
Accounts Payable		3,301,100	6,138,000	13,583,300	22,407,500	21,721,125
Total Outstanding Obligations	$41,215,500	$54,890,000	$75,674,800	$194,728,100	$389,018,100	$633,725,194
Surplus and Reserves	18,866,000	29,212,200	44,710,200	35,497,800	63,698,000	119,598,526
Total	$60,081,500	$84,102,200	$120,385,000	$230,225,900	$452,716,100	$753,323,720

American Telephone and Telegraph Company.

Balance Sheet, December 31, 1910.

ASSETS.		
Stocks of Associated Companies	$356,662,338.33	
Bonds of Associated Companies	2,885,000.00	
Capital Advances to Associated Companies	34,165,499.20	$393,712,837.53
Telephones	$11,568,966.04	
Real Estate	2,184,730.44	
Long Distance Telephone Plant	45,948,391.62	59,702,088.10
Cash and Deposits	$13,109,340.32	
Short Term Notes	627,466.52	13,736,806.84
Special Demand Notes		16,970,229.34
Current Accounts Receivable		6,093,415.42
Treasury Bonds		17,300,000.00
		$507,515,377.23
LIABILITIES.		
Capital Stock		$263,335,600.00
Four Per Cent. Collateral Trust Bonds, 1929	$78,000,000.00	
Four Per Cent. Convertible Bonds, 1936	38,941,000.00	
Five Per Cent. Coupon Notes, 1907	5,000.00	
Five Per Cent. Coupon Notes, 1910	22,000.00	
Other Notes Payable	13,150,000.00	
Indebtedness to Western Union Telegraph Co. for New York Telephone Co. Stock payable 1912 to 1915	16,500,000.00	146,618,000.00
Dividend Payable January 15	$5,266,712.00	
Interest and Taxes Accrued, but not due	2,163,658.83	
Current Accounts Payable	593,895.44	
Reserve for Unearned Revenue	2,758.99	8,027,025.26
Depreciation Reserve	$37,425,080.08	
Surplus	52,109,671.89	89,534,751.97
		$507,515,377.23

CHARLES G. DuBOIS, *Comptroller.*

BELL TELEPHONE SYSTEM IN THE UNITED STATES.

ALL DUPLICATIONS BETWEEN COMPANIES EXCLUDED.

COMPARATIVE EARNINGS AT FIVE YEAR INTERVALS, 1885–1910.

	Year 1885.	Year 1890.	Year 1895.	Year 1900.	Year 1905.	Year 1910.
EARNINGS:						
Gross Earnings	$10,033,600	$16,212,100	$24,197,200	$46,385,600	$97,500,100	$165,612,681
Expenses	5,124,300	9,067,600	15,488,400	30,632,400	66,189,400	114,618,473
Net Earnings	$4,909,300	$7,144,500	$8,708,800	$15,753,200	$31,310,700	$50,994,408
Interest	27,700	278,700	655,500	2,389,600	5,836,300	11,556,864
Balance	$4,881,600	$6,865,800	$8,053,300	$13,363,600	$25,474,400	$39,437,544
Dividends	3,107,200	4,101,300	5,066,900	7,893,500	15,817,500	25,160,786
Surplus Earnings	$1,774,400	$2,764,500	$2,986,400	$5,470,100	$9,656,900	$14,276,758

American Telephone and Telegraph Company.

Comparative Statement of Earnings and Expenses

For the years 1909 and 1910.

	1909.	1910.
EARNINGS:		
Dividends	$15,949,213.73	$19,205,494.35
Interest and other revenue from Associated Companies	10,661,431.03	10,838,442.84
Telephone Traffic (net)	4,360,104.94	4,893,513.39
Real Estate	95,723.97	95,119.69
Other Sources	1,694,867.76	325,758.44
Total.	$32,761,341.43	$35,358,328.71
EXPENSES	2,570,575.57	3,425,114.22
NET EARNINGS	$30,190,765.86	$31,933,214.49
Deduct Interest	7,095,377.34	5,077,321.33
Balance	$23,095,388.52	$26,855,893.16
Dividends Paid	17,036,275.64	20,776,822.12
Balance	$6,059,112.88	$6,079,071.04
Carried to Reserves	$3,000,000.00	$3,000,000.00
Carried to Surplus	3,059,112.88	3,079,071.04
	$6,059,112.88	$6,079,071.04

CHARLES G. DuBOIS, *Comptroller.*

American Telephone and Telegraph Company.

Annual Earnings and Dividends.

Year.	Net Revenue.	Dividends Paid.	Added to Reserves.	Added to Surplus.
1900	$5,486,058	$4,078,601	$937,258	$470,198
1901	7,308,286	5,050,024	1,377,651	970,611
1902	7,835,272	6,584,404	522,247	728,622
1903	10,564,665	8,619,151	728,140	1,217,374
1904	11,275,702	9,799,117	586,149	890,435
1905	13,034,038	9,866,355	1,743,295	1,424,388
1906	12,970,937	10,195,233	1,773,737	1,001,967
1907	16,269,388	10,943,644	3,500,000	1,825,744
1908	18,121,707	12,459,156	3,000,000	2,662,551
1909	23,095,389	17,036,276	3,000,000	3,059,113
1910	26,855,893	20,776,822	3,000,000	3,079,071

CHARLES G. DuBOIS, *Comptroller.*

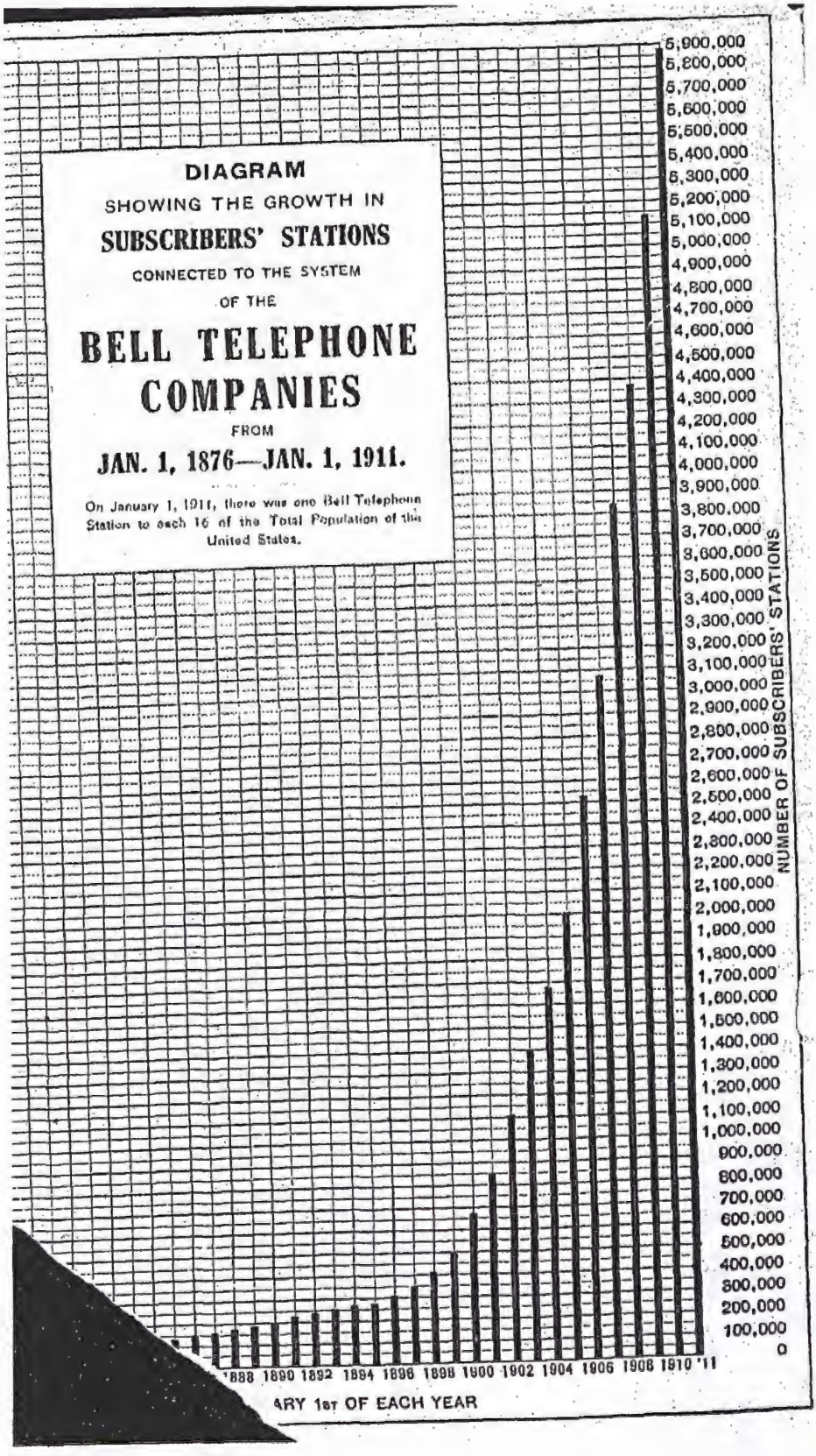


DIAGRAM
SHOWING THE GROWTH IN
SUBSCRIBERS' STATIONS
CONNECTED TO THE SYSTEM
OF THE
BELL TELEPHONE COMPANIES
FROM
JAN. 1, 1876—JAN. 1, 1911.
On January 1, 1911, there was one Bell Telephone Station to each 16 of the Total Population of the United States.
NUMBER OF SUBSCRIBERS' STATIONS
5,900,000
5,800,000
5,700,000
5,600,000
5,500,000
5,400,000
5,300,000
5,200,000
5,100,000
5,000,000
4,900,000
4,800,000
4,700,000
4,600,000
4,500,000
4,400,000
4,300,000
4,200,000
4,100,000
4,000,000
3,900,000
3,800,000
3,700,000
3,600,000
3,500,000
3,400,000
3,300,000
3,200,000
3,100,000
3,000,000
2,900,000
2,800,000
2,700,000
2,600,000
2,500,000
2,400,000
2,300,000
2,200,000
2,100,000
2,000,000
1,900,000
1,800,000
1,700,000
1,600,000
1,500,000
1,400,000
1,300,000
1,200,000
1,100,000
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
'888 1890 1892 1894 1896 1898 1900 1902 1904 1906 1908 1910 '11
ARY 1st OF EACH YEAR

That the administration and policy have been consistent and uniform from the very beginning;

That the interests of the Bell system are dependent upon giving the best service possible under existing conditions, and anticipating as far as possible any improvement.

Telephone service in its close personal touch with every subscriber is a unique service, different from all other public services; efficient service requires the co-operation of the user, it requires prompt attention on the part of the public.

In every use of the telephone system three human factors are brought into action—one at each end, one or both anxious and probably impatient, the one at the central office, as nearly a machine as is possible, a trained expert with at least as much intelligence and reliability as the best stenographers, typewriters or bookkeepers. This central office factor is the personal servant for the time of the factors at the end and is entitled to the same consideration that is given to their own personal staff. Perfect service depends on the perfect co-ordinate action of all of these factors—any one failing, the service fails. This should never be forgotten. All attempts so far to eliminate the personal factor of the central office, to make it a machine, have failed in systems of any extent; there are times when, at the central office, action guided by intelligence, is absolutely necessary.

natural monopoly
- ineff. competition
- universal service

 1909

History and Development of the Telephone System.

In spite of repeated attempts to make known the real facts of the early history and evolution of the Bell system, there seems to be still much misunderstanding.

At the risk of being prolix, and of repeating what has often been told, the history and evolution and development will be retold as briefly as possible.

The telephone was first introduced to the public in 1876, and put to the first practical or commercial use in 1877. During that year was organized the first "association" or "company" to hold the patents. The first companies to systematically exploit the business were formed in 1878, one for New England, and one for the rest of the United States and Canada. These two companies succeeded to all the rights and property of the original association. The capital, $650,000, 6,500 shares at $100 par each, represented the patents, such rights and property as had resulted from the time and money expended up to the spring of 1878, and in addition $100,000 in cash.

Early in 1879, these two companies were consolidated into one company, the National Bell Telephone Company, the first company to attain any prominence.

The capital of this company was $850,000, 8,500 shares of $100 par value each. $650,000 in shares was given share for share for the stock of the two old companies and $200,000 in shares left in the treasury. The treasury stock was sold as the company required the money, *for the best price obtainable.* The $200,000 par yielded to the treasury $430,000 in cash, an average of $215 per share, the last 500 shares having been sold for $600 each.

It was during the existence of this company that the permanent foundations were laid upon which is built the present comprehensive system.

It was in the fall of 1879, that the settlement was made with the Western Union Telegraph Company which removed the most formidable and powerful competitor from the field.

It was during this period that those fancy flights in the prices of the stock took place, the $100 shares (of which there were only 8,500) being quoted at one time at $1,000. Few, if any, transactions took place however at this price or anything near it. The sale of 500 shares of the treasury stock at $600 per share was probably about the best price at which any considerable transaction took place.

The stock of this company was fairly well distributed among 338 holders, an average of about 25 shares each, twelve holding in lots of 200 shares or over an aggregate of 4,795 shares out of the 8,500 shares.

At the highest quotation the total market value of all the shares of the company would have been $8,500,000. According to the popular belief, over twelve of the original investors have been credited with realizing, if not more, at least as much as this.

No dividends were paid by this company.

The rapid increase in the business called for more capital. Early in 1880 the American Bell Telephone Company was organized and the business of the National Bell Telephone Company transferred to it. The shareholders of the National Bell Telephone Company were given for each share of their stock six shares of the new American Bell Telephone Company stock. 8,500 shares of the treasury stock were at the same time sold at par.

At the close of 1880 there were 540 holders of the 59,500 shares, an average of 110 each. Twenty holders of 500 shares or over had in the aggregate 33,190 shares. This was the last year that a majority of the stock was closely held.

In 1881 the first dividend was paid.

The American Bell Telephone Company continued the business until 1899, during which time the capital stock had increased from $5,950,000 to $25,886,300. The $25,886,300 capital was held by 6,961 shareholders. 62,649 shares were held by 61 shareholders in blocks of 500 shares or over, while the balance, 196,214 shares, was held by 6,900 holders.

The increase in the stock had been sold for cash at various times, yielding the company more than enough in premiums above par to offset the shares that had been issued for patents, inventions, and property of the National Bell Telephone Company.

When the American Bell Telephone Company transferred its business to the American Telephone and Telegraph Company there had been over $28,000,000 actual cash paid into the treasury of the company by shareholders as against $25,886,300 capital outstanding. During the time no stock dividend or dividend of surplus in cash to pay for stock issued was made.

The market price of the American Bell Telephone Company shares during the year ranged above $200 a share. The company was paying 15 per cent. dividends yearly.

The demands of the business required much larger capital than could be provided under the corporate powers of the American Bell Telephone Company. The American Telephone and Telegraph Company, a company organized to operate the long-distance traffic,

purchased the business in 1899. The consideration was cash, but in effect the shareholders of the American Bell Telephone Company received two shares of the American Telephone and Telegraph Company for each share held. The dividends were put on a 7½ per cent. basis and were increased in 1906 to 8 per cent., at which rate they still continue.

Since 1900 the stock of the American Telephone and Telegraph Company has been increased from time to time as the business called for money. At the close of 1909 there were in the hands of the public $256,475,300.

So much of this stock as was not sold to the shareholders at par was sold for cash at a premium, the highest at $152 per share, or was issued in exchange for the convertible bonds at about $134 per share. None of the stock has been issued as a dividend, nor have any cash dividends been declared to meet payments for stock issues.

At the close of 1909 the premiums thus received over the par of the outstanding share capital amounted to over $14,000,000.

The original owners and promoters of the telephone were first of all business promoters. Their idea was to develop the business on broad lines. Whatever reward they expected or received was the legitimate reward following a legitimate development of a substantial and beneficial business.

The Bell system was founded on the broad lines of "One System," "One Policy," "Universal Service," on the idea that no aggregation of isolated independent systems, not under common control, however well built or equipped, could give the public the service that the interdependent, intercommunicating, universal system could give.

This is no recent or new idea or theory. It is coexistent with the business; in fact the theory was evolved and developed before the business, and the business has been developed on that theory.

To develop the business it was first necessary to develop the "art." It was unique, nothing like it existed; the whole art of the practical application of electricity was new and undeveloped.

To develop the business to the best advantage all the best in the way of instrumentalities, apparatus and methods must be controlled. Apparatus and methods at the start were crude, but new instrumentalities and new methods were suggested from daily association, practice and study.

It was necessary to develop these, improve and reduce the useful to practice, and eliminate the worthless. For this purpose a staff of technical, electrical and mechanical operating experts must be gathered together and educated. To educate and assist these, to enable them to do intelligent work, avoid repetition and duplication, all that had gone before and all that was being done here and elsewhere must be known. For this purpose a bureau of research and information was formed. Patent and legal experts must be employed and educated to secure the advantage of this work and study, as well as to furnish protection in the use of the patents.

A highly developed manufacturing organization under proper supervision and control was required to reduce to practical use these ideas and inventions, as well as to secure the standardization and uniformity of instruments and apparatus.

To ascertain which were the best of the methods being evolved in field practice, to educate the others in the use of them, to assist generally in the develop-

ment, and to bring about standardization of operating practice and methods, a staff of traveling experts, observers and teachers was placed in the field.

It is necessary to the growing and constantly improving business that this work be continued. It is being done much more economically and far more effectively by this company than it could be done by the associated companies, and without expense to them except so far as it is covered by the miscalled "rental" of telephones.

The preliminary work was certainly difficult enough. Add to that the necessity of educating a doubting, hesitating public who looked on the invention as little better than a toy, and some idea of the task can be formed.

In the promotion and exploitation of the business two methods were possible.

One company covering the whole country. This would require a large executive and administrative staff in the field, and a large capital which, at the time, it was impossible to secure. Under this method, state organizations would also have been necessary to hold franchises.

The other way was to enlist a large number of individual workers, each with some capital, large faith and expectation, with great capacity for work, who would cover the field and develop the business.

To insure a common policy and central control, all licenses were issued for small units of territory under restricted terms, confining the business entirely within each territory. The parent company owned and furnished the telephones, had all reversionary interests or rights in the territory, and the right to connect the units with each other for the purpose of forming a universal intercommunicating telephone system. For this purpose the long-distance lines and other toll lines were

built. Under these temporary licenses certain rentals, so-called, or royalties, were paid to the parent company for the use of the telephones and other inventions owned, and also as compensation for all the many other services rendered, as described above. When these licenses were made permanent and included all future as well as all existing inventions, and the right to the business within the units of territory, the parent company retained an interest in the business which was represented by a stock interest in each company.

These licenses called for a continued certain percentage of the stock of the company, but this right was soon waived by the parent company.

Through purchases to defeat the attempts of hostile interests to get possession of some of our associated companies, through the necessity of financing the companies for the purpose of keeping up with the demands for development, and through the purchase of its pro-rata of new issues, the American Telephone and Telegraph Company acquired its large holdings.

The book valuation of the American Telephone and Telegraph Company's interest in the share capital of the associated operating companies December 31st, 1909, was nearly $306,000,000; *of this only* $16,000,000 *was received through contract or for licenses.* The balance, $290,000,000 was obtained under precisely the same conditions that shares have been received by the other shareholders.

While the settlement with the Western Union Telegraph Company in 1879 removed from the field the most formidable and powerful competitor, it must not be concluded that the American Bell Telephone Company had the field to itself. The Bell system did not then, nor did it in any year or any time since the great value of the telephone to the world was established,

have a monopoly of the business or anything approaching it.

Patents and inventions were necessary for defence, but were no protection against imitators.

There was a continued running fight in the courts and in the field. The fact that the Bell won every case in the courts availed it nothing except that it was credited with a monopoly which did not exist.

The only time that the Bell Telephone was without a competitor was at the Centennial Exhibition of 1876.

Competition.

There is not, nor can there be, any competition between these local associated operating companies, as under the conditions under which they can use the instruments and inventions, they must operate entirely within their respective territories; nor can there be competition in the telephone exchange systems operating in the same territory such as exists between other public utilities, certainly not such as exists between two gas companies or even between a gas and an electric light company.

The telephone system does not give you a "commodity" or a "product," or even a "service" except so far as it is service to make up a "path" or "line" or "highway" for personal communication with a party at some distant point.

The value of a telephone system is measured by the possibility of reaching through its connections *any one—at any possible place.*

There can be said to be no limit to those with whom one may desire communication at some one time or other. Ordinarily your communications are confined to a certain few other subscribers; occasionally you may wish to reach certain others, but there are times

when it is an absolute necessity to get a connection with some one possibly unthought of or unknown before, and the importance of this connection may be vital.

A purely *local* exchange has a certain value.

If it has, in addition to its local connections, a connection with outlying contiguous localities, it has a largely increased value.

If it is universal in its connections and intercommunication, it is indispensable to all those whose social or business relations are more than purely local.

A telephone system which undertakes to meet the full requirements must cover with its exchanges and connecting lines the whole country. Any development which is comprehensive must cover some territory which is not, and may never become, profitable in itself but must be carried at the expense of the whole. *It must be a system that will afford communication with any one that may possibly be wanted, at any time.* To do this the system must offer a connection of some kind, and at such rates, as will correspond to the *value* of the system to *each* and *every user.*

"Interdependence," "intercommunication," "universality" cannot be had with isolated systems under independent control, however well connected. They require the standardization of operating methods, plant facilities and equipment, and that complete harmony and co-operation of operating forces, that can only come through centralized or common control.

Wherever two systems exist, each has, with the exception of a percentage common to both, a different list of subscribers. Those of large and extended social or business connections must connect with both, while those who do not connect with both get only partial service—the same character of service offered by two street car lines, each having its tracks on and running through the principal main street of the town but each extending into and serving entirely different sections of the community.

Offering a connection with a so-called competing exchange, having a list of subscribers either entirely or largely different, is offering a different service, except so far as they connect the same subscribers, and there it is of no benefit, as either one would serve the purpose. Two exchanges, each with the same list of subscribers, cannot, in the nature of things, exist. One or the other would be unnecessary because a subscriber would be paying twice for the same service when either exchange gave all that could be obtained from both. It would be like paying two fares each time you ride in a street car to maintain a parallel line, although you could ride in but one at a time. Competition of that character increases the cost to you. Competition is only of service when it reduces your cost or increases your service.

ECONOMY OF COMPETITION.

By reason of duplications, duplication of investment, duplication of operation, competition in telephone systems cannot, in the nature of things, produce economy in operation, and without economy there can be no reduced charges.

With only one system, at once is eliminated the duplication of subscribers' lines—so also is eliminated the greater part of the unused and idle staff, equipment and plant, and with this are also eliminated capital investments, capital charges, operating salaries, plant maintenance and depreciation. That it contributes also to the comfort and convenience of the subscribers is in itself no small consideration.

WHAT HAS COMPETITION DONE FOR THE PUBLIC?

No one can dispute the fact that the Bell methods and system are the standard and have been accepted as the best the world over.

Telephone rates have fluctuated. Beginning with simple and crude instrumentalities and methods, with small developments, the rates were low. As facilities increased, as methods and apparatus improved, and apparatus almost new and hardly in use had to be discarded to make place for new and improved methods, rates had to be increased.

In the New York City exchanges, apparatus and plant practically good as new to the value of over eight and one-half millions of dollars, have been discarded because new improvements had made them obsolete, nearly all between the years 1883 and 1902, and the same is relatively true of any exchange system. As methods, plant and apparatus became more fixed and permanent, methods of operating improved, operating expenses declined, and reductions in rates followed—not because of competition.

REDUCTION OF RATES AND DEVELOPMENT.

The diagrams on pages 26 and 27 show the course of rates and development from 1894 to 1909, in the principal cities and exchanges with and without competition. The non-competitive cities and exchanges are about 50 per cent. larger than the competitive.

The *average revenue* per exchange station in competitive and non-competitive Bell exchanges each year for this period is shown in diagram on page 26. The slightly higher average revenue in the non-competitive cities is due to their larger size.

The two curves showing the reduction follow almost exactly the same lines, and the percentage of reduction is almost the same.

Competition certainly had no effect on the Bell revenue, was of no benefit to the public, compelled all to pay two subscriptions instead of one for complete service, besides all the other disadvantages of dual exchange systems.

CHART
showing
REDUCTION IN THE AVERAGE YEARLY "BELL" EXCHANGE REVENUE
derived from
CERTAIN GROUPS OF CITIES
arranged by
Five Year Periods — 1894 to 1909.

NOTE:-This Chart shows graphically the relative changes in the Average "Bell" Exchange Revenue derived from a group of Cities **WITHOUT** Competition as compared with another group of comparable Cities **WITH** Competition during the period.

The figures represent the Average Exchange Revenue per Station which would have been obtained for the year ending on January 1st of each period if the number of Stations on that date had been maintained during the entire year. "Toll" Stations and Commission Pay Stations were eliminated in arriving at the average figure.

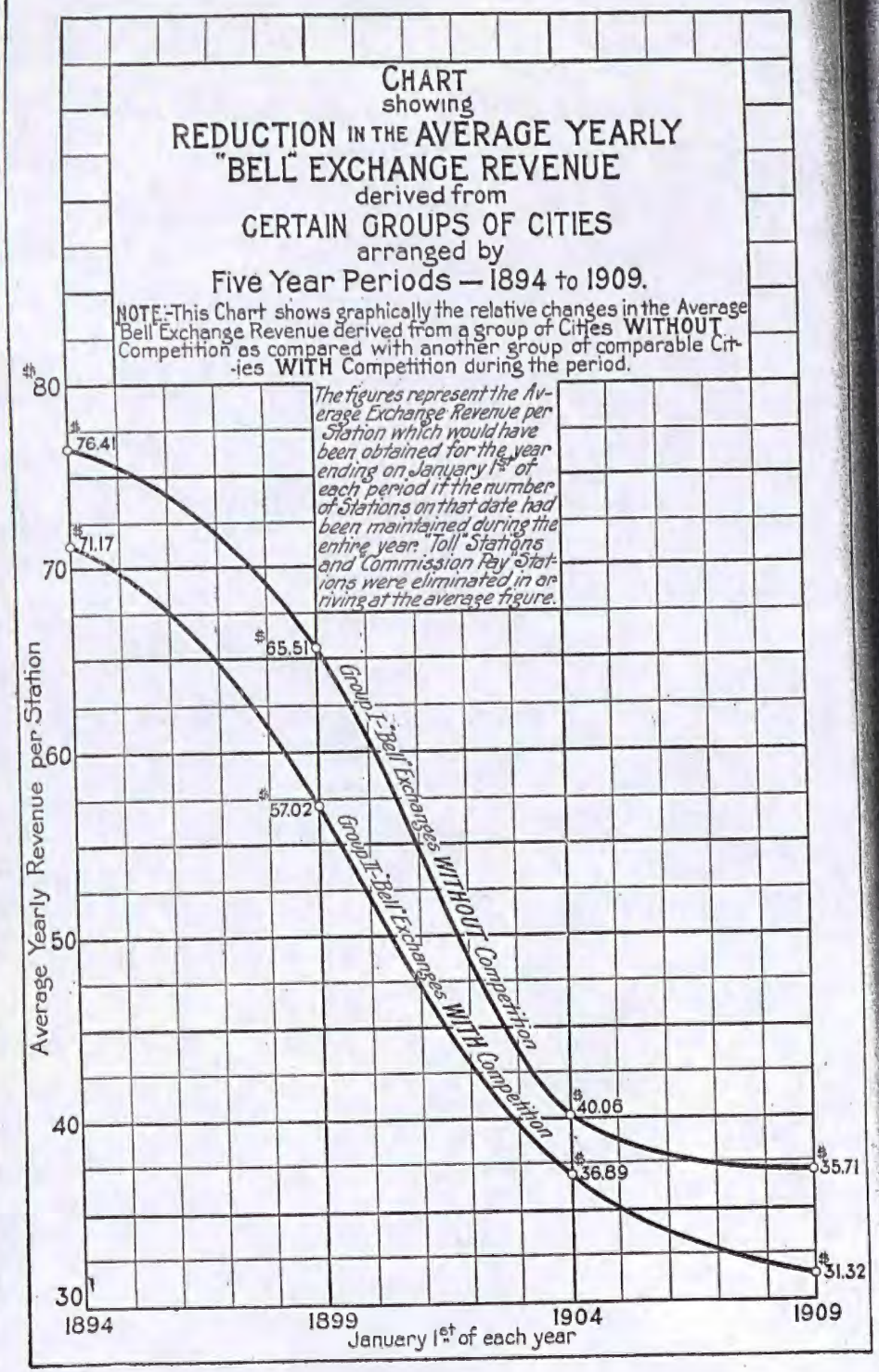
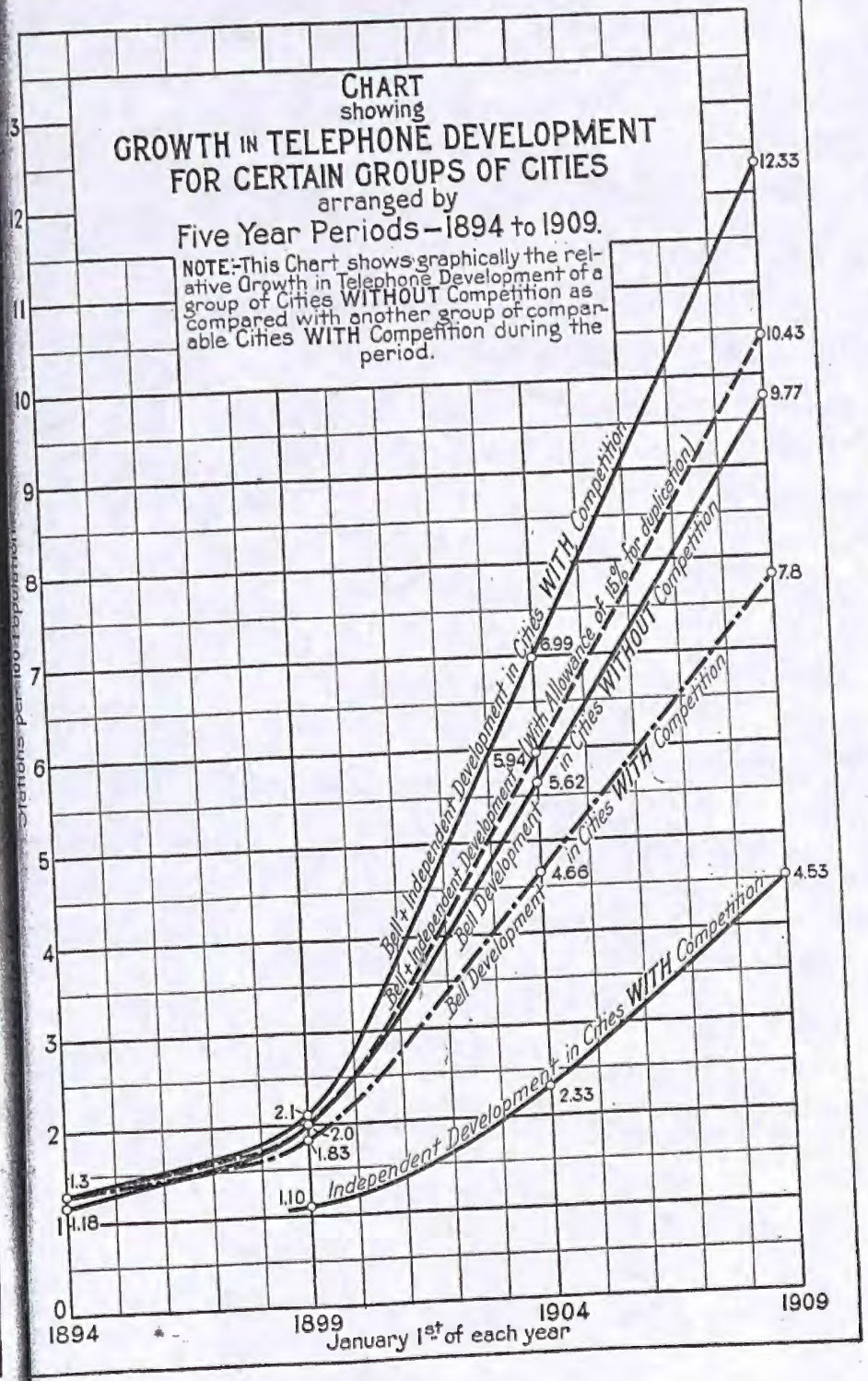


CHART
showing
GROWTH IN TELEPHONE DEVELOPMENT FOR CERTAIN GROUPS OF CITIES
arranged by
Five Year Periods—1894 to 1909.

NOTE:-This Chart shows graphically the relative Growth in Telephone Development of a group of Cities **WITHOUT** Competition as compared with another group of comparable Cities **WITH** Competition during the period.



The *development*—that is, the number of exchange stations per 100 population—for Bell exchanges without competition and for the Bell and opposition exchanges in cities with competition, is given on page 27. The same cities are used as for page 26.

The combined Bell and opposition development in the cities with competition in 1909, allowing 15 per cent. for duplication, was 10.43 per 100 population. The average duplication is probably nearer 20 per cent. than 15 per cent.

The Bell development in cities without competition was 9.77—only three-quarters of one station per 100 population less.

The Bell development alone in cities with competition is 7.8 stations per 100 population, or only 2.5 stations less than the combined development, as against the opposition development of 4.53 stations per 100.

The opposition figures are taken from opposition statements and include all the larger places where there were such exchanges and those of the largest development.

MINIMUM RATES.

For Bell exchanges aggregating some 700,000 stations with no opposition, the mean minimum rates for 1909 were $36.00 per year for business, and $23.75 for residence, as against the mean minimum rates in 1894 of $68.10 for business, and $56.00 for residence.

In cities with competition, where there were Bell exchanges aggregating 550,000 stations and opposition exchanges aggregating 322,000 stations, the mean minimum rates for Bell service were $41.25 for business, and $22.80 for residence; for the opposition service, the mean minimum rates were $37.15 for business, and $23.25 for residence.

AVERAGES OF OPERATING UNITS OF ASSOCIATED OPERATING COMPANIES, 1895 TO 1909.

(See Table, next page.)

The table on page 30 shows the averages of the revenue, expenses and other average operating details of the associated operating companies for the years 1895, 1900, 1905 and 1909.

Taking the years 1895 and 1909, the average exchange revenue per station for exchange service was reduced from $70.00 to $31.50, or 55 per cent.; the total revenue including toll revenue per exchange station reduced from $81.00 to $41.00, or one-half; the operating expenses including taxes reduced from $31.50 to $17.10, or 45 per cent.; maintenance per station reduced from $26.20 to $13.00, or one-half. Total operating expenses were reduced from $57.70 to $30.00 per station, or not quite one-half,—that is, reduction of operating expenses of about one-half brought about a reduction in cost to the public of exchange service of over one-half.

The other figures show the various costs and expenses. The average plant cost, including toll and exchange construction, was reduced from $260 to $145 per exchange station, about 45 per cent. All plant costs show a decrease per unit, although there has been an increase in both labor and material.

These statements, statistics and diagrams should establish the claim already made that reduction in rates followed closely reduction in expenses, and that reduction in expenses was the result of the broad policy of development and improvement, the policy of the Bell system from the beginning, and not forced upon it by competition;

That competition in the telephone business is not a beneficial competition; and

That there is within the reach of every one needing it a connection with the Bell telephone system.

AVERAGES OF OPERATING UNITS OF ASSOCIATED OPERATING COMPANIES, 1895 TO 1909.

AVERAGE PER EXCHANGE STATION.	1895.	1900.	1905.	1909.
EARNINGS:				
Exchange Service	$69.75	$44.68	$33.31	$31.37
Toll Service	11.35	12.60	9.95	9.42
Total	$81.10	$57.28	$43.26	$40.79
EXPENSES:				
Operation	$29.15	$21.63	$16.96	$15.14
Taxes	2.23	2.37	1.49	1.93
	$31.38	$24.00	$18.45	$17.07
Balance	$49.72	$33.28	$24.81	$23.72
Maintenance and Depreciation	26.20	17.68	13.91	12.93
NET EARNINGS	$23.52	$15.60	$10.90	$10.79
Per Cent. Tel. Exp. to Tel. Earnings	71.0	72.8	74.8	73.6
Per Cent. Maint. and Depr'n to Aver. Plant, Supplies, etc.	9.1	8.4	8.9	8.4
Per Cent. Incr. Exchange Stations†	15.7	26.5	24.5	11.6
Per Cent. Incr. Miles Exchange Wire†	15.9	33.2	27.2	7.1
Per Cent. Incr. Miles Toll Wire†	21.3	25.2	12.4	4.4
Average Plant Cost per Exchange Station (including Exchange and Toll Construction)	$260.00	$199.00	$145.00	$145.00
Average Cost per Mile of Pole Line (Toll), including Wire	$219.00	$348.00	$438.00	$610.00
Average Cost per Mile of Wire (Toll), including Poles	$81.00	$71.00	$62.00	$63.00
Per Cent. Gross Tel. Earnings to Average Constr.	33.4	31.7	31.7	29.6
Per Cent. Net Profits to Aver. Capital Stock	10.11	9.44	8.34	8.14
Per Cent. Dividends to Aver. Cap. Stock	5.07	6.19	5.75	5.95

† Increase during year shown, over previous year.

WESTERN UNION TELEGRAPH COMPANY.

In taking over a substantial interest in the Western Union Telegraph Company, this company assumed a substantial obligation to the public in addition to that which it already had. To make clear the extent of this obligation and the resulting advantages, and to illustrate the various shades of relation between the telegraph and the telephone, some explanations will be interesting and instructive.

The connection or relation between the telephone and the telegraph is not in any sense one of substitution, it is supplementary; one is auxiliary to the other.

Telegraphy eliminates the time of transit of correspondence, by the electrical transmission of the text from office of origin to office of destination, but it is incomplete in that the methods of collection and delivery are slow and primitive.

Telephony eliminates distance by placing parties at distant points in direct personal communication with each other, but the expense prohibits its use for the transmission of written messages over long distances.

Telegraph operation as carried on must have a separate, distinct and entirely different operating organization and equipment from that of a telephone company.

Line construction and maintenance are common to both the telephone and the telegraph, and can be combined or performed jointly with economy. The same wires may be used for both telephone and telegraph circuits and at the same time. The differentiation between telephone and telegraph construction and operation begins with the stringing of the wires.

Where there is density of message traffic sufficient to keep busy an expert telegraph operator, the telephone

cannot be used in competition with the telegraph in the handling of message traffic, but at some point of less density of traffic the telephone will gradually supersede the telegraph in handling message traffic.

The elementary differences in the scope and operation of the telephone and the telegraph in the handling of telegraph traffic indicate that each will occupy a distinct and a well-defined field.

The telegraph between centres of density and for long distances.

The telephone for short distances and for the collection and distribution between the customer and such centres.

About 65 to 70 per cent. of the telegraph traffic is between, that is, both originates and ends in, about 550 cities and towns of 10,000 or more population. The Western Union telegraph lines reach over 22,000 smaller cities and towns and villages, at most of which the commercial telegraph traffic would not of itself support a telegraph office. This business is now being performed necessarily under some joint arrangement, for the greater part with the railroad companies. While these arrangements will be continued, a greatly extended and improved service will be given in connection with the Bell system with over 5,000,000 stations located in 50,000 cities and towns, most of which will be put in immediate connection with telegraph offices at central points. *In this way the electrical transmission of messages will be extended from the actual point of origin to the actual point of destination.*

There are comparatively few places where there is business enough to warrant a "night and day" telegraph service, but there is no place where "night and day" telegraph service is maintained that is not in the centre of a "Bell system." Practically no Bell

exchange is ever closed—therefore there are few subscribers of the Bell system who cannot be placed within reach of night and day telegraph service.

Under the new conditions, when in full operation, each service, the telephone and the telegraph, will find its level of use, its field of best usefulness, with a distinct improvement in, and advantage to, both services.

Such economies as follow will be taken advantage of to increase the facilities and where possible reduce the cost to the public.

Before any change can be made in the existing rates for existing service, it will be necessary to await the result of studies now being made, as it is claimed that the irreducible cost of handling is so near the revenue received for each commercial message that no reduction in rates would be justified by any probable increase in business.

Improvement and extension of existing service and introduction of new classes of service will be the first effort of all interested. The first of these will be the introduction of the "Night Letter" and others will follow.

The benefits and advantages from this complementary operation will come, but not all at once. Careful study and consideration are being given to all questions by all interested. Existing plant will have to be rearranged or reconstructed, new plant constructed on proper lines. The necessary safeguards for the protection of the company and the public will have to be worked out.

The idea of operating the telephone and the telegraph in accord, each supplementing the other, is not a new or untried one, but has been ineffective because of the lack of common influence in the control of the operations. With the employees of both companies actuated by a common purpose, this can be effectively done; without a common influence in the operation it has been practically impossible.

General Considerations.

It is the duty and obligation, as well as self-interest, of a public service corporation to give efficient service up to the limits of reasonable practicability and to furnish such service at a reasonable price.

As a rule all capital invested in any public utility is permanently invested. It cannot be salvaged to any extent, nor can it be used for any other purpose. The chance of any return upon the capital is entirely dependent upon inducing or educating the public to make use of the service so offered. To do this, whatever is offered must be offered at a price which leaves the user a margin of profit—if not in money, in comfort and convenience—at a price which the public will accept, and that must necessarily be below the actual value of the service to the public.

Although there have been abuses in corporate management and in the manipulation of both property and securities, *for which there is ample remedy if existing laws are enforced*, yet it must be admitted that the tremendous development of utilities in this country as compared with other countries, with their contribution to the comfort and convenience of the public, is to a certain extent due to the lack of proscriptive restrictions.

The profits that have been realized by public service corporations in the development of new and beneficial facilities are insignificant in comparison with, and are certainly justified by, the enhancement of values and the unearned increment which have accrued to the public and which could not have existed but for this development.

The one attracts more attention because of its corporate character, while the benefits are of a private character, widely dispersed in smaller units and as a rule to individuals.

It is but natural that corporations should have some misgivings about a control of internal management by a body *without any responsibility that could be called accountability*, and without the practical knowledge or experience or information which comes from the daily dealings with questions; a control which would undertake to decide upon questions widely different, complex and far-reaching, over which expert managers of life-long study and experience are sometimes at a loss; a control over methods of business which usually are the evolution of years of practice, and are so interwoven with the fundamentals of business that they cannot be changed suddenly without great disturbance.

Too much importance is apt to be attached to claims of theorists or inventors, as any one can judge by comparing the wonderful promises and claims made with the results achieved.

All great developments in any line of industry have been from crude and imperfect beginnings by a process of evolution, by improvement in detail the result of suggestion from association, operation, or study.

The original idea upon which may be founded great development may be revolutionary but it never springs full-fledged or perfect into the world.

Public utility companies have obligations and are responsible both to the public and to their shareholders. It is a responsibility with accountability. Prevent them from imposing upon the public with fictitious issues of securities, or with exactions on the public with which to pay dividends on those fictitious securities.

As to their internal management, operating methods, leave something to their self-interest, to their responsibility with accountability; do not impose upon them such control as might force upon them new methods, new

apparatus, new ideas which have not been tried out, which have not been put through the crucible of practical experience. Theories and new ideas will be welcomed by any progressive corporation for without them development would be stayed, but all that is improvement must come through a process of evolution, by the gradual elimination of the useless and adoption of the useful, through experimental application modified to existing conditions.

We believe that if there is to be control, there should be protection, and that beyond the lines set forth above, any control ceases to be control and becomes management or operation. We believe that management or operation by a body without any accountable responsibility would be prejudicial to the best interests of the service and of the public, and destructive of property and the rights we are supposed to possess.

Our company has a vital interest in the proper solution of the telephone problem, and we believe that we are working the problem out on the broad lines of the greatest benefit to the public as a whole.

For the Directors,

THEODORE N. VAIL,
President.

BELL SYSTEM IN THE UNITED STATES.

	Dec. 31. 1898.	Dec. 31. 1900.	Dec. 31. 1903.	Dec. 31. 1908.	Dec. 31. 1909.	Increase. 1909.
Miles of Exchange Pole Lines	25,330	30,451	67,698	108,539	113,893	5,354
Miles of Toll Pole Lines	52,873	101,087	145,535	161,452	164,111	2,659
Total Miles of Pole Lines	78,203	131,538	213,233	269,991	278,004	8,013
Miles of Underground Wire	184,515	705,269	2,345,742	4,909,449	5,337,436	427,987
Miles of Submarine Wire	2,028	4,203	9,373	19,906	22,698	2,792
Miles of Aerial Wire	488,872	1,252,329	3,424,803	4,901,363	5,119,892	218,529
Total Miles of Wire	675,415	1,961,801	5,779,918	9,830,718	10,480,026	649,308
Comprising Toll Wire	215,687	607,599	1,265,236	1,732,039	1,804,552	72,513
Comprising Exchange Wire	459,728	1,354,202	4,514,682	8,098,679	8,675,474	576,795
Total	675,415	1,961,801	5,779,918	9,830,718	10,480,026	649,308
Total Exchange Circuits	237,837	508,262	1,135,449	1,668,211	1,829,942	161,731
Number of Exchanges	1,613	2,775	4,532	5,043	4,968	75†
Number of Bell Stations	281,695	800,880	2,241,367	3,215,245	3,588,247	373,002
Number of Bell Connected Stations*	27,807	55,031	287,348	1,149,384	1,554,445	405,061
Total Stations	309,502	855,911	2,528,715	4,364,629	5,142,692	778,063
Number of Employees	14,517	37,067	89,661	98,533	104,956	6,423
Number of Connecting Companies				7,721	10,354	2,633
Exchange Connections Daily	2,351,420	5,668,986	13,543,468	18,499,376	19,925,194	1,425,818
Toll Connections Daily	51,123	148,528	368,083	463,021	517,341	54,320

* Includes private line stations.

† Decrease.

Theodore N. Vail

Elbert Hubbard and Fra Elbert Hubbard

Theodore N. Vail

Elbert Hubbard

This he did, and he also used the cellar of the Sanders house as a workshop.

He littered the place with tuning-forks, magnets, batteries, coils of wire, tin cans, cigarboxes, and strange chemicals.

He had a string stretched from the cellar to the roof. Each end of the string (for all strings have two ends) was attached to the inside of a tin can. Sanders was ordered to go up on the roof and talk down to the boarder in the cellar. This was an old and interesting experiment which boys innumerable had tried. It was a talking string.

All you had to do was talk into the tin can and your voice would carry over the string for a distance of several hundred feet. This was the germ of the telephone.

To replace the string with wire, and render the wire sensitive with the aid of an electric battery, was an easy step—after you knew how.

Besides Georgie Sanders, the young professor had another interesting pupil, Mabel Hubbard by name.

When Mabel first came under the care of Professor Bell she was fifteen years old. This was in Eighteen Hundred Seventy-four.

¶ Mabel Hubbard was the daughter of Gardiner G. Hubbard of Boston, an attorney, writer, economist, and all-round man of affairs who was interested in everything human.

Hubbard was gentle, considerate, sympathetic, but knew too many things to make much of a success of any one; and was too conscientious to be a marked success in the practice of the law.

Mabel Hubbard was a deaf-mute, and she was Bell's best and brightest pupil. He used to tell her of his wonderful invention, by means of words which she never heard.

The inevitable followed.

Gardiner Hubbard had great respect for the young instructor in vocal gymnastics, but did not have any confidence in his inventive genius. That is where he differed from his daughter ❧

One day Bell said to Hubbard, " If I sing the note *A* close to the strings of the piano, the *A* string will answer me by vibrating."
" Well, what of it? " asked Hubbard.
" It is an evidence," said Bell, " that some day we will have a vocal telegraph. If I can project my voice over musical strings and these strings will reply, why can't I send my voice over wires? "
And Hubbard laughed. But Bell followed this up with another proposition, " If I can make your daughter talk, I can make metals talk, too."
And Hubbard sneezed.
Nevertheless, on February Fourteen, Eighteen Hundred Seventy-six, there was issued to Alexander Graham Bell from the Patent Office in Washington the most important patent ever issued by the United States Government.
In this patent the word " telephone " is not used. That came later. That was the coinage of Gardiner G. Hubbard.
Sanders had put up the money to secure the patent, and had also grubstaked Bell for two years, for which Bell gave him a quarter interest in the invention.
A stock company was formed, with a capital of one hundred thousand dollars. The owners of this stock were Bell, Hubbard and Sanders.
It was playfully understood between the Hubbard family and Bell that, if the telephone was a success, Mabel Hubbard was to become Mrs. Bell.
And so it happened that one year after the granting of the patent, Alexander Graham Bell and Mabel Hubbard were married. Bell became one of the Hubbard family.
Bell on his wedding-day presented his bride with a certificate for all of his stock in the Bell Telephone Company.
It would have been easy for the patent to have sunk out of sight. No matter how good a thing is, the man who puts it before the

people, educates the people to its use, and successfully launches it on the tide of the times—this man is quite as important as the inventor ❧ ❧

Hubbard was a man of influence, with a wide acquaintanceship among businessmen, writers, politicians and teachers. He committed himself to the telephone, heart, head and hand.

Wherever he went, he carried with him a coil of wire and two telephones. This was before the days of the receiver and the transmitter. You simply talked into a disk, about the size of a saucer, and then you inclined your head and listened for a reply. Sometimes you heard it, and sometimes you did n't.

If you did n't, Hubbard always explained just why.

He had a coil of five hundred feet of piano-wire, with a telephone at each end. He strung this from one railroad-car to another, and then talked over the line.

This was the identical invention exhibited at the Centennial, where, for two months, no one paid any attention to it.

Even the wonderful and far-reaching patent that was given to Bell, merely described the article as " an improvement in the art of telegraphing."

The principle had been proven. Various other wires were strung. Sanders and Bell obtained permission to use a telegraph-wire, and they telephoned successfully between Salem and Boston.

¶ Both Sanders and Hubbard had neglected their regular affairs to float in this dream of long-distance conversation.

Working with Bell was a young man by the name of Thomas A. Watson, who was a mechanic and an electrician.

Watson was of immense help to Bell, and he was also a very important factor in enthusing Sanders and Hubbard, because Watson was a practical man, whereas Bell was spoken of as a college professor, and not much of a professor at that.

Hubbard succeeded in collaring Dom Pedro, Emperor of Brazil, at the Centennial. And the Emperor, being an obliging gentleman

and with a turn of mind for the curious and peculiar, was greatly interested in the telephone; or, as it was then popularly called, the " talking-machine."

Anything that Dom Pedro talked about, the newspapers picked up. And Gardiner G. Hubbard succeeded in launching the entire newspaper press of Christendom into talking of the talking-machine, simply because Dom Pedro declared it was the greatest invention of the age.

Dom Pedro spoke of buying it out. And America sort of rubbed her sleepy eyes and got awake to the fact that there were possibilities in the talking-machine.

The Western Union Telegraph, seeing that Sanders and Hubbard were able to utilize telegraph-wires and send messages—although neither Sanders nor Hubbard were telegraph-operators—thought they saw a way whereby they could cut down expenses and talk over the wires, instead of using the slow and cumbersome dot and dash.

Sanders, Hubbard and Watson talked the matter over together, and then went to see President Orton of the Western Union. They offered him the stock, including the patent, for a hundred thousand dollars ❧ ❧

And President Orton gave them the smile audible.

The ticker, or tape-machine, was already in operation. President Orton knew more about the subject than he had intimated to Sanders, Bell and Hubbard. He had investigated the thing, believed that Bell's patent was of no value, and that it covered merely a plaything at the best.

Then it was that the Western Union Company also organized a corporation known as the American Speaking Telephone Company, with a capital of three hundred thousand dollars.

Edison, Gray and Dolbear were retained, and the three greatest electricians were placed on the Western Union payroll.

The announcement was sent forth to the world that the only

original telephone was the one that the Western Union owned; and this telephone was the combined invention of Dolbear, Gray and Edison.

Here comes in a most unexpected turn. Bell, Sanders and Hubbard, instead of being cast down, were now greatly encouraged. ¶ The very fact that the Western Union Telegraph Company—the greatest corporation then in America, or in the world—had acknowledged that the telephone idea had a tangible, practical, actual value filled them with enthusiasm.

Bell, Hubbard and Sanders had a banquet in a Boston sub-cellar restaurant, and blew themselves to the extent of one dollar and twenty-five cents for the feast.

They pounded each other on the back, toasted each other in *aqua pura*, and declared that they were the people, and that telephone wisdom would die with them.

They began making telephones, supplying them to factories whose offices were a mile or so away, and to places that had branches. They ran in debt to the full extent of their credit—which was n't very much.

What they needed was a business manager, and Gardiner G. Hubbard said he would find one.

Hubbard about this time had been named by President Hayes as chairman of a commission to suggest ways and betterments in the Post-Office System.

On one of his trips to Washington, Hubbard met Theodore N. Vail, then head of the Railway Mail Srevice.

Hubbard took out of his valise his coil of wire and two telephones. Vail went into the second car ahead, and at one end of the line, with Hubbard at the other, they planned out a little scheme for quick communication of the people.

If you want to know how crude the telephone then was, just remember that the way they " called " was by tapping with the fingers on the membrane of the telephone.

Hubbard's enthusiasm was catching. Vail was "exposed" and caught it, and Hubbard, on the spot, hired Vail as the General Manager of the Bell Telephone Company at a salary of three thousand dollars a year.

And then Hubbard wrote a letter to Vail, saying, "We rely upon your executive ability, your fidelity, and your unremitting zeal."

Young Vail wrote back in dignified terms: "My faith in the success of the enterprise is such that I am willing to trust my life to it. I have confidence that we shall establish the harmony and co-operation that are essential to a great enterprise."

One week later, Theodore N. Vail had resigned his position with the Government, and taken his seat at a kitchen-table in a shabby little office in a back-room in Reade Street, New York. And the Bell Telephone Company was in existence.

Because a man's salary is three thousand dollars a year is no reason he gets it. Vail was obliged to accept his pay in stock. He had a few thousand dollars, and this went for stock, too, because the Company needed the money.

Bell was the inventor of the telephone. Watson was the man who constructed the mechanical part of the machine.

Sanders financed it.

Hubbard advertised it.

But Vail put it on a practical business basis.

Vail took up the work with as good a preparation as any man could have possessed. Vail was to business what Bell was to invention ❧ ❧

Vail was born of a mechanical family. His own father had not done very much, but genius is apt to skip one generation. His granduncle Stephen had built the engines for the *Savannah*, the first steamship to cross the Atlantic Ocean. One of his relatives was the intimate friend and helper of Morse, the inventor of the telegraph ❧ ❧

Morse had lived for several years at the Vail homestead in

Morristown, and the Vail family had grubstaked Morse, just as Sanders had grubstaked Alexander Graham Bell.

At Morristown, Morse erected his first telegraph-line, a three-mile circuit. This was in the year Eighteen Hundred Thirty-eight.

Theodore N. Vail had heard this story over and over, and was heir, prenatally, to the science of intercommunication. As far as this science had progressed, he knew it, having learned it from his mother's lips.

He was a telegraph-operator and a skilled man in the management of the handling of mails.

He was an economist of time, money and materials. With it all he was an athlete, and had glowing good health.

This was in the year Eighteen Hundred Seventy-seven. Vail was then thirty-two. He was two years older than Alexander Graham Bell.

The owners of the Bell Telephone Company at that time were Mabel Bell, Gardiner G. Hubbard, Thomas A. Watson, Thomas Sanders, Theodore N. Vail and W. H. Forbes.

Forbes was a rich man, a Boston blueblood, and the son-in-law of Ralph Waldo Emerson. Forbes was the first President of the Bell Telephone Company.

The introduction of Forbes into the business put it on a sound commercial footing, and caused the Company, for the first time, to receive the respect of the business world.

Just before Forbes took an interest in the business, there were various entries, which may yet be seen in the Bell Telephone cashbook, as follows:

Money advanced to Bell	*50c*
Hubbard, for lunch	*20c*
On acct. to Vail	*$4.75*

And now, behold, the unexpected happened. The Western Union Company entered suit against the Bell Telephone Company, demanding an injunction.

Behind this suit were the biggest lawyers in New York City and Boston ❧ ❧

The Bell Company had given out rights to subsidiary companies in various cities through the United States. Action was brought against each of these separate companies, and everybody connected with the Bell Company who could be was attached—even the users of a telephone were up against the legal game. The Bell folks were to be flattened out by the judicial willopus-wallopus, and quickly, too.

The Western Union Company claimed that there were three men who had invented the telephone; that each of these three patents was theirs, and that these men had all perfected their machines before Bell was in the field.

The case began in the Autumn of Eighteen Hundred Seventy-eight, and lasted, for a full year. A thousand witnesses and more were examined, and exhausted.

After a year, and before the Referee had put in his report, the attorneys for the Western Union notified their clients that Alexander Graham Bell was the original inventor of the telephone.

¶ They suggested compromise, and their advice was taken.

A committee of three from each side was appointed and spent five months in arguing the case from every possible standpoint.

¶ At the end of this time a treaty of peace was drawn up and signed ❧ ❧

This treaty was very brief, but it covered the case:

First, that the Western Union admit that Bell is the original inventor of the telephone; *second*, that his patents are valid; *third*, that the Western Union agree to retire from the telephone business ❧ ❧

The Bell Company agree, *first*, to buy the Western Union Telephone system at the appraised cost of construction; *second*, to pay the Western Union a royalty of twenty per cent on all telephone rentals; *third*, to keep out of the telegraph business.

¶ This agreement was to remain in force for seventeen years. It was a mighty good thing for both the telegraph and the telephone people.

The Western Union had gone into the business under a misapprehension. They had supposed confidently that their system of telegraph wires could be used for telephone purposes, and it took them several years to discover that the current required for telephone business is almost infinitesimal. It is so very slight that it can not be measured, and yet, without it, the wire is not sufficiently sensitive or alive.

On the other hand, the heavy, coarse wires then used for telegraph business, and the heavy current, made it almost impossible to utilize the equipment for telephoning.

The use of a telegraph-wire for telephone purposes would require an entire rebuilding of the lines.

At that time, the telegraph business was a big business, and the telephone business was a small one.

The telegraph was making money, and the telephone people were struggling to get on their feet.

There is no romance of Victor Hugo, Sir Walter Scott or Jules Verne that equals in romance the rise of the telephone business.

Thomas Sanders sold his stock for a million dollars, and lost most of the money in Colorado gold mines. However, he had given a certain amount of stock to his mother, and this had been doubled by the liberality of Mabel Bell. And so the Sanders family was made passing rich.

Gardiner G. Hubbard became a millionaire several times over, and had a deal more money than he ever knew what to do with, with his simple ways of life.

Hubbard was rich in money, rich in friends, and he managed to distribute his love and his money—some of both where it did positive good.

Thomas A. Watson, the dollar-a-day mechanic, became a million-

aire, and established a shipbuilding plant near Boston. This business flourished, and it now employs several thousand men.

¶ As for Alexander Graham Bell, being a poet, a schoolteacher and a lover by nature, he had presented all of his holdings and patent-rights to his bride on their wedding-day, with a note saying that, if it had not been for her, the telephone would never have been invented. In other words, the invention of the telephone was owing to the so-called disability of Mabel Hubbard.

¶ Thus was a calamity turned into a monumental success.

Parties with a certain per cent of sentiment in their cosmos declared that what Bell said to his wife on their wedding-day was absolutely and coldly true.

This young woman gave him the encouragement without which he would never have gone ahead and carried his invention to a successful conclusion. Moreover, without the tangible help of the girl's father, the matter would never have been publicized and brought before the world.

Also, without the help of Gardiner G. Hubbard, Vail—the man who organized the business and put it on a firm financial footing —would not have been discovered.

When Vail took up the work of managing the Bell Telephone Company and piloting it to success, through shoals and shallows, passing many a rocky cape out into the fairway where the water was deep, Bell turned to his work of instructing deaf-mutes.

On the subject of teaching the deaf and dumb, Bell has given to the world about all of the literature it possesses. This literature was expanded and published by Gardiner G. Hubbard.

The universities of the world have vied with one another in giving Alexander Graham Bell tokens of recognition.

The French Government gave him the Volta Prize of fifty thousand francs, and the Cross of the Legion of Honor. Germany, England, Italy and Austria have recognized him with various decorations

The Postal Service Boys have never lost sight of Theodore N. Vail, and every now and then, Vail, on his trips backward and forward between Boston and New York, will go into the postal car and work the mail, just as Thomas A. Edison, on election night, sits at a receiver taking down the returns, handing them out, impassively.

If any one living person knows the telegraph, telephone and mail demands of mankind, and how to supply them, Vail is the man.

¶ Well has he been called, "The Monte Cristo of Communication."

Not long ago a man in Chicago, from his room in the Hotel Sherman, put in a telephone call for the President of the United States. He got him.

And then the gazebo asked to talk with the Governor of each State. Central, nothing surprised, for Central is never surprised at anything, replied in cheery tones, "All right!"

And in three hours the man had talked with them all, or with their secretaries, and knew just how they stood on a certain subject.

¶ You can communicate with Emperor William of Germany, the Czar of Russia, the Mikado of Japan, or a businessman in Sydney, Australia, as easily as forty years ago you could communicate between New York and classic Hoboken.

The one thing that differentiates this age from all others that have gone before it is the matter of intercommunication of the people

Transportation is the matter of conveying persons or commodities from place to place.

Communication is the matter of conveying ideas, thoughts, emotions, desires, over distances—long or short.

There are in the United States today, in round numbers, fifteen thousand telephone companies.

These companies are known by various and sundry names, but usually the word "Home" or "Independent" is applied.

If by chance some financial tidal wave should wipe these fifteen thousand companies out of existence, between the evening twilight and the dawn, it would create scarcely a ripple of disappointment, save among those who own or operate them.

If, however, the telephone company known as "The Bell System" should cease to operate for a single day, it would discommode, disarrange and disintegrate business to a degree which would be unequaled by the stoppage of any other single public service, save the United States mail alone.

The American Telephone and Telegraph Company, commonly known as The Bell system, maintains and operates about seven million telephone stations.

It employs about one hundred fifty thousand helpers.

It owns fourteen million miles of wire, and its customers converse over these wires to the extent of twenty-five million conversations, daily.

The value of the property owned by this company approximates a thousand million dollars.

Nominally, there is a goodly profit in the telephone business. It figures up pretty nearly as good as raising pigs. Starting in with one sow that has two litters of ten pigs each, the increase is in geometric ratio. Or that goose farmer where the honks were sold to autoists.

New inventions have made the scrap-heap a great absorber of profits in the telephone business.

The American Telephone and Telegraph Company deals in just one commodity, and that commodity is service.

The success of this company turns on the quality of service that it supplies.

As stated above, it has fifteen thousand competitors. These so-called independent companies are financed for the most part from the territory which they cover. The promoters go into any town or city where the Bell System operates and start an opposition

company, securing capital in the vicinity. So we see the slogan on letterheads, billheads, delivery-wagons, billboards, and in advertisements, thus: " We strive to please—Both Phones." There seems to be an idea fixed in the minds of the proletariat that a man with two telephones is twice as big a businessman as if he had but one.

Guests of a hotel would not tolerate two telephones in a room. But often the clerk will call you and say: "You are wanted on the Home Phone. Please come down to the office."

And then you say things unprintable. If defined we could put it in this way:

Hell: Three telephone systems in a town.

Purgatory: Two telephone systems.

Paradise: One good telephone system.

The independent companies operate about three million telephones. Their capital stock is, say, five hundred million dollars. The yearly income is about a hundred million dollars.

Almost every town and city in the Middle and Far West and South has an " independent " telephone company.

However, in the main, the independent companies have done the world good. They have inspired the " Bell " to improve its service in every possible way. A person given to persiflage might also say they have done the world good and proper—but this is another story.

It is a curious fact that one group of men have, in several instances, organized upwards of two hundred telephone companies in as many different towns and localities. These men go into a town and suggest telephone service at, perhaps, one-half what the people are paying. The average man, knowing nothing about the the cost of telephone service, nibbles at the bait, and is willing to put up one hundred or two hundred dollars for stock.

The company may have a capital of five, ten, fifteen, twenty-five or fifty thousand dollars, all depending upon the amount of

territory that is to be covered. The individual or group composing the company usually keeps more or less out of sight, and operates through some local business man as head of the enterprise. Everybody in that town is sort of blackmailed into coming in. Civic pride is worked overtime, and the necessity of standing together and twisting the tail of the octopus is made apparent.

The promoters take their pay in stock. They make money in the organization through construction and supplying equipment. If the district is a sparsely settled one, and the amount of business does not look very encouraging, these promoters simply sell out their stock and disappear into the circumambient ether, and, nobody ever having seen much of them, they are not missed.

These independent lines were formed with the intent, for the most part, of selling out.

The Bell System has bought up a great number of them and is still absorbing them as they come into the market, at a fair valuation ❧ ❧

It does not require much of a prophet to see that eventually one telephone company in the United States will be ample and sufficient ❧ ❧

This company will be under the supervision of the United States Government. There will be a directing board appointed by the Government that will work with the directors of the company ❧ ❧

This governing board will be made up of competent businessmen, who know the difficulties involved, and who have a high sense of what constitutes a perfect service. On this board the demagogue, the professional politician, the promoter and the bounder will have no place.

The ambition of the Bell System is to give the maximum of service at a minimum of cost.

The responsibility and accountability of this corporation to the public can not be misunderstood or evaded. When there is one

company we know whom to blame when things go wrong. This company obligates itself to serve the people, and it must do so with the greatest possible amount of efficiency in order to save its corporate soul alive.

The Bell System was reorganized in Nineteen Hundred under the name of the American Telephone and Telegraph Company. The Western Union Telegraph and the Telephone Company are practically one institution.

Mr. Vail, from time to time in his career has been able to reach down or up and strike an untapped reservoir of strength. He has moved from point to point, always making head. This ability to be physically and mentally born again is a wonderful achievement.

¶ Professor James, of Harvard, wrote a book on the subject, entitled, ***Untapped Reservoirs,*** wherein he endeavored to prove that under normal conditions every man should keep growing and evolving in mental power.

The brain is an organ. It is the last organ of the body to develop. It grows through exercise, just as all organs do, and only when properly exercised can a man hope to have an efficient and masterful brain.

But if any living man has worked out the problem of getting the most out of life, it is this man, Theodore N. Vail.

Vail is interested in every living thing. There is no enterprise, and no line of human activity, that is not vital to him.

He has the curiosity of youth. He has known poverty, sorrow, loss, misunderstanding, but he has worked his difficulties up into life and cashed in his errors and mistakes.

We grow by elimination. Vail knows everything that will not work ❧ ❧

East, West, North and South, on the Equator, in the South Temperate Zone and the North Temperate Zone, this man is equally temperate and at home. He loves horses, knows breeds of cattle, is interested in poultry, is an enthusiast on school-

gardens, on good roads, and on everything that relates to human betterment.

On Mr. Vail's great farm in Vermont, there is raised a wonderful crop ❧ ❧

What crop is it? It is the best product that Vermont produces—men! ❧ ❧

Vail's farm is a school where a hundred boys are taught scientific agriculture, and the beauty of earning an honest living with their hands ❧ ❧

He loves children, and I have seen him stop his automobile on a country road to pick up schoolchildren headed for the little Red Schoolhouse and give them a ride.

Little foolish things, you say? Well! Nevertheless, they mark the sympathetic heart of a man who has lived a most useful life, and who is now the active head of two of the greatest and most useful corporations of the world, and who yet has the faculty of putting himself into the place of the country boy.

Vail has time to listen to a good story—and tell one—if the tale is not too long.

He can laugh, and he can even laugh at himself.

Vail impresses you as a well-nourished, happy, sympathetic, generous man.

Personally, he practises all of the economies of New England. If he dines alone, a thirty cent lunch is quite enough.

Just after Vail became President of the American Telephone and Telegraph Company, he summoned a number of the big heads of departments and district managers to New York City for conference. There were a hundred or so of these men that he wanted to see. He wanted to know them and he wanted them to know him. It was necessary that they catch a little of this great enthusiasm and boundless faith which Vail himself possessed in American possibilities. The question was, How would Vail entertain these men when he got them to New York?

And what did he do? He just rented a yacht that belonged to a princely nabob who happened to be in Europe.

Anything belongs to Vail that Vail wants. No man would refuse him anything, no matter what, because he is a man who would not ask for a thing he did not need.

And so he told the nabob that he must have that yacht for a few months.

It was a beautiful craft, and here on this yacht Vail met the district managers and department heads as they came—perhaps a dozen at a time—from all over the United States and from Europe as well.

It was a great diplomatic blend of business and pleasure. They sailed up the Hudson, and out on the Sound, and even got a taste of the rolling sea.

Vail listened to what they had to say, and they listened to him, and when they parted they parted as friends. They had played together and laughed together, and men who have laughed and played together always thereafter think well of one another.

Vail commands the loyalty of his men to a degree that no other businessman, perhaps, in America does. He is a Jovian, and the Jovians are the boys who are doing big things in an electric way.

¶ Some years ago, when the telephone business was largely divided between New York and Boston, Mr. Vail found it necessary to make several trips a week backward and forward. At first he rode with the " folks " on the regular trains, and was often to be found in the day-coach or smoking car.

He discovered, however, that there was too much visiting going on, and a trip entailed a waste of time unless he could get by himself where he could relax, think, drowse or work, as the mood inclined ❧ ❧

And so he got a special car and rode alone or with two or three particular men that he wanted to talk to.

That was a great economic stroke. Instead of making a date with

a man at the office, he simply invited him to ride over to Boston, and together they thrashed out the matter. And you can depend upon it that when they arrived in Boston the other man had accepted Vail's point of view!

There is a degree of economy which is positive loss. There is that which giveth and yet increaseth, and there is that which withholdeth and tendeth to poverty.

Theodore N. Vail is a great economist.

He is a great enterpriser. He knows how to spend big sums and get the money back.

As for throwing money at the English sparrows, this he never does

Personally, his wants are few. He possesses the virtues of New England, fused with the beautiful spirit of the Middle West. He is ever willing to throw away a good thing for a better one.

If a man were to be selected as General Commissioner of the Post-Office Department, with authority to go ahead and do anything with wires, wheels and mail-sacks which, in his judgment, seemed right and proper, Theodore N. Vail would be the only man to whom the commission should go.

The telephone business began as an interesting and curious plaything. Then it became a convenience in big factories and institutions, where the officers were scattered over a considerable acreage; instead of sending a boy with a message, a telephone was used.

It was regarded then that in a great city, with a vast complexity of business, the telephone would not meet the requirements, so we had the "A. D. T.," which supplied the humorists good raw stock and was referred to as "Any Damn Time." And it makes us smile to think that the first "telephone-girls" were these A. D. T. boys.

¶ The telephone business crawled up until it became a rival of the telegraph, and then it was neck and neck with the telegraph.

¶ Now, in extent of operation, it vastly surpasses the telegraph.

¶ Emerson says: " Great teachers do not teach us anything. In their presence we are simply different people." The strongest men in the world are not necessarily the most influential. Napoleon, Cæsar, Frederick the Great, dominated men. They wore their opinions pompadour. In their presence other men sank into insignificance.

Great personalities iron the individuality out of other people. Perhaps we will some day discover that the supremely great man is the one who allows other people to live their lives, and who, while doing a great work, is preparing the world to do without him.

Mr. Vail does not subdue and destroy the personality of his colleagues and helpers. He is simply one of them. They do not fear him. They respect, admire and love him. He fills them with enthusiasm, and no one can meet this man, Theodore N. Vail, without really thinking better of himself.

Vail has educated a vast army of men to take the initiative, to carry responsibilities, and to shoulder big burdens.

Vail is one of the World-Makers.

Printed in the United States
46604LVS00003B

Kessinger Publishing's Rare Reprints

Thousands of Scarce and Hard-to-Find Books

- Americana
- Ancient Mysteries
- Animals
- Anthropology
- Architecture
- Arts
- Astrology
- Bibliographies
- Biographies & Memoirs
- Body, Mind & Spirit
- Business & Investing
- Children & Young Adult
- Collectibles
- Comparative Religions
- Crafts & Hobbies
- Earth Sciences
- Education
- Ephemera
- Fiction
- Folklore
- Geography
- Health & Diet
- History
- Hobbies & Leisure
- Humor
- Illustrated Books
- Language & Culture
- Law
- Life Sciences
- Literature
- Medicine & Pharmacy
- Metaphysical
- Music
- Mystery & Crime
- Mythology
- Natural History
- Outdoor & Nature
- Philosophy
- Poetry
- Political Science
- Psychiatry & Psychology
- Rare Books
- Reference
- Religion & Spiritualism
- Rhetoric
- Sacred Books
- Science Fiction
- Science & Technology
- Self-Help
- Social Sciences
- Symbolism
- Theatre & Drama
- Theology
- Travel & Explorations
- War & Military
- Women
- Yoga

Download a free catalog and search our titles at: www.kessinger.net

ISBN 1425341845

The Rise of a Market for Industrial Securities, 1887-1902

Thomas R. Navin; Marian V. Sears

The Business History Review, Vol. 29, No. 2. (Jun., 1955), pp. 105-138.

Stable URL:
http://links.jstor.org/sici?sici=0007-6805%28195506%2929%3A2%3C105%3ATROAMF%3E2.0.CO%3B2-R

The Business History Review is currently published by The President and Fellows of Harvard College.

By Thomas R. Navin
ASSISTANT PROFESSOR OF BUSINESS HISTORY
AT HARVARD UNIVERSITY

Marian V. Sears
ASSISTANT IN COURSES
AT HARVARD UNIVERSITY

The Rise of a Market for Industrial Securities, 1887-1902

The performance of industrial securities in the depression of 1893–97 went far toward ridding the financial community of the idea that such securities generally lacked investment quality. This shift in investing sentiment was a factor of major significance in accelerating the merger movement, the promoters of which, in turn, broadened the market for industrials still further. This they accomplished by offering wide participations in promising ventures, by sweetening those participations through extensive recourse to preferred stocks, and by employing promotional techniques new to the field of industrial security marketing. The creation of a broad market for industrial stocks, hitherto highly inflexible administrative tools, meant vastly increased fluidity of ownership. By the turn of the century the transition was well under way from closely held, "inside" ownership of American business to semipublic, "outside" hands.

In recent years historians of business have been moving toward a conviction that may be of major significance in the teaching of history. The turn of the twentieth century, it would appear, saw the introduction of so much that was new in American business as to mark the end of an old system and the beginning of a new. This conviction is based on the observation of a series of phenomena, each of which might serve as the title of an independent article. The Emergence of Big Business. The Development of Techniques to Administer Multi-plant Operations. The Rise of National Advertising. The Emergence of a Desire by Employers to Woo Workers to the Capitalistic Standard. The Spreading Practice of Hiring Professional Business Managers. The Launching of Schools Devoted to Business Education. The Impact of Government Regulation on Business Practices. The Dispersion of Stock Ownership in Business. The Rise of Markets for Industrial, Municipal, Utility, and Foreign Government Securities.

This article deals with only one of these developments, but one so fundamental as to underlie many others. Toward the close of the nineteenth century the nature of business ownership was in many instances imposing a block to progressivism in business affairs. Expansion of facilities and needed changes in business organization were to a considerable degree waiting upon the introduction of more flexible capital structures. This article traces how that flexibility was attained and sketches the origins of what has become a modern commonplace – the quasi-public nature of industrial ownership in the United States. Without a ready market for industrial securities, the spread of stock ownership would have been delayed, the emergence of professional business managers would have been postponed, and the creation of big industrial mergers would have been made very much more difficult.

Ownership of Industrial Companies in the 1880's

Without at least a brief glance at the status of industrial ownership in the 1880's, one can hardly appreciate the enormous change that was to occur in the following decade. Before 1890 a man with excess capital to invest was likely to put his money into real estate. If he chose to buy securities, he had a relatively narrow range from which to select. The principal type of security investment was in railroading. Industrial securities, except in the coal and textile industries, were almost unknown. True, by the end of the 1880's the aggregate capital invested in industry may have equaled the capital tied up in the nation's system of rails.[1] But the railroads were large, well-established, widely known enterprises with securities traded on organized stock exchanges, while the industrials, though numerous, were small, scattered, closely owned, and commonly regarded as unstable. The very term "industrials," meaning securities of industrial companies, did not come into use until the end of the decade, and even then it generally appeared in quotation marks. Not until the mid-nineties was computation of the Dow, Jones industrial stock average started. And not until 1900 did John Moody begin his manual of industrial securities.[2]

[1] The U.S. Census for 1890 states that the fixed and current assets invested in manufacturing alone (a figure which therefore does not include the other types of industrial companies) was $6.5 billion, while the capital invested in railroads was $10 billion. The census readily states that its figures for manufacturing capital are probably incomplete.

[2] The term "industrials" first began to appear in this country in 1889; in England the first written use, according to the New English Dictionary, was in an 1894 issue of the *Daily News*.

By the late 1880's the industrialization of the United States had completed what may be regarded as the first stage of its development. This stage had been typified by small single-plant companies serving limited markets. Changes in the making would soon alter this pattern. The railroad industry had matured; the continent had been spanned and interlaced; the market for railroad securities had become well established; the heavy railroad demand for capital, relative to the investment funds available, had begun to diminish, and funds were beginning to seek new investments. As a result, a new era was about to occur in industrial America.

With certain important exceptions the industrial companies standing on the threshold of this new development were closely held and without a public market for their securities. All too little is known about most of these companies in that early stage of their development. Their history lies buried in the anonymity of census reports, and many of them have vanished from memory with the disappearance of their names and even of their corporate records. It will probably be years before enough material has been uncovered to give us a detailed picture of those times. For the present we must rely on scattered sources and a general knowledge of the kinds of problems that have always beset small business.

The difficulties facing small businessmen in that period were of two general types. First, risk capital for expansion purposes was difficult to obtain. Owners of small industrial enterprises frequently had to borrow short-term money for long-term investment, hoping to repay their loans out of large immediate earnings. That they frequently went bankrupt when business conditions took a turn for the worse is a recurrent story in the history of small ventures. Yet to have obtained long-term money from outside sources was nearly impossible, partly because few people of capital were willing to put money into small enterprises and partly because the owners themselves seldom would consent to let the contributors have any voice in the business.

Secondly, it was difficult for an owner of sunk capital to transfer

---

John Moody, affiliated with the banking firm of Spencer Trask & Company, had sensed a demand for an industrial manual in the mid-nineties. He vainly tried to interest his firm in publishing such a manual and then to persuade Henry V. Poor to add an industrial supplement to his railroad manual. But Poor saw no future in industrials, and the severe depression caused Moody to postpone action. Finally deciding to go ahead on his own, he had his volume ready for publication in 1900, just in time to profit from the culminating industrial and financial boom, when investors were seeking information and most corporations were seeking publicity and thus were willing to supply the information. (Conversation, John Moody with Marian V. Sears, 12 May 1955.)

any part of his investment to an outsider. Even though highly successful, the enterprise might not attract buyers. To run a business, particularly a specialized manufacturing enterprise, required peculiar skills in addition to capital. These skills were usually possessed only by persons already operating in the industry. Consequently, potential buyers generally were to be found only among competitors. This fact often meant that the owner of a business found the opportunity to sell limited to a merger of his firm with that of a competitor.

The infrequent opportunity to complete a sale had kept the going price of industrial concerns at a low level. A common sales figure was "three times earnings" – in other words, a price that was expected to reimburse itself out of profits within three years, a basis of valuation that is not uncommon in the sale of small businesses even today. By comparison a man who owned part of a sound railroad or textile mill could sell his share at a price ranging from seven to ten times earnings. Clearly the owner of industrial capital was at a serious disadvantage because of the lack of an established and recognized market for industrial securities.

This situation was aggravated by the troubles inherent in providing management succession for small and closely owned businesses. By the 1880's the number of firms experiencing a transfer of management from one generation to the next was very large. Often this kind of transition was not a happy one. Perhaps the founder provided no direct heirs to carry on in his place, or the heirs were unequal to the responsibilities bestowed on them, or they simply wanted to enjoy the fruits of the family fortune rather than continue as owner-managers. Frequently it was the sisters and the cousins and the aunts who wanted to sell what they had inherited – either to put the money to consumptive uses or to diversify their fortunes.

As the problems of capital inflexibility and management succession converged with the intensely competitive conditions of the 1880's, pressures began to develop that were too great to be withstood by old-style business institutions. A great rearrangement of the business structure began to take place creating, as it proceeded, the big, widely owned industrial enterprises that we know today.

Originally imprecise, the term "industrial" underwent refinement in those years until it came to include securities of four specific categories of business: manufacturing, distributive, extractive, and processing.[3] A brief look at these four categories and the degree to

[3] Types of enterprises whose securities are not included in these categories:

which the sunk capital of each was being held in place by an undeveloped security market will give some inkling of the nature and magnitude of the financial problems facing businessmen of that day.

First, however, a word about the range in size of industrial companies in the 1880's. In general the following may be said: companies with a net worth (invested capital plus reinvested earnings) of more than $10 million were few in number and in size ranked *very large*;[4] companies of $5 million to $10 million were also fairly rare and, by the standards of that day, *large;* $2 million to $5 million companies were common and about *medium* in size; companies worth up to $2 million were numerous but relatively *small*.[5] Because the data for that period are so unreliable, we shall refer to companies only by these four classifications and not by specific dollar figures.[6]

MANUFACTURING. In general, the manufacturing enterprises of the 1880's belonged in the *small* category. The partnership form of organization predominated, permitting ownership to be transferred only with great inconvenience and often only after the dissolution and re-establishment of the firm. Where enterprises were incorporated and, therefore, had outstanding securities, these were generally held by a small group of persons and were infrequently offered for sale to the public.

Perhaps the most vivid illustration of the close ownership of manufacturing in the 1880's is provided by the fact that some of the decade's leading manufacturing enterprises were family owned. At least half the stock of the *very large* Singer Manufacturing Company was owned by a single family, the descendants of Edward Clark, cofounder of the enterprise; Isaac Singer's stock had been left to a number of descendants but was not to find its way into trading on

---

railroads, utilities, banks, insurance companies, investment companies, street railways, canals, shipping companies, express companies, pipelines, docks and warehouses, ferries, and land companies.

[4] This figure should be compared with the capitalization of the leading railroads of the day. By 1889 each of the country's ten largest railroads had more than $100 million of net worth and the largest of them all, the Pennsylvania Railroad, had over $200 million.

[5] A roughly similar breakdown in modern times would be: *very large*, over $1 billion; *large*, $100 million to $1 billion; *medium*, $5 million to $100 million; *small*, up to $5 million.

[6] It is often not possible to obtain net worth figures for industrial companies in the 1880's. The *Commercial and Financial Chronicle*, while an extremely useful reference work for the whole period, is not exhaustive in listing companies formed or their capital structures. Consequently, we have often been forced to make estimates based on stated capital, total assets, net earnings, number of people employed, and the like.

the exchanges until the 1890's. Carnegie's combined steel interests, another of the *very large* manufacturing enterprises of the 1880's, were closely held partnerships and were not to be converted to corporate form until 1892. The *very large* McCormick Harvesting Machine Company was already an incorporated enterprise, but its ownership and management were still tightly held by the McCormick family. To be sure, the *very large* Pullman Palace Car Company of Chicago was widely owned. This company was, however, more a railroad than a manufacturing concern (about two-thirds of its assets were tied up in the operation of its sleeping car business). It was the only manufacturing company regularly traded on the New York Stock Exchange in the 1880's. Thus in some of the country's leading manufacturing enterprises there was no public trading of securities and in only one was there trading on the New York Stock Exchange.

There were, to be sure, a few instances that departed from this general pattern, among which were companies in the cotton textile industry of New England, oldest of the great industries fostered by the nineteenth century. Much of the capital in this industry derived from mercantile sources, and the unusual way in which it was invested owed much to its special origins. Textile capital was usually organized into corporate form. Ownership was from the outset dispersed among many persons. Even great textile princes like Arthur Lyman or T. Jefferson Coolidge held dominant ownership in few mills, but had substantial holdings in many.

Despite this dispersion of ownership, the common unit of textile enterprise was *small*. Even the largest of the New England mills (such as Amoskeag in Manchester, Merrimack in Lowell, Pacific in Lawrence, and Wamsutta in New Bedford, just to name leaders in the centers of production) may be classified as *medium* in size.

Trading in textile shares dated from the early years of the industry and accounted for the fact that in the 1880's the country's leading organized market for industrial securities, such as it was, was the Boston Stock Exchange. The market was a quiet one; frequently the par value of textile securities was $1,000. Most mills issued only common stocks. Many of these stocks were regarded as of investment quality and were looked on as adequate security for loans. Thus, unlike the owners of most other manufacturing enterprises, the shareholders of textile stocks were not likely to regard their capital as irretrievably sunk in a given plant or company.

DISTRIBUTIVE. Only two of the country's distributive enterprises operated on a *large* scale, the two great dry goods wholesalers in

New York and Chicago: H. B. Claflin & Company and Marshall Field & Company, both partnerships. In the *medium* class were the bigger department stores: John Wanamaker in Philadelphia; R. H. Macy & Company in New York; and the retail branch of the Marshall Field business in Chicago. Throughout the decade these distributive companies were all partnerships.

Elsewhere in the country's distributive system, business was being conducted almost exclusively by partnerships and on a *small* scale. The Great Atlantic & Pacific Tea Company, F. W. Woolworth & Company, Montgomery, Ward & Company, and Sears, Roebuck & Company were already in existence and growing rapidly, but they still had not moved out of the *small* category and only Montgomery, Ward had abandoned its partnership form of organization.

EXTRACTIVE. In several of the extractive industries nearly all the enterprises were small partnerships or proprietorships. This was especially evident in oil drilling and gold mining, although there were occasional exceptions, such as the *large* and publicly traded Homestake Mining Company of George Hearst (father of William Randolph) and the oil drilling activity of the *very large* Standard Oil group.

Copper and iron mining were becoming important and were represented by a few *large* widely owned companies. In copper there was the *large* Calumet & Hecla mine of Northern Michigan, a publicly owned Boston-promoted enterprise with securities traded on the Boston exchange, and in iron mining, the Minnesota Iron Company and the Tennessee Coal, Iron & Railroad Company. Both of these mining companies were owned by a substantial number of investors, although the securities of only the second found an active market.

Coal mining, the largest of the extractive industries at that time, was by the 1880's closely allied with the railroad business and was by then organized somewhat along railroad patterns. The railroads were the coal companies' best customers, and financial connections often bound the two together. The kind of incentive that might lead an investor to put money into railroad securities might with equal logic lead to an investment in coal, and the range of securities in the one — bonds, preferred stocks, and common stocks — were similar to the range in the other. Consequently, coal companies, while in a strict sense belonging to the industrial category, held a position in the securities market which, like the position of the Pullman company, was more nearly akin to railroading than to industry. As a result, Henry V. Poor thought it perfectly natural to include

both Pullman and the leading coal companies in his railroad manuals. Coal securities offered a few opportunities for investment outside the railroad field, but they did not represent a separate and distinct class of investment, as manufacturing securities would in the next decade. For this reason we have excluded coal securities from further consideration in our study of the developing market for industrial securities.

PROCESSING. There remains to be considered the processing branch of industry. The first industrial companies to attract on a large scale the attention of the investing public were to be found not in manufacturing or distribution but in the processing industries (oil refining, sugar refining, lead smelting, and the like). These companies were to have a history peculiarly their own, for here developed the "trust" form of organization, the forerunner of the merger movement.[7]

THE "TRUST" MOVEMENT OF THE 1880's

Price competition in the 1880's had been severe in nearly all businesses but in none more so than in the processing industries. The first of these industries to develop the "trust" form of organization to deal with competitive stresses was the oil refining business under the leadership of John D. Rockefeller's Standard Oil. Following a preliminary agreement in 1879, the owners of several *small*, *medium*, and *large* refineries agreed in 1882 to put their securities in the hands of a group of trustees, receiving in exchange, as evidence of ownership, pieces of paper known as "trust certificates." Several advantages were expected to accrue from this arrangement. The refineries were to be run on a co-ordinated basis and in the words of the original "trust" agreement, "in the manner . . . most conducive to the best interests of the holders of the said trust certificates." Strength from unity was looked for, both against other refiners and against violent price fluctuations. Perhaps of even greater immediate importance, the "trust" arrangement was thought to be a method of circumventing the vague but troublesome aversion of the common law to corporations doing business in several states.

Clearly *not* among the objectives of the Standard Oil "trust" was

[7] An important exception to this pattern of development was the meat packing branch of the processing industry. These firms did not enter into a "trust" arrangement in the 1880's and did not become widely held in that period. Even the *very large* Armour & Company remained a partnership. Gustavus Swift incorporated his *very large* business in the 1880's and sold stock to his New England distributors, but the stock did not find its way into the hands of the public until the 1890's.

the search by shareholders for a means of freeing their capital investment. Standard Oil "trust" certificates never sought an active public market; there was always someone in the inner group ready to buy certificates as they became available. The "trust" certificate, however, was a new financial instrument which other businessmen recognized as having potential marketable value, and many of those who subsequently formed "trusts" in imitation of Standard Oil took the opportunity to unload part or all of their investment by selling their certificates to the public.

In addition to Standard Oil there were five industries in which "trusts" were formed on a *very large* scale: cotton oil refining (1884); linseed oil refining (1885); whiskey distilling (1887); sugar refining (1887); and lead smelting and refining (1887). We know of no *very large* industrial combine formed before 1889 on other than the "trust" basis, and of no *very large* "trust" formed by other than processing companies.[8]

Based on what happened in the six *very large* "trusts," certain pertinent generalizations regarding the "trust" movement can be made.[9]

(a) In each case, a large majority of the industry combined in the "trust." There were, however, examples of companies that were invited but, not being satisfied with the terms, declined to join. Some companies were included only to have their plants closed, for overcapacity was one of the problems the "trust" was established to deal with.

(b) When a "trust" was formed, the entering partnerships had to

[8] The cattle "trust" of the late 1880's, which ranked as *very large*, may be an exception. Little has been written about it, however.

[9] Case studies made of these six "trusts" serve as the basis for these conclusions. Among the most useful sources on "trusts" and mergers of the period are the following: Arthur S. Dewing, *Corporate Promotions and Reorganizations* (Cambridge, 1914); Eliot Jones, *The Trust Problem in the United States* (New York, 1921); Luther Conant, Jr., "Industrial Consolidations in the United States," *Quarterly Publications of the American Statistical Association* (March, 1901).

To date, much of what has been written about the "trusts" has been economic theorizing. We need more complete studies based on the records of the constituent companies before we can draw final conclusions about the "trust" movement. Most writing has concentrated attention on why "trusts" *came into being*. Wherever attention has been given to why the constituent companies *went out of existence* the assumption has been made that the reason lay in the difficult competitive nature of the times. But research into the history of the large processing "trusts" has led us to believe that there were, in fact, a number of reasons why people sold out to the "trusts" and that in total these subordinate reasons were perhaps as important as the competitive factors that have heretofore received such exclusive attention.

incorporate so that owners would have securities to exchange for "trust" certificates. On incorporating, many of the constituent companies based their capitalization on optimistic estimates of their earning power, with the result that their net worth considerably exceeded the value of their tangible assets.

(c) The rates of exchange of securities for certificates often appeared on paper to be highly favorable to the original owners. The reasons for this were many, but among them was surely the psychological advantage to be gained by bringing weaker companies into the combine on the basis of a one-for-one exchange of shares, with the inescapable result that the stronger companies had to be brought in on a several-for-one exchange. In consequence, the total par value of the "trust" certificates typically exceeded the combined pars of the constituent companies and led to the charge that values were being watered. However, owners of the certificates, if they had any financial sophistication whatsoever, took these exchange ratios into account when estimating the value of what they received, and typically thought of their securities as worth much less than par.[10]

(d) The trusteeship organization was a device for centralizing administration of a number of plants, often scattered over several states. We need to know more about how these early multi-plant enterprises were managed, but in the early years local executives seem to have remained in their positions. For legal reasons the trustees wished to preserve the fiction of complete decentralization, but it seems likely, especially in the more successful "trusts," that the locus of authority soon shifted to headquarters.[11]

(e) In at least one "trust" and perhaps in several others,[12] a reason for the formation was a desire to liquidate an investment. H. O.

[10] As an exception, Standard Oil Company certificates typically had a market value nearly twice par, although there was little trading in them and they were not even listed on the Unlisted Department of the New York Stock Exchange.

[11] For example, in the New York legislative investigation of the sugar refining "trust," H. O. Havemeyer testified that there was no unity of control whatever; "all corporations attended to their own business," but, having possession of the stock, the trustees "could put in such officers as they liked." State of New York, Senate, *Report of the Committee on General Laws on the Investigation Relative to Trusts*, 1888, "Proceedings," p. 31. See also U.S. House of Representatives, Committee on Manufactures, *Report in Relation to the Sugar Trust and Standard Oil Trust*, Report No. 3112 (Washington, 1889); U.S. Industrial Commission, *Report on Trusts and Industrial Combinations*, XIII (Washington, 1901); U.S. House of Representatives, Special Committee on the Investigation of the American Sugar Refining Company, *Hearings* and *Report No. 331* (Washington, 1911).

[12] Not long after the cotton oil "trust" was established by midwestern and southern firms, important New York interests were able to acquire enough shares to effect a change in management.

Havemeyer, the dominant figure in the sugar refining "trust," immediately after the "trust" was formed, offered a large portion of his certificates for sale on the open market, although he continued as trustee and remained in an executive capacity.

(f) Since the "trust" certificates were issued almost entirely in exchange for shares of individual firms and not for new capital, there was no need for the financial services of bankers or brokers. Enough owners wished to dispose of their shares, however, to make relatively large blocks available to the public and to command the kind of market attention that the smaller component companies had never been able to do. Without concerted marketing pressure, a trade sprang up outside the organized mechanism of the New York Stock Exchange. Soon the demand became so great that the Exchange had to make special arrangements so that its members could deal in "trust" certificates on an "unlisted" basis – an arrangement made necessary because the shadowy legality of the "trusts" precluded them from conventional listing.

(g) Unlike the railroads, the "trusts" gave to their shareholders very little information about operations and earnings. Public charges of unjustifiable increases in prices of products, fraud, and stock market manipulation by insiders also contributed to wariness of investors and resulted in severe fluctuations in the price quotations of certificates.

By the closing years of the 1880's, however, "trust" certificates were attracting the eager attention of New York speculators. The trade in sugar refining certificates alone by the last half of 1889 averaged 150,000 shares a week – in contrast to a volume of 2,000 in Pullman shares. Activity in "trust" certificates outdistanced the entire list of industrials traded in Boston. In those few years the Boston Stock Exchange lost its pre-eminence in industrial securities, and New York stepped into a position of leadership from which it has never receded.

More importantly, those years marked an abrupt change in the trend of investments, for thenceforth and continuing down to the present, industrial stocks gained increasing prominence as an investment for the nation's savings, while at the same time the ownership of industrial enterprises, once so frozen and restricted, rapidly gained mobility and dispersion.

The closing years of the 1880's deserve attention for still another reason. In 1889 New Jersey passed a law permitting holding companies to be organized. Had the holding company concept been regarded as legal a decade earlier, it seems likely that none of the

"trusts" would have been formed. The organizers would have used the holding company device instead. It is significant that no large "trust" was created after passage of the New Jersey law and of the federal Sherman antitrust law. The new mergers took the holding company form instead, and within a few years most of the "trusts" had converted into holding companies.[13]

So much, then, for the background out of which was to emerge a public market for industrial securities. Attention had been drawn to them by the activity in "trust" certificates. Until 1889, however, the certificates had been attractive to speculators only. A means of interesting the conservative investor remained to be found.

A Market for Industrial Securities Develops: 1890–1893

Broadly considered, the investment market of the early 1890's gained its growing supply of industrial securities in three ways: (a) from "trusts" that were converting to corporations; (b) from mergers that were forming in imitation of the "trusts" but along corporate lines; and (c) from companies with owners who wanted to take advantage of the developing market to unload a part of their equity. No longer were processing companies the leaders in getting their securities into public hands; all categories of industrials were represented.

The type of security that was to play a key role in the emerging market for industrials was the preferred stock. True, industrial preferreds were never to be so actively traded as industrial commons, but they were to possess two special claims to distinction: first, as a means by which industrial proprietors could liquidate a part of their sunk investment without endangering their position of control; secondly, as an inexpensive and safe means by which companies themselves (as distinct from their stockholders) could obtain funds. This latter function – the use of preferreds to raise new capital – will be discussed later in this article.

One of the advantages enjoyed by preferred stock was the already existent familiarity of the market place with the concept of a preferred security. Railroad preferreds had been known in this country for over five decades.[14] And in England industrial preferreds were already in general use.[15] Consequently, the issue of preferred stocks

[13] Standard Oil, earliest of the "trusts," was the last to convert to the holding company form (1899).

[14] See George Heberton Evans, "The Early History of Preferred Stock in the United States," *American Economic Review* (March, 1929, and March, 1931).

[15] Out of the first 100 companies listed in the "Commercial & Industrial"

by American industrial companies in the early 1890's was favorably received by an already conditioned body of investors.

In the period 1890–1893 [16] at least 23 American industrial companies issued preferred stocks of investment quality.[17] Three of these preferred issues were put out by converted "trusts," 12 by new mergers, and 8 by one or another form of recapitalization (see Table 1). Approximately half the mergers of that period did not put out preferred issues,[18] but when it is remembered that industrial preferreds, especially in manufacturing, were a novelty to the market, the number that suddenly appeared is remarkable.

It is impossible to make any comprehensive generalizations about the industrial preferreds of the early 1890's; they were as yet too new.[19] But a few observations are possible. These preferreds were almost always exchanged for outstanding securities. In many instances, however, the management of the issuing company immediately made some kind of organized effort to help stockholders (including themselves) market their preferreds to the general public. It is curious and perhaps revealing that nearly all these preferreds, when first distributed, were sold for exactly par regardless of their dividend rates; apparently the market had not yet refined its method of valuing these new securities. More than half of them were listed on the New York Stock Exchange, and usually a few months after issue.[20] (Frequently a company's common was listed at the same

---

section of the (London) *Stock Exchange Official Intelligence* for 1890, 38 had preferred stock issues. At about this time a number of English-owned companies, especially breweries, were organized in the United States with preferreds figuring prominently in their capitalization. For an early use of preferred stocks in Germany, see *Hunt's Merchants' Magazine & Commercial Review* (Nov., 1859), p. 586.

[16] The precise limits of the period are October, 1889, when the first "trust" (cotton oil) incorporated, and May, 1893, when the market for new issues was suddenly blighted by financial panic.

[17] We have arbitrarily considered a preferred stock to be of investment quality if it was issued by a company of at least *medium* size, if it was being referred to in the financial journals, and if it was paying dividends. Much of the information in this section was gleaned from the circulars of brokers who were advertising preferred issues for sale. Baker Library at the Harvard Business School has a remarkable collection of early brokers' circulars.

[18] There were, however, only five *large* or *very large* mergers in that period which did not issue preferreds: Illinois Steel Company, Lake Superior Consolidated Iron Mines, National Wall Paper Company, New York Biscuit Company, and Celluloid Company.

[19] In the 27 May 1893 issue of the *Commercial and Financial Chronicle*, "Investors' Supplement," an article on "Preferred Stocks of Industrial Companies" discusses the variability and occasional indefiniteness of the terms of certain preferred stock issues.

[20] During the years 1890–1893 the New York Stock Exchange listed about

TABLE 1

Investment Grade Industrial Preferred Stocks Issued, 1890–1893

Name of Issuing Company	Date Organized	Initial Capital (000,000 omitted)			Preferred Marketed by			Destiny of Company
		Preferred	Common	Bonds	Brokers	Commercial Banks and Trust Companies	Investment Bankers	
TRUSTS								
Am. Cotton Oil Co.[a,b]	1889	$10.2 [c]	$20.2 [c]	$4.0 [c]	....	....	....	Part of Best Foods, Inc.
Am. Sugar Refining Co.[a]	1891	25.0	25.0	....	....	....	....	Still in business
Nat'l. Lead Co.[a]	1891	15.0	15.0	....	....	....	....	Still in business
MERGERS (*very large*)								
Am. Tobacco Co.	1890	10.0	15.0	....	....	.... [d]	....	Still in business
Nat'l. Starch Mfg. Co.	1890	4.1 [e]	4.5	3.3	x	....	....	Part of Corn Prod. Refining Co.
Nat'l. Cordage Co.	1890	5.0	10.0	....	....	.... [d]	x	No longer operating
Gen'l. Electric Co.[a]	1892	4.0	29.8	4.0	....	....	....	Still in business
U.S. Rubber Co.	1892	13.5	13.5	....	x	....	x	Still in business
U.S. Leather Co.[a,b]	1893	52.0	53.0	6.0	....	....	....	No longer operating
MERGERS (*medium & large*)								
Am. Soda Fountain Co.	1891	2.5 [e]	1.2	....	x	.... [d]	....	No longer operating
Herring-Hall-Marvin Co.	1892	1.8	1.5	....	x	....	....	No longer operating
Am. Type Founders' Co.	1892	4.0	5.0	....	x	x	....	Now Daystrom, Inc.
Trenton Potteries Co.	1892	1.2	1.8	....	x	....	....	Part of Crane Co.
Mich.-Peninsular Car Co.	1892	5.0	2.0	2.0	....	x	....	Part of ACF Industries
Hecker-Jones-Jewell Co.[a]	1892	3.0	2.0	2.5	....	....	....	Part of Standard Milling Co.
RECAPITALIZATIONS								
H. B. Claflin Co.	1890	6.0 [e]	3.0	....	.... [d]	.... [d]	....	Part of Barnhart, Parr & Fagan
Procter & Gamble Co.	1890	2.2	2.2	2.0	.... [d]	....	x	Still in business
Thurber, Whyland Co.	1891	1.5	1.0	....	x	.... [d]	....	No longer operating
R. I. Perkins Horse-Shoe Co.	1891	1.8	1.0	....	x	.... [d]	....	No longer operating
P. Lorillard Co.	1891	2.0	3.0	....	....	....	x	Still in business
Westinghouse Electric & Mfg. Co.	1891	4.0	6.0	....	....	....	x	Still in business
Barney & Smith Car Co.	1892	2.5	1.0	1.0	x	....	....	No longer operating
Henry R. Worthington Co.	1892	2.0	5.5	....	....	x	....	Part of Worthington Corp.

[a] No organized effort to market preferred.
[b] Also issued bonds, which were marketed by investment bankers.
[c] As of 1891 after reorganization completed.
[d] Participated in the distribution in an assisting capacity.
[e] Sum of first and second preferreds.
Sources: Brokers' circulars, *Commercial & Financial Chronicle*, *Moody's Industrials*.

time.) Most of the preferreds paid 7 or 8 per cent dividends, usually on a cumulative basis. (Frequently the common stock was expected to earn 12 per cent on par after provision for preferred dividends.) A number of the preferred issues carried no voting rights, a fact that is hardly surprising when one remembers that the "owners" of these companies, in liquidating a part of their investment, usually had no intention of relinquishing control. The mode of distribution of the securities varied, usually with the manner in which a new issue came into being. The incorporation of a "trust" called for one method, a merger another, and a recapitalization still another. A few words about each.

INCORPORATION OF "TRUSTS." The conversion of several of the "trusts" into corporations reveals something about how industrial enterprises in those years abandoned their simple, and on the whole unsophisticated, mode of financing and adopted instead some of the more refined and more complicated methods already known to railroading. The increase in financial sophistication did not occur in every case, however. Two of the "trusts" (linseed oil and whiskey) converted to operating companies and simply exchanged their certificates for common shares on a one-for-one basis. It is perhaps significant that these two "trusts" had their headquarters in Chicago. The other "trusts" had New York headquarters, and all eventually became holding companies. One of the New York "trusts" (lead) handled its own conversion of certificates into shares, but two of the others (cotton oil and sugar) had their securities converted by a New York bank that had been rendering similar services to a number of prominent railroads – the Central Trust Company [21] (now a part of the Hanover Bank).

The latter two New York "trusts" (cotton oil and sugar) went so far as to take the advice of investment bankers on how the conver-

---

as many new industrial preferreds as new railroad preferreds and with about the same range in size.

[21] Note the varying uses of the word *trust*. The successive derivations are as follows. If a man trusted another, he placed his money in a *trust fund* in the other man's care. When the other man established a company to handle a number of trust funds, he called it a *trust company*. The Central Trust Company was one of these. When the owners of a group of industrial enterprises surrendered their securities to a committee of so-called trustees, they called the resulting combination a "trust" (we have put the word in quotation marks to indicate our wish to use the term in this narrow and specific sense). Laws set up to deal with large industrial combinations, of which the "trusts" were the earliest examples, were called *antitrust laws*. There is still another use of the word *trust* to mean any large industrial combination, but this use is careless and inappropriate.

sion should be accomplished.[22] The certificates of both "trusts" had become widely distributed and were owned by some of the clients of these bankers. In both cases representatives of the bankers went on the board of directors, a practice that was already usual among railroads and one that was later to fall under attack as it became widely adopted by industrial firms.

On the advice of the bankers, the "trusts" divided their stock capitalization into two categories. The first, intended to be backed by the year-in-year-out earning capacity of the company and secured by fixed assets, was represented by preferred stock. The second, standing for uncertainty and risk as well as for anticipated growth, was represented by common shares. The combined market value of preferred and common shares was expected to exceed the value of the certificates they replaced. This suddenly enhanced value seemed, to the uninitiated, like financial legerdemain, but the increase is easily explained. So long as the "trust" certificates had represented risk value as well as investment value, they had held little appeal for the conservative moneyed man. But once the two aspects had been separated, the worth to each – to the conservative investor and to the rash speculator – was increased.

The sugar "trust" conversion illustrates how this appreciation in value occurred. The new corporation had a capital structure that was to become usual in the later mergers: half preferred and half common. Two $100 par "trust" certificates, when deposited, were replaced by a $100 par preferred stock and a $100 par common. The announcement of this rate of exchange (several months in advance of the actual transfer) had a pronounced effect on the market price, although other factors also influenced the situation. In three months the price of the "trust" certificate rose from 50 to the 70's. When the conversion finally occurred, the market put a value of 86 on the preferred and 57 on the common. In other words, two certificates worth approximately $100 had appreciated in market value to $143 in about three months.

The investment bankers advised one more bit of financial sophistication. On the grounds that the "trusts," like many industrials, had been operating on too thin a margin of working capital,[23] they

[22] The cotton oil "trust" brought in the prominent railroad banking house of Winslow, Lanier & Company; the sugar "trust" sought assistance from Kidder, Peabody & Company.

[23] The inadequacy of working capital to meet seasonal needs was so great in the cotton oil "trust" that it had been relying on large short-term loans and had refrained from paying dividends even when making a profit. The new corporation met this deficiency by marketing $4 million in debenture bonds to

bond issuance ←

recommended the issue of bonds to fund short-term debts – again a feature common in railroad finance at that time but almost unknown to industrials. Partly because industrialists had an almost instinctive dislike for mortgage indebtedness, the issuance of bonds did not become widely practiced. When it occurred, the issues were never large and were usually debentures rather than mortgage instruments. In general, bonds were not to play a really significant part in the rise of the industrial securities market.

MERGERS. A second source of marketable industrial securities early in the 1890's was new mergers. A few years earlier, many of these mergers would have taken the form of "trusts"; after 1889, however, they incorporated, usually in New Jersey. The initiative for merger generally came from the industrialists themselves, but the type of arrangements varied from situation to situation.

The mergers of the early 1890's can be divided into two separate groups, the larger and the smaller. The smaller followed a distinctly recognizable pattern. Not so the others. The problems involved in putting together a huge industrial combine were too varied to follow one pattern.

Each of the six *very large* mergers listed in the accompanying table came into being by a different route. American Tobacco was the work of industrialists who placed their own advertisements for the sale of their preferred and who relied on banks only to receive subscription signatures. National Starch was the work of a risk-taking promoter who previously had been operating outside the starch industry and who allied himself with a brokerage house for the purpose of distributing the new company's preferred shares. National Cordage was recapitalized in 1890 with the aid of investment bankers but went on to a series of mergers promoted by the industrialists themselves with some help from commercial bankers. The General Electric merger was a straight exchange of securities without any organized marketing effort. United States Rubber was put together by an outside intermediary paid on a commission basis; the preferred distribution was handled by a group of investment bankers and brokers. United States Leather was the work of industrialists who relied on investment bankers only to underwrite a bond issue for working capital.

---

raise permanent working capital. The sugar corporation authorized, but did not issue, $10 million in mortgage bonds. Another example is the $2 million bond issue marketed by J. P. Morgan & Company in 1898 for the Studebaker wagon enterprise (later the Studebaker Corporation). Most industrial bond issues in that period ranged from $2 to $4 million and were therefore substantially smaller than the issues of preferred stocks.

In contrast, the smaller mergers of the early 1890's followed a fairly standard course: almost invariably, when they issued preferred stock to cover assured earnings and common to cover risk, as the "trusts" were doing, they arranged on behalf of the stockholders to have some or all the preferred shares marketed as a block through New York brokers. These brokers represented not the company but the stockholders. Technically the brokers did nothing for the stockholding group that they would not have done for each as an individual. They did not underwrite the distribution; they merely did their best to sell what they could without any guarantee. Their profits came from their brokerage commissions.[24] If the industrialists also wished to liquidate a part of their *common* stock holdings, as occasionally happened, they contributed their shares to a "pool" and engaged a manager, frequently the market manipulator, James R. Keene. Thus, the investment grade preferreds found their way into the hands of conservative investors through brokers, while the speculative common, through the use of pools, followed a natural course into the rough-and-tumble market.

Prominent among the brokerage houses that helped to distribute new issues of industrial preferreds in the early nineties were A. M. Kidder & Company, Poor & Greenough, Blake Brothers, S. V. White & Company,[25] Richardson, Hill & Company, and John H. Davis & Company. These were the firms that were in on the ground floor of a promising business – the distribution of newly issued industrial securities. Yet not one of them figured importantly as the industrial securities-issue business expanded, and only one of the six, A. M. Kidder, has come down to the present as an important firm. Possibly the principal reason why these brokerage houses did not figure prominently in later new issues is that they were equipped to handle only small blocks of securities.[26] Few of the companies issuing se-

← Kidder

[24] As a matter of passing interest, the brokers frequently supported their efforts to sell industrial preferreds by the statement that the selling industrialists had agreed to retain their common stock ownership and their interest as managers for a specific period of time. In later mergers, the industrialists often sold their entire interest in their companies, and the public was assured that these men had agreed not to re-enter business in competition with the merger for a specified number of years.

[25] Possibly one of the first lectures on industrial securities delivered at an American university was given by F. W. Hopkins, a partner in S. V. White & Company, at Yale in November, 1890. See *Commercial and Financial Chronicle* (8 Nov. 1890), p. 636.

[26] The way the brokerage houses sought to get national distribution of their securities was to place subscription lists at scattered banks and trust companies. A list of banks participating in two or more industrial preferred stock distributions in the years 1890–1893 indicates the geographical spread: New York

curities in this period fell in the *very large* category, but in the 1898 1902 period a substantial number fell in that range.

RECAPITALIZATIONS. A third route by which industrial securities found their way into the market was through recapitalizations. In their simpler form, recapitalizations occurred when owners of partnerships incorporated their ventures and took advantage of the developing market for industrials to liquidate part of their investment. The most publicized instance in this period was the H. B. Claflin recapitalization. In 1890, John Claflin, son of the founder, decided to convert his family's wholesaling enterprise into a corporation to facilitate the settlement of his father's estate. Two classes of preferreds were issued, and parts of each were sold to executives, employees,[27] distributors, and the general public. The sale was handled by the company itself with the assistance of a brokerage firm and a commercial bank. Many of the purchasers were Claflin distributors, a natural group to bring in as stockholders; indeed, a number of companies in those days, on the sale of stock to outsiders, looked first to their commercial distributors as potential buyers.[28]

The sale of Claflin stock went swimmingly. From across the country came a flood of inquiries indicating that many other industrialists were intrigued by John Claflin's success in liquidating a large part of his holdings.[29] Apparently there were many who were eager to know how to do the same. Something out of the ordinary had appeared in the business world and alert industrialists were quick to sense its significance.

In their more complicated forms, the recapitalizations of the early 1890's were, in effect, a variety of merger. Many industrial companies during the previous decade had tried to avoid the legal problems inherent in the purchase of competitors by leasing their competitors' plants. With the passage of the New Jersey holding company act in 1889, these companies effected recapitalizations and

---

Guaranty & Indemnity Company (New York), Farmers' Loan & Trust Company (New York), Franklin Trust Company (Brooklyn), Old Colony Trust Company (Boston), First National Bank (Chicago), and First National Bank (St. Louis). The most active bank in this field was the New York Guaranty & Indemnity Company (soon to become the Guaranty Trust Company).

[27] Since this article concerns only the manner in which industrial securities passed from inside ownership to outside or public hands, it does not treat specifically with the growing inclination of industrial companies, even some of the most closely held, to admit their employees to stock ownership.

[28] Other examples: American Tobacco Company, Swift & Company, United States Leather Company, National Cordage Company, and United States Rubber Company.

[29] *Bankers Magazine* (Aug., 1890), p. 95.

brought their leased concerns into a single enterprise. Many of these recapitalizations were commonly referred to as mergers, and in a legal sense that is sometimes what they were. But from an operational standpoint they were regularizations of what was already being done. From a financial standpoint they should be kept distinct, since they attracted the attention of investment bankers in a way that industrial mergers of that time were generally unable to do.

It was very important to win the backing of investment bankers, for they were the men who had come to occupy, through their work with government bonds and railroad securities, a central position in the market for new issues. But they were as hard to woo as Spanish senoritas. We can only suppose, in the absence of specific evidence, that industrialists had been making repeated attempts to attract the assistance of the investment banking community. But for another half-decade they were to meet with coolness. In general, the only occasions when investment bankers could be induced to handle industrial issues was (a) when called in on the conversion of trusts to corporations, (b) when a well-established industrial company wished to float a bond issue for working capital purposes, or (c) when a successful company wished to recapitalize in order to buy out its satellite plants.

By comparison with outright mergers, the recapitalizations were conservatively financed. As previously pointed out, merger common stocks were usually backed only by earning power; in recapitalizations the common stock usually had a backing in physical assets as well as in earning power. Furthermore, the earning power of a recapitalized company was fairly predictable since the company had already been operating for some time as an integrated whole, whereas the earning power of a merger was conjectural since no one could predict how well the several units would function in combination with each other.

When an investment banking house agreed to handle a recapitalization, it acted for the issuing company and not for the stockholders. It was a part of the investment banking tradition to work for the enterprise, just as it was part of a broker's tradition to work for the individual. If an investment banker agreed to help an industrial company to market its preferred, he usually shared the distribution with some other investment banking house. Only rarely did he form a syndicate to underwrite the sale.

The leading investment bankers in the recapitalization of industrials were August Belmont & Company, Lee, Higginson & Company, Kidder, Peabody & Company, and Baring, Magoun & Com-

pany. It is no accident that two of these houses (Lee, Higginson and Kidder, Peabody) were located in Boston, the early home of industrial securities, and a third (Baring, Magoun) was closely affiliated with Boston, having been Kidder, Peabody's New York branch. Boston investors were accustomed to putting their money into industrials and constituted a logical market for new industrial securities.

By all measures the most prominent of the four were the Belmonts, father and son. As American representatives of the influential House of Rothschild they were able to bring a vast reputation to their handling of industrial issues. Theirs was the only house in that early period that ventured to underwrite the sale of industrial preferreds. Their first underwriting (in association with Vermilye & Company[30]) was the 1890 issue of National Cordage preferred. This underwriting was part of a recapitalization program intended to permit National Cordage to absorb its leased properties. The recapitalization was followed by a hectic series of mergers in which the Belmonts took no part. The Belmont house also underwrote the preferred issue in the Westinghouse recapitalization of 1891.

The partners of Lee, Higginson had made fortunes in a copper mining venture (Calumet & Hecla) and, rather fortuitously, had formed a close connection with another promising venture, the Thomson-Houston enterprise of Lynn, Massachusetts.[31] Thomson-Houston was one of the companies in the General Electric merger of 1892, and Lee, Higginson consequently was one of the houses prominently associated with that company in its later financing. Lee, Higginson also participated with August Belmont in the Westinghouse issue of 1891.

Kidder, Peabody was the firm advising the sugar "trust" on its conversion to a corporation. In another instance the firm undertook to sell a preferred issue for Procter & Gamble, when the family owners of that partnership arranged a Claflin-like recapitalization to get some of their money out of the business. Kidder, Peabody also joined with Baring, Magoun when that house handled the sale of preferred stock for P. Lorillard & Company to enable the tobacco company to buy certain leased properties it had been operating.

[30] By a series of transmutations this company has become today's Dillon, Read & Company.

[31] One of the earliest industrial preferreds issued by a manufacturing company in this country was put out by Thomson-Houston in 1889 and privately distributed by Lee, Higginson. This issue was exchanged on a share-for-share basis with the new preferred issue put out by General Electric in 1892 (see Table 1).

It is important to note that investment bankers played only a minor part in the mergers of this early period. August Belmont participated in the 1890 recapitalization of National Cordage but not thereafter. Baring, Magoun handled a bond issue for United States Leather.[32] Lee, Higginson and J. P. Morgan had previously done private banking with the companies that went into General Electric, but, as already pointed out, the General Electric merger itself was a straight exchange of shares with no organized attempt at public distribution. Lee, Higginson also participated in the United States Rubber distribution. But the other *large* mergers, including those that issued only common stock, came into being without assistance from investment bankers.

The bankers no doubt argued that mergers were still an unproved organizational device and that merger stocks had still not undergone a market test. In the case of National Cordage their judgment turned out to be all too right. The Cordage executives, intoxicated by their early success, proceeded to build a larger and larger enterprise on the basis of exchanged securities until they had achieved the most talked-about industrial combination of its day. For a time their expansion was hampered only by the unwillingness of any banking house or brokerage firm to assist them in selling securities to the public. The whole structure crashed in bankruptcy, however, when a drop in the stock market in May, 1893, caused the promoters' loans to be called. The National Cordage bankruptcy threw discredit on industrial securities in general and came to be regarded as having triggered the panic of 1893. For the next four years there was to be a practical curfew on new industrial issues.[33]

Effects of the Depression: 1893–1897

Despite the virtual disappearance of a market for new issues, a number of industrial securities came on the trading market for the first time during the years 1893–1897. The latent pressure to liquidate sunk investments was too powerful to be restrained even by low prices. Most of the new securities coming on the market were

[32] The United States Leather merger, largest of its day, was the work of a group of manufacturers who stated that they wished to prepare for their retirement by bringing their properties together under the management of younger men. There was at first very little effort to market the stock to the public.

[33] Several mergers occurred during the depression but most of them were industrialist-promoted and made no use of financial middlemen. A surprising number had no connection with New York or New Yorkers. The securities of only one, the Consolidated Ice merger of 1895, measured up to investment quality.

the holdings of people who had learned that they could get cash by offering their stocks in the "outside" market (i.e., the curb outside the New York Stock Exchange). It is impossible to measure the total volume of transactions of this sort, since no records of the number of "outside" sales were kept. But the number of issues traded on this basis is in itself an indication of what was occurring. In 1890 less than 10 industrial companies, exclusive of mining ventures, had their prices quoted in the financial journals. By the crash of 1893 the number had grown to more than 30. In the next four years of depression another 170 names were added to the list.

This steady spread of activity in industrial shares during the years when almost no mergers were taking place gives us a glimpse of how the industrial securities market might have developed had there been no tendency toward merger. By the very nature of family inheritance, the ownership of American industry was gradually becoming dispersed. With this as the only force at work, a pattern of ownership somewhat like that in the cotton textile industry of New England might eventually have come to prevail: ownership might have spread, but to a limited degree; shares might have become available to outsiders, but to a restricted extent. It was the merger movement that accelerated the process and intensified it—to a smaller extent in the earlier period, 1890–1893, to a major degree in the later period, 1898–1902. As a result of the merger movement, far more people parted with their ownership in family businesses than would otherwise have done so; and doubtless far more men of substance (nonindustrialists with investable capital) put their funds into industry than would otherwise have chosen that type of investment.

We need to know more about why individual stockholders saw an advantage in surrendering their ownership in a single enterprise in favor of participation in a combined venture. As suggested above, one of the strong motivations apparently was an opportunity to liquidate part of their investment, coupled with the opportunity to remain part owners. At least this was a theme that was played on when stockholders were asked to join in a merger. The argument may have been used that mergers brought an easing of competition and an opportunity for enhanced earnings in the *future*. But the trump card was immediate liquidity at a price the owners probably never imagined their stock to be worth.

It is conceivable that a reflective observer of the industrial securities market during the 1893–1897 depression might have predicted that, as the confidence of investors returned, there would inevitably

occur a renewal of corporate mergers. Certainly the factors that had created the "trusts" of the eighties and the mergers of the early nineties were still operative and in some cases intensified. Moreover, two developments were making the pathway to merger less rocky than before: (a) the legal validity of the holding company was becoming established, and (b) the market strength of industrial securities was being demonstrated under adverse economic conditions.

In general it may be said that industrial securities weathered the depression better than the railroads, and challenged the old assumption that industrials were the more unstable of the two. True, some of the better railroad stocks, partly because they were more seasoned, turned in a stronger performance than the better industrials. But at the other extreme, it was the railroads that experienced some of the more spectacular bankruptcies. It has been estimated that approximately one third of the railroad trackage in the country entered reorganization.[34] One of the two most actively traded preferreds (Northern Pacific) was among those that had to be scaled down, and the other (Wabash) paid no dividends. Among industrials, only the smaller issues of preferred stocks went through the wringer, issues that had never really enjoyed much market acceptance.

Of special interest is the fact that the larger industrial combinations seem to have suffered least. Only two of the *very large* "trusts" did poorly – curiously enough the two with headquarters in Chicago and with capitalization of all-common stock. The three with preferred stock paid regular preferred dividends throughout the depression. Among the mergers the record of the larger ones was nearly as good, if National Cordage is excluded. American Tobacco and United States Rubber paid regular preferred dividends throughout the depression, and United States Leather at least maintained the payment on its publicly marketed bond issue. Only General Electric and National Starch did not maintain their dividend payments, General Electric because it was conserving its cash and not because it was losing money.[35] Stated another way, all the early industrial preferred issues of more than $10 million did exceptionally well. For a group of unseasoned securities, this was a remarkable

[34] See Edward C. Kirkland, *A History of American Economic Life* (New York, 1951), p. 366, and E. G. Campbell, *The Reorganization of the American Railroad System, 1893–1900* (New York, 1938), pp. 26–28.

[35] A good record was also made by the recapitalizations. All the recapitalization preferreds marketed by investment bankers maintained their dividends.

record and one that probably did not escape the notice of discerning investors.

By the end of 1897 a number of factors had provided the industrial securities market with potential strength. Business in general was surging upward and the great American confidence in a brighter future was returning. Investors were showing a willingness, even an eagerness, to put money into industrial preferreds, and the owners of industrial properties had less reason to be skeptical about selling out to a combination of competitors, for they had the advantage of knowing how the participants in earlier mergers had fared.

Industrial Securities Come of Age: 1898–1902

It is hardly surprising that the first men to sense the change in confidence of investors were the independent promoters. These men had played a relatively small part in the earlier boom in industrial securities, but they had been learning valuable lessons.

John R. Dos Passos had served as legal counsel for the sugar "trust" and had noted how market values could be enhanced by the issue of a variety of securities to replace a single all-purpose issue of certificates. The Moore brothers (W. H. and J. H.) of Chicago had been influential in the 1890 formation of the New York Biscuit Company and had learned from that venture that an all-common stock issue had less market potential than a mixture of common and preferred. Charles R. Flint, an importer of crude rubber and therefore a man well-known to the rubber industry, had served as negotiator in the United States Rubber merger and had become convinced that money was to be made in the promotion of combines.[36] Elverton R. Chapman, a partner in the venturesome brokerage firm of Moore & Schley (John G. Moore and Grant B. Schley), had gained some experience in telegraph and gas mergers but nothing in the industrial field to compare with the experience of the other men just mentioned.

We have no way of knowing whether these men saw, or were offered, opportunities to promote mergers during the depression years. Perhaps merger opportunities came their way only to be laid aside when they saw how unreceptive the market was. With market revival, however, these men were quick to act. They had much to gain and little to lose. Unlike so many of the brokers and bankers these men did not let themselves be deterred by a concern for their

[36] Flint had tried earlier to promote a merger among electrical manufacturers, but without success.

reputation for soundness and stability. Their ambition was to make quick profits from ripening opportunities.

Beginning in the fall of 1897 and running through to the summer of 1898 a number of new mergers occurred. Six of these ranked *very large* in size. Two of the six (Glucose Sugar Refining and International Paper) were the work of manufacturers with only their lawyers assisting. The other four were put together by three of the four men mentioned above. Dos Passos was responsible for the American Thread Company, the Moore brothers for National Biscuit, and Chapman for American Malting and for Standard Distilling (a combine of the distilleries not included in the old whiskey "trust"). Flint is absent from the list, but judging from the flood of his promotions early in 1899, he must have been already at work. Not only were these men among the first to join the great end-of-the-century merger caravan but they were to occupy leading positions throughout the next five years.

The promotion of *very large* mergers late in 1897 and early in 1898 followed a distinguishable pattern. This seems the more remarkable when it is recalled that earlier the *very large* mergers showed no pattern whatsoever.[37] Some fundamental changes had occurred in business since 1893, and all the promoters seem to have adjusted to these changes in approximately the same way.

One of the changes, for instance, was the increasing willingness of many stockholders to part with their equities outright when their firms joined in a merger. Another was the relative degree of confidence shown by promoters. Whereas formerly the promoter had received a commission for his services, in the later period he took a position of risk. Acting as manager of a syndicate, he brought into temporary partnership with himself a group of moneyed men among whom were usually the leading industrialists in the field of the merger and perhaps one or two brokerage houses to help in the eventual distribution of securities.

More often than formerly the firms entering a merger were already corporate in form and had many stockholders. This increased dispersion of ownership made it more difficult to get acquiescence to a merger plan. Whereas formerly one or two men spoke for an entire company, the new mergers sometimes had to get the approval of hundreds of stockholders, especially when, as in National Biscuit,

[37] The only earlier merger of a pattern similar to that of the later period was the National Starch Manufacturing Company of 1890, organized by Chester W. Chapin. Curiously enough, Chapin seems to have taken very little part in the mergers of 1898–1902.

the merger was a combination of already merged companies. If at least a majority of stockholders agreed to a merger, the plan could go through and the holdouts and potential troublemakers could be ignored, but a clean organizational plan with no minority groups was usually favored.

Still another change in underlying conditions was the increasing amount of cash required to effect a merger. In the days when stockholders could be induced to join through a simple exchange of securities, few cash expenses were involved – incorporation fees, legal expenses, travel, entertainment, and the like. By the end of 1897 those days were gone.

First, there was the need for option money. Before deciding to form a new company the promoter's syndicate had to get fixed-price options on the properties to be merged. These options sometimes expired before all the negotiations had been completed, and one of the risks of promotion was the loss of option money under such circumstances.[38]

Cash was needed for a second purpose: working capital. When a merger acquired only physical assets, it received no liquid funds and sometimes no inventory with which to begin operations. These had to be provided before the new company could get under way.

Thirdly, the component companies often had miscellaneous indebtedness which the promoter wished to clean up. With cash to pay off these debts the merger could start with an unencumbered balance sheet.

Fourthly, the promoters generally agreed to pay for properties partly in cash instead of wholly in securities. A part payment in cash (when coupled with the fact that a selling company usually retained its own liquid capital) made a merger seem very attractive to the sellers. The arrangement in effect transferred to the promoter's syndicate the risk of putting the securities on the market.

Occasionally the cash for working capital purposes was raised by the sale of bonds to the public, but almost invariably the rest of the cash and usually the working capital as well was obtained by the sale of equity securities. To expedite these sales a new gimmick was used. The public was admitted to the same preferential treatment formerly tendered only to the stockholders: that is to say, an investor who subscribed to a share of preferred stock also received a

[38] Usually industrialists were sufficiently eager to sell to be willing to extend the options, but not the hardheaded Andrew Carnegie, who, at a slightly later date, was to make the Moore brothers forfeit a whopping million-dollar option when they were unsuccessful in arranging a Carnegie-centered merger of steel companies.

certain (usually equal) amount of common stock, the first representing investment value and the second representing risk capital. The combined package still sold at par, but whereas formerly the preferred had been thought to be worth $100 and had been accompanied by only a "right" to buy common stock, by 1897 the preferred was looked upon as worth something *less* than par and the speculative value of the common was thought to be more than enough to make up the differential. Thus, an investor who paid $100 for a preferred-common package did so in the belief that he would be able to turn around and market his shares separately for a combined value of perhaps $110 or $115.[39]

A promoter had to be careful not to get himself in a position of needing more cash than the market would provide. If he thought the market was not going to absorb enough securities, he could, of course, back out of the deal, but only at the cost of his option money and his prestige as a promoter. If, on the other hand, he ventured ahead only to discover that he could not unload, he and his syndicate found themselves faced with a shelf full of depreciated securities and an unhappy group of industrialists whose securities had turned out to be worth less than they had been led to expect.

The secret was to limit the amount of cash needed. To accomplish this the promoter tried to get the merging industrialists to accept securities for as much of the purchase price as possible. He might use the strategy of saying to these industrialists that it was immaterial to him whether they asked for cash or securities. Such apparent indifference would indicate that the promoter felt confident he could raise the cash, if necessary, by selling the securities of the new company to the public. But he could not take this position of indifference unless the industrialists were likely to choose securities; otherwise the merger would require too much cash and the promoter, to raise the cash, would run the risk of glutting the market with stock of the new company.

Some writers have assumed that, in setting the amount of a merger's capitalization, a promoter regarded the sky as the limit. But in fact there was a certain ceiling above which he could not go. Many of the industrialists had had long experience in their field and were in a position to make a fairly accurate appraisal of the earning power of the new combine and hence the long-range value of the combine's securities. True, industrialists sometimes overestimated

[39] By 1902 a common expectation was that the preferred would sell for $85 and the common for $35. See our article on the International Mercantile Marine merger of 1902 in the December, 1954, *Business History Review*.

the earning power of the combine to which they were selling out, but they at least had some concrete basis for judgment. If, in their opinion, the promoter was issuing more securities than the earnings of the combine could carry, they simply refused to accept payment in stock and asked for cash instead – or withdrew from the merger. Since the promoter could not afford to run the chance that either of these mishaps would eventuate, he had to make certain that his capitalizations revealed some degree of caution – a caution which, unfortunately, somewhat dissolved as the public became increasingly willing to buy any securities the industrialists were unwilling to accept.

By mid-1898 it was clear that something big was happening, for the promoter-backed mergers had found a favorable market and the investing public had showed itself ready to put its money into industrial securities. It took only the formation of the Federal Steel Company with a syndicate organized by J. P. Morgan & Company to confirm the trend. The Morgan firm was the largest of the railroad banks, and by putting support behind an industrial issue, it gave to industrial securities an endorsement that was certain to count heavily with the investing public.

In comparison with the financial methods of the independent promoters, Morgan's arrangements for the Federal Steel merger were traditional and conservative. The Morgan firm declined, for instance, to buy assets and stuck instead to the old-fashioned method of buying from the stockholders a controlling interest in the merging companies. Morgan also declined to bait stockholders with an offer of part cash (although in later mergers he had to fall in with general practice in this regard). The Morgan methods required far less cash than did the methods of the promoters. But some cash had to be raised to satisfy the Morgan demand for sound financing. Morgan's plan for Federal Steel was to increase the working capital beyond what the participating companies had been operating with and to provide a sum of money for new plant and equipment. These funds were to be obtained by selling preferred stock – just preferred, with no bonus of common. The stock was to be offered first to the existing shareholders and then to the public, the Morgan syndicate being responsible for selling any stock that the shareholders did not take. This was true underwriting in the classical sense of the term, the sense in which the term was used in railroad financing.[40] It did less to spread ownership of industry than did the methods of the promot-

importance of involvement of JP Morgan firm ← mid 1898

[40] See Fritz Redlich, *The Molding of American Banking: Men and Ideas* (New York, 1951), Vol. 2, Pt. II, p. 371.

ers. But it accomplished one goal that the promoters had done little to achieve. When the promoters had brought in new cash, they had used it primarily to replace cash withdrawn from industry. The Morgan arrangement was an early example of the use of preferred stock for a new purpose: the attracting of investment capital to strengthen and expand industry.

With the Federal Steel merger the accumulation of forces toward integration of companies, diversification of investments, liquidation of sunk capital, arrangement for management succession, and resolution of competitive excesses burst forth into the great merger movement of the end of the century. In the next four years the market was to be flooded with industrial securities and – what was of equal importance – was to absorb them.[41] Most of the new industrial issues coming on the market were the product of mergers. Most of the offerings led with preferred and followed with a bonus of common. Most of the arrangements conformed to one or the other of two patterns, the one worked out by the innovating promoters, the other practiced by established investment bankers like J. P. Morgan and modeled on railroad experience.

The rest of the story is fairly well-known. In the years from 1898 to 1902 there were added to the list of traded industrials some of the stellar names of modern American business, companies that were to take leading positions in their industries: United States Steel, International Harvester, American Can, Pittsburgh Coal, American Car & Foundry, American Smelting & Refining, International Silver, United Fruit, just to name a few of the best-known.[42] Whereas only a decade earlier an industrial company with over $10 million capitalization was a rarity, there was produced by merger, in the span of a few years at the turn of the century, nearly a hundred companies of that size. Almost all the mergers of that period fell in the industrial classification. Almost all followed the familiar pattern of issuing preferred to cover basic value with a bonus of an

[41] Not until the spring of 1903 did the accumulation of securities glut the market, thus contributing to the depression that was then developing and bringing to an end the turn-of-the-century merger period.

According to Shaw Livermore, and in contrast to the general view on this subject, a high proportion of the mergers in the 1889–1905 period were financial successes. See Shaw Livermore, "The Success of Industrial Mergers," *The Quarterly Journal of Economics* (Nov., 1935), p. 68.

[42] On a sample day in 1903, trading was reported in 136 industrial commons, of which a third were the issue of companies still existent in 1955 with little change in name. On the same day trading was reported in 83 preferreds, of which a quarter were the issues of companies still existent and still financed by preferred stock.

equal amount of common to represent risk earnings and the promise of growth.[43]

It is a curious commentary that so much of this radical change in corporate structure was accomplished by the industrialists themselves with the assistance of a handful of maverick financial men, the independent promoters. Four promoters (the four mentioned earlier: Flint, Dos Passos, the Moore brothers, and Moore & Schley) handled the negotiations for nearly a third [44] of the *very large* mergers of 1898–1902. One of these four, the partnership of Moore & Schley, was so active that it showed promise of achieving first magnitude in the banking field; its prominence in the mergers of 1898–1902 was exceeded only by Morgan's. But although it was for many years the largest brokerage firm on Wall Street, the crash of 1907 was to bring it close to ruin. Only the intercession of Morgan saved it from bankruptcy. Thereafter it went into eclipse and although it still survives it has never regained its earlier position. So great has been the interest of historians in the work of J. P. Morgan and so limited the information about the work of these independent promoters that their role in the turn-of-the-century merger movement has never been given the attention it deserves.

Another third of the *very large* promotions in this period was the work of a number of men, each with only one or two promotions to his record. A few of these men have gained historical prominence — John W. Gates of American Steel & Wire, F. Augustus Heinze of United Copper, and Thomas A. McIntyre of the Standard Milling Company. But many of the others have disappeared into oblivion as have some of their companies.

A quarter of these *very large* mergers was the work of investment bankers, principally those with experience in the issue of railroad securities. Eventually nearly all the railroad houses participated in the turn-of-the-century mergers, but only J. P. Morgan with any zest. The Morgan house managed some of the largest industrial syndicates of the period and in the popular mind did much to link

Morgan's zest for merging → companies

[43] These general statements are based on a page-by-page examination of the *Commercial & Financial Chronicle* and the *Boston News Bureau* for those years, but summary figures do not include projected mergers that came to nothing. Another useful source for this period is the *United States Investor*.

[44] This fraction is based on the *number* of mergers. If *capitalizations* are taken as the base and Morgan's mergers excluded, these four promoters account for about two-fifths of the business, or more than twice the amount accounted for by all the investment bankers apart from Morgan. The Morgan mergers were so extraordinarily large that, when added to the group, their capitalizations account for about half the total.

investment banking with the merger movement.[45] But obscured behind the dazzling performance of the Morgans is the fact that relatively few of the turn-of-the-century industrial merger promotions were headed by the old-line railroad houses.

Summary

The years 1887–1902 produced a solution to one of the troublesome problems created by the industrial revolution, the problem of capital inflexibility in the industrial segment of our economy. In the great age of commerce that had preceded industrialization, capital had been liquid and therefore fairly free-flowing. But with industrialization, capital had been sunk more and more in fixed investment, and new methods had to be developed before easy transfers of ownership could again become possible.

By seeking incorporation the proprietors of industrial enterprises had acquired, through the issuance of common stocks, a potentially easy means of transfer. But even with this potential at hand a fluidity of transfer awaited the development of market acceptance. Until the late 1880's industrial companies remained for the most part too small to be widely known and their securities too risky to be of interest to investors.

In the 1890's two developments helped to resolve these difficulties. The merger movement produced enterprises of such size and such dominant position in their industries that their existence became a matter of household knowledge. Concurrently the all-common-stock form of capitalization gave way to capitalizations of part common, part preferred with the effect of converting some of the so-called risky industrial securities into more attractive instruments of investment. The issuance of a number of new industrial preferreds during the early 1890's laid a groundwork for market confidence. But it was the performance of these preferreds during the depres-

[45] It should be pointed out that the largest merger of all, United States Steel, was initiated not because of competitive stress but because an individual, Andrew Carnegie, wanted to liquidate his sunk investment in steel properties. It is our belief that J. P. Morgan became interested in the Carnegie properties in two stages: (a) when he learned, at the famous Simmons dinner, that the profit outlook for the steel industry made a public sale of steel securities look promising and (b) when he learned that Carnegie would accept bonds in full payment, thereby obviating the need for a public issue to raise money for the purchase of Carnegie's properties. However, such a huge bond issue posed a problem, for the underlying structure had to be large and impressive to support so much debt. It may have been the need for a balanced financial structure as much as anything that led Morgan to approve the huge capitalization that United States Steel came to have.

sion of 1893–1897 that convinced the investing public of the soundness of industrial preferreds.

It is possible to distinguish four stages through which industrial securities passed on their way to general market acceptance. In the first stage, which existed before the late 1880's, these securities had a very narrow market. They rarely were listed on the Exchange. Sometimes they were traded on the "outside" curb, but more often they had only regional acceptance and exchanged hands only in direct person-to-person sales. Occasionally blocks of stock were offered on an auction basis. If a firm was sold outright, the price-earnings ratio tended to be low, frequently no more than three times average net income. It was under these market circumstances that the "trust" certificates began to be traded.

The success of the "trust" certificates introduced a second stage, which extended from 1890 to 1893. In this period industrial securities began to be listed on the Stock Exchange and to be traded by leading brokerage houses. A relatively new type of security, industrial preferreds, was issued and marketing groups were formed, usually under the auspices of brokerage houses, to assist stockholders who wished to liquidate part of their investment. Price-earnings ratios began to move up, and brokerage firms began to assure their clients that industrial commons ought to be worth approximately eight times average net income. In this stage, as in the earlier one, most of the trade remained at the stockholder level. Only rarely did companies issue new securities and sell them directly to the public as a means of raising funds. This development became general only in the third period.

When the merger promotions began late in 1897, the promoters were able to count on a market that was already conditioned by the sale of securities at the stockholder level. It was therefore not a difficult leap for the promoters to begin marketing securities on behalf of the companies themselves. In this third stage the funds raised by public sale were used to pay off former stockholders or to replace working capital and not to extend the company's operations. Furthermore these sales were not underwritten; the promoters simply made sure that they could sell the necessary blocks of securities before committing themselves to the merger. Viewed in terms of *number* of issues, this stage dominated the period 1897–1902. It would also have dominated the period in terms of *capital* issued had it not been for the work of J. P. Morgan & Company. It was the Morgan firm which introduced stage number four.

Since the third stage had inherent weaknesses, it did not survive

the end of the merger movement. By the very nature of their operation the merger promoters did not provide the funds necessary for an expanding industry and they could not, because of their limited capital resources, guarantee to the issuing companies the funds which a new issue of securities was intended to raise. The financial men who had been accustomed to raising new funds on a guaranteed basis were the investment bankers, and it was to them that industry eventually turned.

That the investment bankers were slow to enter the business of underwriting industrial securities is not surprising. With a market that was still relatively untested, bankers had to accept a high level of risk to underwrite industrial securities. Furthermore, most of the old railroad houses had been accustomed to underwriting bonds and had conditioned their customers to think of bonds when they thought of investment. In the early 1890's some of these houses had in fact underwritten industrial bonds. But it was preferred stock that was to gain popular acceptance among industrial securities, and the underwriting of preferred issues was something the investment bankers came to slowly. J. P. Morgan & Company led the field in 1898 with the others following only in a cautious way. Not, indeed, until after 1902 did industrial securities settle into the fourth stage of securities marketing – the stage when underwriting of issues came into general practice.

JP Morgan leader in underwriting preferred issues

[Footnotes]

[9] **Industrial Consolidations in the United States**

Luther Conant, Jr.

Publications of the American Statistical Association, Vol. 7, No. 53. (Mar., 1901), pp. 1-20.

Stable URL:

http://links.jstor.org/sici?sici=1522-5437%28190103%297%3A53%3C1%3AICITUS%3E2.0.CO%3B2-M

[41] **The Success of Industrial Mergers**

Shaw Livermore

The Quarterly Journal of Economics, Vol. 50, No. 1. (Nov., 1935), pp. 68-96.

Stable URL:

http://links.jstor.org/sici?sici=0033-5533%28193511%2950%3A1%3C68%3ATSOIM%3E2.0.CO%3B2-N

TIME IN PARTNERSHIP WITH CNN

Friday, May. 29, 1964

The Bell Is Ringing

CORPORATIONS

(See Cover)

The world's biggest company is a bundle of paradoxes wrapped in a string of superlatives. It makes a product that cannot be bought and lives on a commodity that cannot be seen. In a nation that idealizes competition, it has practically none. Unlike other corporate giants, it cannot set its own prices, which are carefully regulated not only by the Federal Government but by individual states. It has more direct contact with Americans than any other company, yet it often feels misunderstood. Few companies are more conservative; none are more creative. It has grown huge by paying attention to little things—little efficiencies, little economies, little people. It is that ubiquitous firm whose business is talk and whose product is the telephone: the American Telephone & Telegraph Co.

At A.T.&T., superlatives recur with the persistence of a busy signal. An outsize and aggressive utility, the company owns, operates and services 83% of the nation's 84 million telephones—nearly half of all the phones in the world. Its assets of $28 bil lion top those of General Motors, General Electric and U.S. Steel put together, and since 1945 it has raised enough new capital ($26 billion) to buy up the gold reserves of the U.S., Britain and several European countries. With 733,000 workers, the company employs a labor force greater than the population of Boston; its annual wage bill of $4.7 billion exceeds the gross national product of Ireland and Israel combined. A.T.&T.'s 1963 revenues, which reached almost $10 billion, amounted to more than the combined incomes of 30 state governments and accounted for 1.7% of the gross national product.

Long Noses. By virtue of his position as head of this colossus, the chief executive of A.T.&T. is

automatically the biggest businessman in the nation. For eight years that post has been held by a square-cut, thin-lipped man named Frederick Russell Kappel, who happens to be very much like the corporation he heads—a creature of power and paradox. Chairman Kappel (rhymes with apple) mixes freely among the mighty in science, politics and business. The 65 corporate chiefs who make up the prestigious U.S. Business Council, a group that advises the Government, have elected him their chairman. Lyn don Johnson often calls Kappel to discuss the state of U.S. business, is also one of A.T.&T.'s best customers.

But for all the importance and respect his position brings, Fred Kappel, at 62, remains essentially a small-town boy who retains the earthy and often unsophisticated ways of the heartland. He runs the most modern of corporations from an old-fashioned office in a lower Manhattan building whose Doric columns and tiled floors are defiantly unmodern. In this Parthenon of the William Howard Taft era, Kappel still converses in the slangy, twangy argot of his native Albert Lea, Minn., can still cuss on occasion like the pole-hole digger he once was. One significant term that often salts his conversation is "long-nosed." Says Kappel: "It's a term I use to mean looking ahead, planning ahead. I like to think of the Bell System as a long-nosed company."

See-As-You-Talk. Today, the company that thrives on talk is creating quite a bit of talk about itself—most of it by being long-nosed. In search of new and better ways to transmit words and TV pictures (most network TV programs are transmitted over A.T.&T.'s telephone lines), A.T.&T. is reconnoitering the frontiers of technology and expanding man's inventory of knowledge. It built Telstar in its labs, and will play a major role in the new Comsat Corp., which plans to ring the earth with communications satellites within two or three years. This fall it will start laying a fourth cable to Europe beneath the ocean, and last week it completed the first telephone cable to Japan. In typically prudent fashion, the telephone company is preparing for just about any eventuality: late this year it will finish a $200 million underground cable across the U.S. that will be able to carry important calls even if all above-ground wires are destroyed in a nuclear attack. It is also developing a wide array of new equipment, including pushbutton phones, which have just gone into use in 35 cities, and a new electronic switching system so swift that it will be able to handle 1,000,000 telephone calls between two ticks of the clock.

Two weeks ago A.T.&T. announced that it will soon cross yet another frontier in technology: it will put into public operation the world's first see-as-you-talk Picturephone service. Already on view at A.T. & T.'s pancake-shaped pavilion at the World's Fair, the Picturephone will go into service next month in public booths in New York, Chicago and Washington, offer service between those cities to people who

are willing to pay rates that will range from $16 to $27 for three minutes. Whereas the regular phone uses only one circuit, Picturephone in its current stage needs the equivalent of 125 of them—for the 125 hair-fine lines on its tiny TV screen. With confidence that this problem will be solved, A.T.&T. sees a bright and profitable future for its latest device.

Even more exciting than the see-as-you-talk phone to the nation's businessmen and economists is the impact of A.T.&T.'s spend-as-you-grow plans. As proof of its faith in the economy, A.T.&T. in 1964 will undertake the largest program of expansion and modernization ever launched by any company in history. The $3.35 billion that the company will spend will account for 71% of all capital spending by U.S. business, create 180,000 new jobs in supplier companies and do much to keep the U.S. economy's greatest period of peacetime expansion going strong.

Blank Checks. To get more than a third of the money it needs, A.T.&T. went to its usual source of cash: that most democratized group of capitalists, its own stockholders. The company floated history's largest stock issue, 12,241,294 shares, and gave first crack at the issue to its shareholders on a 1-for-20 basis. Openly trying to make the stock even more attractive, Fred Kappel announced an increase in the yearly dividend from $3.60 to $4 and a 2-for-1 split that next month will raise the total to 512,000,000 shares. Stockholders gobbled up almost the entire issue, and thousands sent the company blank checks in an unprecedented show of confidence, asking A.T.&T. to fill in the cost of whatever they could buy.

More shareholders have placed their savings and hopes in A.T.&T. than in any other corporation. It is a haven for 2,350,000 investors, many of whom are untutored in the nuances of high finance but feel certain that the nation's largest company will prosper so long as the nation itself does. A.T.&T. has so many stockholders that 20,500 of them are named Smith, and 100 die every day. Three-quarters of them own fewer than 100 shares, and the biggest holder, Wall Street's Merrill Lynch, keeps most of its 3,600,000 shares for small-customer accounts.* No wonder that Wall Street dubs A.T.&T. "the widows' and or phans' stock," and shareholders affectionately refer to it as "Ma Bell."

"I've Made Mistakes." Not everyone shares this fondness for the telephone company, but almost everyone has an opinion about it. To U.S. military chiefs it is a first-class defense contractor, and scientists consider its Bell Labs to be the finest industrial-research establish ment anywhere. A.T.&T. has become so much a part of the American scene that it is at once a source of envy and admiration and a butt of jokes. Says Cartoonist Al Capp, whose Li'I Abner delights in needling Mother Bell: "In this country, if we don't like our wives, or even our Government, we can change them. But have you ever tried to change your phone company?"

Fred Kappel does not take kindly to such impertinent questions. He likes to think of A.T.&T. as a warm and faithful creature, and of anyone who does not like its predominance as something of an ingrate. He lists his own home-phone number in the directory —and so do the presidents of the 23 regional operating companies that

A.T.&T. embraces in the Bell System. He also takes time out from each busy day to study stacks of mail from customers and stockholders on the the ory that "it's a good way to get a feel for what people are thinking," has ordered that every letter must be answered within seven days.

Kappel is convinced that life's biggest kicks and greatest challenges come from working in the large corporation. "This 'Organization Man' thing makes me disgusted," says he. "When someone talks that to me I say he doesn't know what he's talking about. Somebody who is really running a railroad must do his job and not be afraid about making mistakes. I've made all kinds of mistakes.

Somebody who never makes a mistake is sitting on his fanny not doing anything. But a man ought to be right more than half the time."

Percentage Player. Kappel has seen to it that he has been right more often than that. A barber's son who worked his way to an electrical-engineering degree at the University of Minnesota ('24), he joined A.T.&T. 40 years ago at $25-a-week. He was soon promoted from pole-hole digger to such jobs as "interference engineer" and "foreign wire relations engineer" and spotted by his superiors as a cool, unflappable fellow not given to snap decisions. Every night he took home a briefcase heavy with homework, and even when he went to the ballpark he took along other A.T.&T. people to talk operations and engineering. He steadily moved up 14 levels on the corporate escalator to a vice-presidency of A.T.& T.'s Northwestern Bell. He was called to New York headquarters, became president in 1954 of A.T.&T.'s manufacturing arm, Western Electric, and took over as president and chief executive of A.T.&T. in 1956. Says Kappel, who became board chairman in 1961: "I've never had anything I didn't get for myself."

Chairman Kappel now earns $271,667 a year and lives in a four-bedroom, six-telephone house in Bronxville, a New York suburb. He allows few ex pensive tastes to enter his well-modulated life. His wife does the cooking, except for parties. Kappel doesn't smoke, rarely drinks, and faithfully attends Bronxville's Dutch Reformed Church, whose 3,000 members make it the largest church of that denomination in the U.S. He does not openly participate in party politics ("I don't believe that I should"), but he likes to read books of a political nature. Among his recent favorites: J. Edgar Hoover's Masters of Deceit and Victor Lasky's J.F.K.: the Man & the Myth. Regularly, every two

weeks, he plays with a bridge club, also enjoys an occasional shrewd game of poker. "He is a percentage player, not a chance taker," says a man who has often watched his game.

Much Like the Army. Kappel is the prototype of the A.T.&T. executive, that particular type of U.S. manager whose training and abilities make the telephone company about the best-managed firm anywhere. One former A.T.&T. vice president wrote that the company's management system "is much the same as the Army's." A.T.&T. is a pure meritocracy, run by men who started at the bottom and worked up, step by step, winning the nod of many bosses along the way. The executives at A.T.&T. combine in themselves dedication, sense of service, awareness of public responsibility, invocation of old-fashioned virtues, puritan earnestness, Rotary Club friendliness, and a touch of self-righteousness They consider themselves a breed apart —and they are. They value continuity and gradualism in management more than most, and, though at ease in handling vast sums, run their company with a peasant's fear of debt and the thrifty conviction that every piece of installed equipment ought to be good for 40 years. Most of all, they view their job—helping the people to speak —as an almost priestly calling.

To make sure of a continued supply of such men—they are not born, but made—A.T.&T. has developed one of U.S. business's most advanced programs of management training and evaluation. Every year it deploys 300 recruiters to search out 2,500 to 3,000 trainees on the nation's campuses. They pick their men only from the top half of the graduating classes, and look for those who have spent more time in the libraries than in the stadiums: A.T.&T.'s studies show that marks are the best indicator of how a candidate works out later, extracurricular activities the least reliable. The headhunters offer good starting salaries ($6,300 to $7,200) and a stock-purchase plan. Half of all employees own A.T.&T. shares, most of them bought at 85% of the market price and sometimes in installments; but no one in the company ever gets a stock option. About 900 men in Bell's system make $25,000 or more.

The new recruit soon learns that A.T.&T. insists on making one man —any man—ultimately responsible for every single project, however big or small, and that he stands to take the blame if that project sours. As soon as he joins the organization, each candidate is tossed into the decision-making maelstrom, perhaps as chief of a smalltown office or traffic department, where his performance can be easily measured. About 20% of all trainees wash out in the first year, but even those who do not make A.T.&T.'s stiff grades are scooped up by other companies eager to hire men with some Bell seasoning.

Internal Competition. To save itself from becoming fat and lazy like most monopolies, A.T.&T. purposely sets up internal competition. It pits man against man, office against office, district against district—and carefully rates each performance on report cards that are analyzed by efficiency experts.

"We have people breathing down everybody's neck," says one high personnel man at A.T.&T. The company even rates its accounting departments according to how many pieces of paper each one processes; woe to the junior executive who finds himself saddled with slothful clerks. Every month the company publishes its "Green Book," a 32-page pamphlet that critically compares the performance of Bell's operating companies, one against the other, in 41 categories that range from the percentage of calls affected by static (yearly average: 2%) to the rate of resignations (yearly average: 2.4% for men, 17.6% for women).

Many other companies try to copy A.T.&T.'s training and rating program, but they cannot copy the advantage that bigness gives to Bell. A.T.&T. has so many operating companies, divisions and branch offices that it has plenty of demanding and responsible jobs in which to develop and store up executive talent. Men with the stamp of success on them are groomed for high management positions as much as 30 years in advance. Some of the young executives are interviewed every year by one or more of A.T.&T.'s 20 staff psychologists, who plumb their changing moods, opinions and goals.

The men who travel farthest in this obstacle course are tough, well briefed and able. At the very top, A.T.&T. is run by a 2 3-man group that is led by Kappel and President Eugene J. Mc-Neely, 63, a stern taskmaster who supervises operations and personnel and has followed Kappel into three executive positions since 1949. This top team is known to company insiders as "the Cabinet." It is made up of an extremely close-knit and like-minded group of men (median age: 57) with strikingly similar backgrounds. They feel most comfortable with their own kind, even to the extent of lunching together every day in the 22nd-floor executive dining room. Three-quarters of them come from small towns, only a handful went to Ivy League universities, and ten of them have engineering training. In an age when more and more companies are bossed by accountants, salesmen or lawyers, A.T.&T. remains one of the few giants dominated by engineers—with all that implies of diligence, prudence and respect for proven rules.

Conformity or Chaos. Sharply at 10 a.m. every Monday, the Cabinet members sit down in red leather armchairs in the 26th-floor board room for a 21hour meeting. One by one, each man briefs the others on developments in his division—new products, spending plans, struggles for higher rates. But the Cabinet seldom wastes time on detail or minor decisions. All down the line, A.T.&T.'s middle executives try to solve all problems long before they reach the vice-presidential level, leaving only the knottiest ones to the Cabinet. If there is then a dispute, Kappel has the last word. "I may get into an argument," he says. "There's nothing worse than somebody who agrees with everything. We all agree in advance not to agree with anything unless we really believe in it." But he also argues that "there must be some conformity. To be against conformity is to be against order and for chaos."

Though such a sprawling company is beyond the power of any one man to change it substantially, Kappel has made his mark on A.T.&T. Perhaps his signal contribution has been to increase earnings nicely by pushing through local rate increases and introducing myriad new efficiencies. Long-distance operators are now taught by programmed-instruction textbooks, which are much cheaper than human teachers; speed-reading courses have cut the average time that information operators need to look up a number from 37.6 seconds to 33.3 seconds, at an annual saving of $8,000,000. During Kappel's eight years, earnings have jumped 84%, to last year's $1.5 billion—after federal and state taxes of $2 billion. A.T.&T. habitually pays out 62% of its profits as dividends and invests the rest in capital spending.

Keeping the Reins On. Fred Kappel contends that A.T.&T. needs still higher profits to grow on, but he runs into opposition in Washington, where Government officials insist that his company is already too profitable and too powerful. In terms of return on net cost of plant, the usual gauge of profitability in utilities, A.T.&T. earns somewhat more than the average: 7.2%. The General Services Administration, representing the Government as a user in regulatory hearings, has recommended that Bell's return should be limited to 6.6%, and the staff of the Federal Communications Commission, which regulates the Bell System and its interstate rates, has suggested 6.5%. So far, the FCC's seven commissioners have refused to go along with this recommendation.

A.T.&T. aims at getting an 8% return whenever it can. It has to negotiate constantly not only with the FCC but with local commissions in the 48 states in which it operates (all except Alaska and Hawaii). In 47 of them, A.T.&T. hammers out local phone rates with state commissions, but in Texas it has to dicker with no fewer than 1,500 town councils. Rates vary widely, depending upon how much money A.T. & T. has invested in an area, how many numbers residents can call without paying a toll and what the local commission will allow. When commissions agree to give A.T.&T. increases, they sometimes find it politic to hold local rates steady but to raise the charges for phone installation and for such extras as color phones. Despite some increases, rates have not risen as much as the overall cost of living. While the U.S. consumer price index has gone up 59% since 1946, local telephone rates have increased 48%; interstate rates have actually dropped 20% since 1940, thanks to a combination of new efficiencies, higher volume of calling and pressures from the FCC.

Breaks for the Little. Last year the FCC forced the company to reduce some of its long-distance rates, so that anyone can now call anywhere in the continental U.S. after 9 p.m. for no more than $1 for the first three min utes. Two months ago, the FCC hit from the other side: it ordered A.T.&T. to raise rates on its "cheaper-by-the-dozen" Telpak service, which transmits printed as well as spoken messages over big bundles of circuits. The commission felt that A.T.&T. had originally priced this fast-growing service abnormally low in order to attract big users. At the same time, the FCC denied

A.T.&T.'s request for permission to send printed as well as spoken messages through its own transatlantic cables, but granted that right to international competitors that lease channels within the cables.

In an open admission of favoritism for such companies as RCA, Western Union International and International Telephone & Telegraph, one FCC official said: "They're the little boys, so they deserve the breaks."

But the big boy has always managed to win the most important battle; A.T.&T. defeated the Justice Department's persistent attempts during the

Truman and Eisenhower Administrations to divorce it from Western Electric, and not much is heard about that any more. A virtual monopoly almost since it was founded in 1877, the Bell System has preserved its special status by arguing that it is much more efficient and economical than a lot of little, local phone companies would be. It has agreed not to invade the territory of the 2,645 independent companies that control the remaining 17% of the phone business. Largest of the independents by far is General Telephone & Electronics Corp., which has 5,000,000 phones as well as extensive manufacturing and research facilities. By buying up smaller companies and shrewdly moving into rural areas and fast-growing suburbs that A.T.&T. does not reach, General Telephone has lifted its sales 1,450% in the past dozen years—to last year's $1.4 billion. A.T.&T. has barely expanded its area of coverage in 42 years, and in 1956 the Justice Department ordered it to open its thousands of patents to all comers.

Lovable Green Giant. Always sensitive about its bigness, and reluctant to be viewed as the great profitmaker that it is, A.T.&T. has devised one of the most effective lobbying and public relations systems in industry. It keeps many discreet and well-connected lobbyists in Washington and in the state capitals. The phone company's public relations campaign paints it as a lovable green giant of communications. In fact, it is so anxious to be loved that it polls 80,000 stockholders each year to find out what they think about the company, even financed a study to determine whether public telephones are dangerous germ carriers. A.T.&T.'s answer: No.

Employees take company courses in politeness and courtesy, are constantly reminded that they and their customers have no fewer than 10 billion conversations a year. A.T.&T. executives are encouraged to lead civic-uplift drives, and to join many public service groups. Once they have joined, they frequently volunteer to make speeches about A.T. & T. or show company films, preaching such slogans as "The Voice with a Smile Is Still Behind Your Dial" and "Whatever the Future Brings, It's Still People Talking."

Fred Kappel himself gives about a dozen public speeches a year, and in one of them, delivered four years ago at Columbia University, he said that "low tolerance for criticism" is a sign of loss of business vitality. A.T.&T. certainly has plenty of business vitality—and plenty of sensitivity to criticism. Kappel calls A.T.&T.'s Washington critics "breaker-uppers" and "glorified publicity seekers." Fortnight ago, at the Business Council's meeting in Hot Springs, Va., he deplored increasing regulation of business by Government, and he believes that A.T.&T. could have moved much faster toward creating a large network of Telstars if the Government had only given it permission to go ahead. As it is, the ownership of Comsat Corp.—whose shares were approved for listing two weeks ago by the New York Stock Exchange—will be divided among the public and the nation's communications companies. The size of A.T.&T.'s stake has not yet been determined, but it will be substantial.

Hotter Meetings. When it comes to the customers, Kappel is often more puzzled than angered by complaints. He admits that A.T.&T. made a tactical error in pushing all-numeral dialing without a public educational campaign. By abandoning the familiar exchange prefixes (Klondike, Pennypacker, Gypsy) and forcing users to dial seven numbers, A.T.&T. raised the possible total of phone numbers in any area by 50%. But it also raised an uproar, was soon accused on all sides of an Orwellian scheme to dehumanize everyday life—even though it would really have had to dehumanize life by ultimately limiting service if it did not have the new system. "We've got to do it if the country is going to grow," says Kappel. "But I don't believe we did very well when we started explaining it. We took the attitude it's something we've got to do, and why the hell bother to explain." The fuss has since died down, and the advent of direct distance dialing will, within the next decade, enable telephone users to call any major country in the world by dialing twelve digits.

Other telephone customers complain that A.T.&T., which owns all its equipment and only rents it to subscribers, will not permit them to hook up antique phones, and that it charges them 500 a month extra for an unlisted number in New York City and Philadelphia; Cinemactor Tony Randall, who can well afford it, has dodged the charge by listing his number under a phony name, Irvine W. Tishman. As in many another company, A.T.&T.'s officers also are getting more and more harassment at annual meetings. Kappel has special controls behind the rostrum at which he stands to cut off any speaker who becomes too windy or unruly. But he delivered his most effective cut with out benefit of switch at the April 15 annual meeting, where a professional meeting-goer asked a seemingly endless round of questions, including one seeking to know how much A.T.&T. gave to charity. Told that the amount was $10 million last year, the woman said: "Mr. Chairman, I think I'm going to faint." Replied Kappel coolly: "That would be helpful."

Hooray! For all the complaints, big and small, A.T.&T. has given the U.S. the world's least frustrating

telephone service with the world's most trouble-free gadget. Kappel points out that the average U.S. phone needs a repair only once every five years; except in times of flood or other natural disasters, no A.T.&T. switching office in the past 40 years has been out of order for as long as ten minutes. No place is too inaccessible, no service request too small for A.T.&T.'s telephone men. They have put up phone booths in the middle of forests for the convenience of hunters, offer phones with gentle chimes for those who cannot stand the regular bells. Even former FCC Chairman Newton Minow, a voluble critic of many other institutions, told a Senate committee last year: "Having just returned from Europe, I would say hooray for the phone service you get here."

That service is growing even faster than the U.S. Every working day, A.T.&T. installs 11,500 new phones and handles 251 million calls. The number of Bell telephone calls within the U.S. is expanding by 15% a year, and A.T.&T. is straining to prevent a massive clogging of overloaded circuits by steadily expanding and improving its equipment. Actually, the Bell System is one great computer, linked by 24 billion interconnections and by enough copper wire to spin a four-ply cable to the sun. The computer's innards are an orderly assemblage of $24 billion worth of the most sophisticated equipment ever devised, and its long limbs sprawl over 3,000,000 square miles of city, plain, mountain, valley and river. It is in constant change, works around the clock, seldom errs—and often corrects itself when it does.

Kappel and his long-nosed engineers never cease devising comely new gadgets to hook onto this computer to bring more profit to A.T.&T. and to add luster and convenience to what they call "p.o.t."—plain old telephone service. They have successfully sold the idea of color for telephones: 21 million colored phones are now in use in U.S. homes. For a monthly charge of $25 to $35 apiece, they have installed 17,000 telephones in cars and trucks, including several in Lyndon Johnson's autos. Though 37% of the nation's telephones are already extension phones, A.T.&T. executives figure that less than a quarter of U.S. homes are "fully telephoned"—having all the telephones they could use.

An even greater field for expansion lies in the area of business phones, which already account for fully half of A.T.&T.'s revenues. The company's new pushbutton Touch-Tone, which reduces the average "dialing" time from nine to four seconds, will make every business phone a candidate for replacement. Cost: $5 for installation, plus $1.50 to $1.90 extra a month. Another innovation that A.T.&T. recently introduced is the Card Dialer, which enables a user to reach frequently dialed numbers by slipping a punched-hole plastic card into the base of the phone. It cuts dialing time to two seconds, costs $15 to install, plus $3.50 a month extra, with 40 free cards. This year A.T.&T. will bring out the Trim-line phone, whose dial is embedded in the receiver; aside from being good-looking, it also will be a boon for the nearsighted and the bedridden.

Discusses relationship btw Morgan + Baker (1st part)

THE MASTERS OF CAPITAL

A CHRONICLE OF WALL STREET

BY JOHN MOODY

NEW HAVEN: YALE UNIVERSITY PRESS
TORONTO: GLASGOW, BROOK & CO.
LONDON: HUMPHREY MILFORD
OXFORD UNIVERSITY PRESS
1919

the mines and coal companies owning or controlling 63 per cent of the entire anthracite deposits. (Baker, R., 1504, 1506, 1508.)

In the same year Mr. Baker coöperated with Mr. Morgan in transferring to the Northern Securities Co. controlling stock interests in the Northern Pacific and Great Northern Railways, competitive transcontinental systems.

One or more members of Morgan & Co. and one or more officers or directors of the First National are associated as codirectors in the following additional corporations, among others:

The Mutual Life Insurance Co. of New York;

The anthracite railroads, including the Reading, the Central of New Jersey, the Lehigh Valley, the Erie, the New York, Susquehanna & Western, and the New York, Ontario & Western;

The Northern Pacific Railway, in which also Mr. Steele, of Morgan & Co., and Mr. Baker, of the First National, are members of the executive committee;

Adams Express Co.;

American Telegraph & Telephone Co.; and

The Baldwin Locomotive Works.

But nothing demonstrates quite so clearly the close and continuing coöperation between Morgan & Co. and the First National Bank as their joint purchases and underwritings of corporate securities. Since 1903 they have purchased for their joint account, generally with other associates, 70 odd security issues of 30 different corporations, aggregating approximately $1,080,000,000. (Ex. 213, R., 1895; Ex. 235, R., 2127.) A complete statement of such joint transactions in securities will be found in a subsequent part of this report.

It is thus seen that through stockholdings, interlocking directors, partnership transactions, and other relations, Morgan & Co. and the First National Bank are locked together in a complete and enduring community of interest. Their relations in this regard are, indeed, a commonplace in the financial world. Thus, Mr. Schiff being asked whether he knew "the close relations between Messrs. Morgan and the First National Bank," replied "I do." (R., 1687.)

Morgan & Co., First National Bank, and National City Bank. — Mr. Stillman, as president, chairman of the board of directors and largest stockholder, for a long time has held a position of dominance in the National City Bank corresponding to Mr. Morgan's in his firm and Mr. Baker's in the First National Bank.

For many years while Morgan & Co. and the First National Bank were in close business union the National City Bank apparently occupied a position of independence. More recently, however, it has been drawn into the community of interest existing between the two first named, as is evidenced by a series of important transactions.

First. Within three or four years Morgan & Co. acquired $1,500,000 par value of the capital stock of the National City Bank, representing an investment at the stock's present market price of $6,000,000, and J. P. Morgan, Jr., became a director. (Morgan, R., 1036, 1075, 1076; Davison, R., 1879; Ex. 134-A.)

Second. In 1910 Mr. Morgan in conjunction with both Mr. Baker, his long-time associate, and Mr. Stillman, head of the National City Bank, purchased from Ryan and the Mr. Harriman estate $51,000, par value,

of the stock of the Equitable Life Assurance Society, paying therefor what Mr. Ryan originally paid with interest at 5 per cent — about $3,000,000 — the investment yielding less than one-eighth of 1 per cent. Mr. Stillman and Mr. Baker each agreed to take a one-fourth interest in the purchase if requested to do so by Mr. Morgan. No such request has yet been made by him.

No sufficient reason has been given for this transaction, nor does any suggest itself, unless it was the desire of these gentlemen to control the investment of the $504,000,000 of assets of this company, or the disposition of the bank and trust company stocks which it held and was compelled by law to sell within a stated time. Mr. Morgan was interrogated as follows on this subject (R., 1068, 1069, 1071):

Q. You may explain, if you care to, Mr. Morgan, why you bought from Messrs. Ryan and Harriman $51,000 par value of stock that paid only $3710 a year, for approximately $3,000,000, that could yield you only one-eighth or one-ninth of 1 per cent.

A. Because I thought it was a desirable thing for the situation to do that.

Q. That is very general, Mr. Morgan, when you speak of the situation. Was not that stock safe enough in Mr. Ryan's hands?

A. I suppose it was. I thought it was greatly improved by being in the hands of myself and these two gentlemen, provided I asked them to do so.

Q. How would that improve the situation over the situation that existed when Mr. Ryan and Mr. Harriman held the stock?

A. Mr. Ryan did not have it alone.

Q. Yes; but do you not know that Mr. Ryan originally bought it alone and Mr. Harriman insisted on having him give him half?

A. I thought if he could pay for it that price I could. I thought that was a fair price.

Q. You thought it was good business, did you?

A. Yes.

Q. You thought it was good business to buy a stock that paid only one-ninth or one-tenth of 1 per cent a year?

A. I thought so.

Q. The normal rate of interest that you can earn on money is about 5 per cent, is it not?

A. Not always; no.

Q. I say, ordinarily.

A. I am not talking about it as a question of money.

Q. The normal rate of interest would be from 4 to 5 per cent, ordinarily, would it not?

A. Well?

Q. Where is the good business, then, in buying a security that only pays one-ninth of 1 per cent?

A. Because I thought it was better there than it was where it was. That is all.

Q. Was anything the matter with it in the hands of Mr. Ryan?

A. Nothing.

Q. In what respect would it be better where it is than with him?

A. That is the way it struck me.

Q. Is that all you have to say about it?

A. That is all I have to say about it.

Q. You care to make no other explanation about it?

A. No.

. . . . . .

Q. I do not understand why you bought this company.

A. For the very reason that I thought it was the thing to do, as I said.

Q. But that does not explain anything.

A. That is the only reason I can give.

Q. It was the thing to do for whom?

A. That is the only reason I can give. That is the only reason I have, in other words. I am not trying to keep anything back, you understand.

Q. I understand. In other words, you have no reason at all?

A. That is the way you look at it. I think it is a very good reason.

Mr. Baker was asked the following questions (R., 1466, 1467, 1469, 1470, 1535):

Q. Coming, now, to this transaction of the Equitable Life. You remember when Mr. Morgan acquired the control from Messrs. Ryan and Harriman, do you not?

A. Yes, sir.

Q. When was it?

A. I could not tell you that date.

Q. It was in 1910, was it not.

A. If that is what you have in your record there, that is correct, I suppose.

Q. I think that is correct. Is that your recollection?

A. No; it is not my recollection; but it is on the record there.

Q. What is your recollection?

A. I know it was two or three years ago. That is all.

Q. At the time Mr. Morgan acquired the interest

in the Equitable, did he come with you?

A. Yes, sir.

Q. And with Mr. Stillman?

A. Yes.

. . . . . .

Q. . . . I want to ask you further concerning this Equitable Life transaction. Do I correctly understand that at the time Mr. Morgan made the purchase you and Mr. Stillman committed yourselves to take part of it?

A. That was done so informally ——

Q. (interrupting). Did you?

A. Yes; I will say we did.

Q. You were consulted before it was done and you agreed to take a part of it?

A. Yes.

Q. Then, following that, about a year later, you were asked to write this letter, were you not, confirming that arrangement?

A. Yes. Mr. J. P. Morgan, Jr., wrote me a letter and I put my initials at the bottom, saying it was so, or something of that kind.

. . . . . .

Q. Referring back, now, to the talk you say you had with Mr. Morgan and Mr. Stillman about the purchase of the Equitable stock; before it was purchased, what reason did Mr. Morgan give for wanting to take that stock from Mr. Ryan?

A. I can not remember that he gave any special reason, except that he thought it would be a good thing to be in his hands.

Q. When he said he thought it would be a good thing to be in his hands, rather than in the hands of Mr.

Ryan, what did you understand that to mean?

A. I did not understand that to mean much of anything. I did not take much interest in it.

Third, about a year later Mr. Stillman and Mr. Baker, pursuant to an understanding between them and J. P. Morgan & Co., purchased approximately one-half of the holdings of the Mutual and Equitable Life insurance companies in the stock of the National Bank of Commerce, amounting altogether to some 42,200 shares. Mr. Baker being a member of the finance committee of the Mutual, it was arranged that he should purchase the Equitable's stock — about 15,250 shares — and Mr. Stillman the Mutual's. Pursuant to the understanding, Mr. Stillman turned over 10,000 shares to Morgan & Co., who already owned 7000 shares. Mr. Baker kept 5000 shares, turned over 5000 to the First Security Co., and distributed the rest among various persons; 3000 shares were allotted by Mr. Stillman and Mr. Baker to Kuhn, Loeb & Co.

Mr. Baker testified as follows regarding this transaction (R., 1463, 1464):

Q. Was the purchase of that stock the result of an understanding between you and him and others?

A. Yes, sir.

Q. Who were the others?

A. Some of the people at Mr. Morgan's.

Q. Who?

A. I can not remember whether it was Mr. Morgan himself, or Jack — I mean Mr. J. P. Morgan, Jr. — or some others; I do not remember.

Q. Then the purchase altogether amounted to about 42,200 shares, did it not, from the two companies?

A. Yes.

Q. What arrangement was there as to the distribution of that stock; how it should be distributed between Messrs. Morgan and Stillman and yourself?

A. I can not remember that there was any in particular. I disposed of mine as I have told you, and that is as near as I can remember. I can account for the bulk of it.

Q. Was there or was there not talk about the distribution of that 42,200 shares?

A. There may have been, but I do not remember.

Q. You do not remember whether there was or not?

A. No, sir.

Q. And you can not tell what Messrs. Morgan & Co. agreed to take before the stock was bought?

A. I do not know whether they agreed to take any. I think Mr. Morgan took 10,000 shares, probably, from Mr. Stillman.

Q. Before you bought the stock between you, these three interests, was there not some understanding, and if so, what was it, as to the way it should be divided up?

A. Possibly there was, but I do not remember clearly enough to answer the question intelligently to you. I am willing to admit, if it is of any interest to the committee, that there was an understanding and that we were to take it for joint account.

Q. The committee would rather not have any admissions that do not agree with your recollection, if you have no recollection of it at all.

A. I have not a definite enough recollection to state under oath.

Q. Is it your impression that there was an understanding that it was purchased for joint account?

A. Yes.

Q. Between those three interests?

A. Yes; that it would be divided. I do not think they were for joint account.

The National City Bank, the First National, and Morgan & Co. now have two representatives each on the board of directors of the National Bank of Commerce — Mr. Vanderlip, president, and Mr. Simonson, vice president, of the first named; Mr. Baker, chairman of the board, and Mr. Hine, president of the second; and H. P. Davison and J. P. Morgan, Jr., of the last; whilst six of its finance committee of nine (it has no executive committee) consist of Mr. Vanderlip and Mr. Simonson of the National City Bank, Mr. Hine of the First National, Mr. Wiggin, president of the Chase National, which, as appeared above, has for some years been controlled by the First National, and Mr. Davison and Mr. J. P. Morgan, Jr., of J. P. Morgan & Co.

Fourth, during the same period in which occurred the three transactions just described — that is, within the last four years — the National City Bank, the First National, and Morgan & Co. (excluding issues in which there were other parties to the joint account) have purchased or underwritten in joint account thirty-six security issues (including the impending issue of the Interborough Rapid Transit Co.) amounting to $484,456,000 and they, with other associates, thirty-one additional issues amounting to $548,027,000, making in all sixty-seven issues aggregating over $1,000,000,000 in which the First National, the National City Bank, and Morgan & Co. were joint purchasers or underwriters. Further, in the same period, the National

City Bank and Morgan & Co. and other associates, not including the First National, have purchased or underwritten in joint account twenty security issues aggregating $333,385,000. On the other hand, in the ten years prior to 1908 the National City Bank joined with Morgan & Co. in but one purchase or underwriting of securities and with the First National in not one.

The acquisition by Morgan & Co. of a large block of stock of the National City Bank with representation upon its board of directors, and the transactions that followed, in which those two institutions and the First National Bank were joined, as above set forth, show a unison of interest and a continuity of coöperation between the three such as for many years previously had existed between two of them — Morgan & Co. and the First National.

Combined power of Morgan & Co., the First National, and National City Banks. — In earlier pages of the report the power of these three great banks was separately set forth. It is now appropriate to consider their combined power as one group.

First, as regards banking resources:

The resources of Morgan & Co. are unknown; its deposits are $163,000,000. The resources of the First National Bank are $150,000,000 and those of its appendage, the First Security Co., at a very low estimate, $35,000,000. The resources of the National City Bank are $274,000,000; those of its appendage, the National City Co., are unknown, though the capital of the latter is alone $10,000,000. Thus, leaving out of account the very considerable part which is unknown, the institutions composing this group have resources of upward of

(*e*) General Electric Co.: A member of the group was one of the organizers of the company, is a stockholder, and has always had two representatives in its directorate, and markets its securities.

(*f*) International Harvester Co.: A member of the group organized the company, named its directorate and the chairman of its finance committee, directed its management through a voting trust, is a stockholder, and markets its securities.

(*g*) Lackawanna Steel Co.: Members of the group have four directors in common with the company and, with associates, marketed its last issue of securities.

(*h*) Pullman Co.: The group has two representatives, Mr. Morgan and Mr. Baker, in the directorate of this company.

(*i*) United States Steel Corporation: A member of the group organized this company, named its directorate, and the chairman of its finance committee (which also has the powers of an executive committee) is its sole fiscal agent and a stockholder, and has always controlled its management.

Fourth, as regards the great public utility corporations.

(*a*) American Telephone & Telegraph Co.: One or more members of the group are stockholders, have three representatives in its directorate, and since 1906, with other associates, have marketed for it and its subsidiaries security issues in excess of $300,000,000.

(*b*) Chicago Elevated Railways: A member of the group has two officers or directors in common with the company, and in conjunction with others marketed for it in 1911 security issues amounting to $66,000,000.

(*c*) Consolidated Gas Co. of New York: Members

of the group control this company through majority representation on its directorate.

(*d*) Hudson & Manhattan Railroad: One or more members of the group marketed and have large interests in the securities of this company, though its debt is now being adjusted by Kuhn, Loeb & Co.

(*e*) Interborough Rapid Transit Co. of New York: A member of the group is the banker of this company, and the group has agreed to market its impending bond issue of $170,000,000.

(*f*) Philadelphia Rapid Transit Co.: Members of the group have two representatives in the directorate of this company.

(*g*) Western Union Telegraph Co.: Members of the group have seven representatives in the directorate of this company.

Summary of directorships held by these members of the group. — Exhibit 134-B . . . shows the combined directorships in the more important enterprises held by Morgan & Co., the First National Bank, the National City Bank, and the Bankers and Guaranty Trust Cos., which latter two, as previously shown, are absolutely controlled by Morgan & Co. through voting trusts. It appears there that firm members or directors of these institutions together hold:

One hundred and eighteen directorships in thirty-four banks and trust companies having total resources of $2,679,000,000 and total deposits of $1,983,000,000.

Thirty directorships in ten insurance companies having total assets of $2,293,000,000.

One hundred and five directorships in thirty-two transportation systems having a total capitalization of

$11,784,000,000 and a total mileage (excluding express companies and steamship lines) of 150,200.

Sixty-three directorships in twenty-four producing and trading corporations having a total capitalization of $3,339,000,000.

Twenty-five directorships in twelve public utility corporations having a total capitalization of $2,150,000,000.

In all, 341 directorships in 112 corporations having aggregate resources or capitalization of $22,245,000,000.

The members of the firm of J. P. Morgan & Co. hold seventy-two directorships in forty-seven of the greater corporations; George F. Baker, chairman of the board, F. L. Hine, president, and George F. Baker, Jr., and C. D. Norton, vice presidents, of the First National Bank of New York hold forty-six directorships in thirty-seven of the greater corporations; and James Stillman, chairman of the board, Frank A. Vanderlip, president, and Samuel McRoberts, J. T. Talbert, W. A. Simonson, vice presidents, of the National City Bank of New York, hold thirty-two directorships in twenty-six of the greater corporations; making in all for these members of the group 150 directorships in 110 of the greater corporations.

The affiliations of these and other banking institutions with the larger railroad, industrial, and public utility corporations and banks, trust companies, and insurance companies of the United States, are shown in graphic form in two diagrams which are in evidence, and are attached to this report as Appendices F and G.

Relations between Morgan & Co., First National Bank, National City Bank, Lee Higginson & Co., Kidder, Peabody & Co., and Kuhn, Loeb & Co. — Besides the group

composed of Morgan & Co. and the First National Bank and the National City Bank, the principal banking agencies through which the greater corporate enterprises of the United States obtain capital for their operations are the international banking firms of Kuhn, Loeb & Co., of New York, and Kidder, Peabody & Co. and Lee Higginson & Co., of Boston and New York.

While it does not appear that these three last-named houses are affiliated with the group consisting of the first three in so definite and permanent a form of alliance as that existing between the latter, it is established that as issuing houses they do not as a rule act independently in purchasing security issues but rather in unison and coöperation with one or more members of that group, with the result that in the vastly important service of arranging credits for the great commercial enterprises of the country there is no competition or rivalry between those dominating that field, but virtually a monopoly, the terms of which the borrowing corporations must accept.

The full extent to which they participate in one another's issues does not appear, owing to the absence of data as to the names of underwriters, other than in strictly joint-account transactions of the issues of securities made by Messrs. Morgan & Co., Kuhn, Loeb & Co., the First National Bank, and the National City Bank. The distinction between the cases in which one of the banks or banking houses assumes the relation of an underwriter of an issue of securities made by one of the others and that in which they act in joint account is that in the former case underwriters do not share in the primary bankers' profit, but insure the former against loss, while in the case of a joint account they are part-

ners and as such share in the original risks and profits.

The course of business is for the house acquiring from a corporation the right of purchasing or underwriting an issue of its securities to offer participations in the purchase or underwriting to one or more of the associates named. Taking as an illustration the latest issue of the American Telephone & Telegraph Co., the method of procedure is thus described in the testimony of Mr. Schiff (R., 1664):

Q. And is there not an issue now in course of offer to the public of American Telephone & Telegraph bonds?

A. There is.

Q. Advertised in the last few days?

A. In course of offer to stockholders; not to the public.

Q. They are in course of offer to the stockholders and if the stockholders do not take them, are they then to be offered to the public?

A. Then the underwriting syndicate will have to take them, and whether they will offer them to the public or not I do not know.

Q. But it is an issue that is publicly offered to the stockholders?

A. It is going to be publicly offered to the stockholders.

Q. What is the amount of that issue?

A. I believe it is between $60,000,000 and $70,000,000.

Q. It is $67,000,000, is it not?

A. It may be $67,000,000; I do not recall.

Q. Is that a joint-account transaction between Morgan, Kidder, Peabody, and yourselves?

A. It is a joint account transaction between

Morgan's, First National Bank, the National City Bank, Kidder, Peabody & Co., and Baring Bros., and ourselves.

Q. Baring Bros., of London?

A. Yes.

Q. Take that as an illustration; who made the deal with the company?

A. I believe J. P. Morgan & Co.

Q. And they invited you to participate on joint account with these other houses?

A. They did.

. . . . . .

It was admitted by Mr. Davison, of Morgan & Co., and other bankers that the practice of banking houses becoming in effect partners in the purchasing and underwriting of securities instead of acting independently of one another is a development of recent years.

Mr. Davison testified as follows (R., 1854, 1855).

Q. Recently, within the last few years, many of the issues of J. P. Morgan & Co. have been made jointly with the First National Bank and the National City Bank, have they not?

A. Yes.

Q. And many with Lee-Higginson and with western bankers?

A. No; not very many with the western bankers. As a matter of fact, I recall very few with the western bankers. We have made them occasionally with Lee-Higginson and with other houses.

Q. You have made them very largely with Lee-Higginson?

A. It is comparative. I do not think we have, very largely.

Q. But your main joint-account transactions are with the City Bank and the First National Bank?

A. I think they have been.

Q. Is it not a fact that in previous years you made the issues largely alone, prior to five years ago?

A. I think more largely alone; yes, sir. They were smaller in character.

Q. Within what length of time has it been that J. P. Morgan & Co. have done most of their issuing business in joint account? Has it been within your time?

A. No; I think it was a little before my time.

Q. You think it started a little before your time?

A. I think it started a little before my time. In fact, the evidence shows that it did.

Mr. Schiff said (R., 1688):

Q. Don't you know that most of the Morgan issues in the past few years have been made jointly; that is, that the City Bank has participated in them with the First National?

A. I do.

Mr. Schiff is a director of the City Bank.

It will be noticed that Mr. Davison advances the great size of present-day security issues in explanation of why banking houses now purchase such issues in combination or for joint account instead of independently, as formerly. The fact is, however, . . . that not only are small issues still very frequent, but they are purchased in concert as regularly as the larger issues. Of the issues since 1907 . . . purchased or underwritten by two or more of the banking houses there named acting together, about ninety were for $5,000,000 and less, while an additional sixty were for amounts between $5,000,000

and $10,000,000. It also appears that forty-five of such issues for $5,000,000 and less, most of them made since 1909, were purchased or underwritten by Morgan & Co. in conjunction with associates.

Of course we do not suggest that banking houses may not on particular occasions join in purchasing or underwriting an issue of securities and yet remain entirely independent and free to compete with each other generally in the purchase of security issues. But where a group of such banking houses, pursuant to a settled policy, regularly purchase these issues in concert, competition amongst them in this vastly important commercial function is effectually suppressed. And that is the situation in this country. No less an authority than Mr. Baker admitted as much (R., 1542, 1543):

Q. But among these banking houses that we have named is there not a strong and continuous community of interest in the purchase and sale of securities?

A. I think there is. We have always tried to deal with our friends rather than with people we do not know.

Q. It is a good deal better to deal with your friends and split it up than it is to compete for the securities?

A. Not necessarily.

Q. That is what happens, is it not?

A. Oh, I do not think so to any great extent.

Q. Have you ever competed for any securities with Morgan & Co. in the last five years? If so, give us the name of them.

A. I do not know that we have competed with them.

Q. You divide with them, do you not? You give them a part of the issues when you have it?

A. We are apt to.

Q. And if they take a security they give you a part

are interested or become interested in one kind of issues of a company that they retain that interest in other issues?

A. Often it is so.

Q. That is part of the banking ethics, is it not?

A. Yes, I would say it is; on satisfactory terms.

Q. Is it another rule of banking ethics that bankers shall not interfere with one another's customers?

A. The same ethics obtain in banking that obtain in the legal profession and in the medical profession as to infringing upon the preserves of others.

Q. Well, what are the ethics in the banking profession as to trespassing upon the preserves of others?

A. If you will tell me what the ethics are in the legal world, I will answer your question.

Q. No; I would rather have you tell me the ethics in the world with which you are acquainted.

A. I can not state the matter any better than you have. It is the custom — I am not dealing in ethics.

Q. What is the custom among bankers and banking houses as to any one interfering with another's customer in business?

A. I do not know whether there is any custom. I think it is considered unprofessional.

Q. Unbusinesslike?

A. And not in good form according to the highest principles of business practice.

Q. Is it not in accordance with banking ethics to interfere with or take customers away from firms; to take customers who have been doing business with some other banking house?

A. I think that is ordinarily considered high-minded practice not to do so.

Mr. Davison testifying on the same subject said (R., 1858, 1859):

Q. Then you know of these three instances — the Chicago & Western Indiana Railway Co., the Kansas City Terminal Co., and the New York Central, all made within a few weeks jointly with other banking houses — those we have been discussing. Is there any rule or custom among bankers that where they make one issue of a company or are interested together in one issue they remain interested in subsequent issues?

A. For the same company?

Q. Yes.

A. As a matter of practice, if it was satisfactory in every particular, I should say it was the custom; yes. It is a matter of banking ethics.

Q. A matter of banking ethics?

A. I should say so; yes.

Q. If either one of the three thereafter gets an issue of that company it is a matter of banking ethics that it is for joint account, is it?

A. I should say that the natural way of handling that business would be to have it go to the parties who handled it before, if it were satisfactorily handled; yes.

Q. You mean if they have not had any differences or disagreements between themselves?

A. Yes, if it was satisfactorily handled.

Q. Have you not within the last few weeks also taken an issue of $67,000,000 of American Telephone & Telegraph Co. bonds jointly with Lee-Higginson and other banking houses?

A. No.

Q. You participated with them in that issue?

A. Excuse me, I was going to answer your question.

I think with others, not including Lee-Higginson & Co. as principals, but with Kidder, Peabody & Co., the First National, the National City Bank, Baring Bros. & Co. (Ltd.), of London, and Morgan-Grenfell (Ltd.), of London, we have underwritten an issue of $67,000,000 of American Telephone & Telegraph Co. bonds.

Q. Are they the same parties ——

A. I beg your pardon — and Kuhn, Loeb & Co.

Q. Are they the same bankers or banking houses with which you had previously underwritten issues of the American Telephone & Telegraph Co.?

A. Exactly; and that is a complete answer to your question.

Q. You have together underwritten, I think, $150,000,000 of those bonds, have you not?

A. That is my recollection.

Q. So that the same rule of banking ethics required the same disposition of this issue as of the others?

A. I would not say it required it.

Q. It resulted in it?

A. It resulted in it, exactly.

Q. As a matter of fact, in business morals it would require it.

A. It would require it if everything was properly and satisfactorily handled, and there were no other factors in the situation which might make it inexpedient. The situation, when a transaction comes up, always governs.

Mr. Schiff was more guarded in his statement of the practice (R., 1666, 1668, 1669):

Q. And you would not, for instance, if you knew the Southern Railway was going to make an issue of

securities, be willing to bid on them, would you?

A. We would not.

Q. In other words, these houses have their recognized clients, have they not?

A. To some extent.

Q. And is it not also recognized that they are their clients and that they are not to be interfered with?

A. I think that is going a bit too far, because there is very frequently interference or attempted interference.

Q. Has there ever been any interference with your exclusively handling the issues of the Union Pacific Railroad in the last ten years?

A. I do not think so.

. . . . . .

Q. Have you any instance in mind in which in the last five years you have invaded the field of Messrs. Morgan & Co. or they have invaded yours?

A. I have not.

Q. Or have you in mind any instance in which you have invaded the field of the National City Bank or the First National Bank, or in which they have invaded yours?

A. As to the First National Bank, I know we have not. As to the National City Bank I can not say for certain. I think they would do business to a certain extent even where we are considered the agents, and we would do certain business where they are considered the agents; not to a large extent.

Q. Is not that where the corporation is a customer of both of you? Is not that the only case in which the corporation is claimed to be or regarded as a customer of both of you or either of you?

A. It is in cases where a corporation is regarded as a

THE MOLDING OF AMERICAN BANKING

MEN AND IDEAS

By
FRITZ REDLICH

In Two Parts

With a New Introduction by the Author

JOHNSON REPRINT CORPORATION
New York and London
1968

Library of Congress Catalog Card Number: 68-28936

Printed in the U.S.A.

THE MOLDING OF AMERICAN BANKING

MEN AND IDEAS

By
FRITZ REDLICH

Part II
1840 - 1910

HAFNER PUBLISHING COMPANY, INC.
NEW YORK
1951

scale enterprises by imperfect competition, cooperation, and interlocking interest.

The tremendous power which accrued after 1880 to J. P. Morgan and to the other great investment bankers was accumulated in two steps: first by the logical development of their earlier acquired status of "active" investment bankers, and secondly by their achievement in making themselves the key figures in the national economy. The result of this process is usually called investment bankers' control, a correct, but badly misunderstood term. To be sure, a contemporary statement that investment bankers as fiscal agents of corporations "being responsible for [their] welfare and finances" "controlled" and "directed" those finances, is a good description of the situation.[512] In every other respect control by the investment banker was negative rather than positive. In other words, voting trusts[513] and directorates in corporations were to keep out undesirable people, whatever this may have meant, and to preclude detrimental policies. The only positive aspect of control was very often the selection of the chief executive and perhaps of other leading officers, as comes out in a letter of Schiff's written in 1912. With respect to some railroad he wrote to a European ally: "but the recent management has evidently been a very poor one and must be thoroughly changed."[514] Morgan, for instance, made Elbert H. Gary the head of the United States Steel Corporation and sustained him in a fight with Charles Michael Schwab, very much to the detriment of the enterprise concerned. He made the very unfortunate selection of such a nonentity as Charles S. Mellen to head the New York, New Haven and Hartford Railroad. George F. Baker, on the other hand, selected Theodore Newton Vail as the head of the American Telephone and Telegraph Company when by a pool he developed a concern of national importance out of the previously Boston-controlled corporation. But once the "right" men were in and as long as they ran the enterprise in question in line with an understood over-all policy and with profit, the investment banker in control in effect did absolutely nothing. Industrially, to use Veblen's term, what appeared as investment banker's control meant de facto autonomous administrations.[515] But they were autonomous only in return for success and good behavior, and the continuously recurrent need for additional funds in an expanding national economy made the captains of industry vassals of the investment bankers. These things are too well known to need further detailed attention.

Investment bankers' activities led, as indicated, to diminishing competition in the fields which they controlled. Consequently those contemporaries whose gospel was the Wealth of Nations and who believed with their long deceased master in the magic power of competition as the regulator of economic life and vehicle of progress were horrified. Untermyer, the New York lawyer and counsel of the Pujo Committee, was among these, and his questioning of such investment bankers as Morgan or Baker took all too often a turn toward the pathetic. He acted on the basis of a semi-religious creed, on the basis of certain value judgments, as the modern social scientist would express it; consequently he could not understand the fact statements, the basic thinking, and the value judgments of those whom he questioned. His remarkable factual knowledge, on the other hand, made him in many respects their superior. There was, of course, much dissimulation and lack of cooperation on the part of the bankers, but not always when the counsel suspected it. He and the members of the Pujo Committee, spellbound by their belief in competition, saw the powerful investment bankers as "striking at the very vitals of [even] potential competition." By throttling this institution under which the country had grown and prospered the bankers had violated the spirit of our legal system. The Pujo Committee thought there was still time to smash by legislative action the obstructions to competition which the investment bankers had erected; and that when the "arteries of credit" were no longer "clogged," large enterprises would begin to compete again. Much understanding for facts and trends the legislators did not possess, but they sensed rather correctly that the "money power" (i.e., the control of economic life by the investment banker or "financial capitalism") might fall by its own weight.

The second step, in the accumulation of this control of economic life by the investment banker, alluded to previously, remains to be discussed. Domination of railroads, industrial corporations and, to a less extent in that period, of public service corporations would not have been possible if the investment banker had not been ready at all times to finance their legitimate needs. For this purpose some of the investment bankers, especially the House of Morgan, assumed the functions of fiscal agents of the corporations whose securities they floated. This implied that they became their depositories and, in fact, extraordinarily large deposits were involved. One of the Morgan partners conceded before the Pujo Committee that a part of these deposits was invested in securities,[516] that is to say it was used in the course of the investment banker's business. The situation was blurred, of course, when investment banking activities were performed by commercial banks, such as the First National and the National City

Banks of New York; but essentially it was the same. (Here and in many other respects one sees clearly how serious problems were arising by 1910, problems which had to be solved in the 1930's.) Moreover for the purpose above-mentioned of being always ready to serve the capital needs of the largest corporations the investment banker had to acquire control of the main customers for securities and of sources of credit for himself. As to the former, we find the leading investment bankers attempting to gain influence over the large insurance companies.[517] A detailed investigation of this relationship does not fall within the scope of this research. But it may be mentioned that by 1913 J. P. Morgan held a majority in the Equitable Life Assurance Society and that his partner George W. Perkins (1862-1920) was between 1901 and 1905 simultaneously a vice-president of the New York Life. George F. Baker, on the other hand, was a trustee and member of the Finance Committee of the Mutual Life Insurance Company. Finally, prior to 1905 Schiff was a director in the Equitable, and at that time the Speyers seem to have had their hands in the Mutual Life Insurance Company.[518] More interesting from the point of view of this research is the control of commercial banks by investment bankers. It implied access to short term funds in the form of lodged deposits,[519] especially bankers' balances, and in the form of created deposits. Such funds could be used for two purposes: first as call money, that is to say, as a prop for speculation in securities. (It will be remembered how important was the role of speculation in the flotation of the gigantic security issues of the 1900's.) It is not accidental that those commercial banks which were interested in investment banking themselves were among the largest lenders on call.[520] Secondly, the banks so controlled were made to develop a business in what was called "syndicate securities," that is to say, lending on securities not yet listed on the stock exchange, but still held by syndicates.[521] Since National Banks were by law hampered in entering the business in securities, the investment bankers took an additional interest in building up large trust companies which, working under state laws, were free to act in that field as their masters saw fit. It is not necessary here to enumerate all the banks and trust companies in which the Morgans, Bakers, Stillmans, Schiffs, etc., were interested. Morgan is said to have had "a powerful voice" in banks and trust companies whose resources amounted to $723,000,000. Among them were such banks as the National Bank of Commerce, the Chemical National Bank, and the Bankers and the Guaranty Trust Companies. George F. Baker, on the other hand, held at one time, in the interest of the First National Bank of New York, the majority of the stock of the Chase National Bank which was later transferred to the former's security affiliate, although the motive of acquiring this control was not in the field of security dealings. Finally Lee, Higginson and Company and Kidder, Peabody and Company together were the most potent forces in the three leading Boston banks which held more than one half of the city's banking resources, the First National Bank, the National Shawmut Bank, and the Old Colony Trust Company.[522]

The important question remains, to what extent was there concerted exertion of control on the part of the leading investment bankers, or to what extent did they compete among themselves, regardless of their policy of abandoning the competitive struggle in the sectors which they came to dominate. The situation was obviously different in several decades of the Morgan period. In the beginning (the 1870's) there was keen competition between Jay Cooke, the German-Jewish bankers, and perhaps the Rothschilds, on one side, and the Morgans-Drexels-Mortons-Barings, on the other. In the railroad field, the Morgans and Belmonts seem to have gone their own way in the 1880's and also in the 1890's, as did Stillman and Schiff, while Baker was always Morgan's "unswerving" ally.[523] There is documentary proof that Morgan's endeavors in January, 1895, to provide gold for the Treasury by a private bond issue were prompted to a certain extent by fear that the business might otherwise go to "Speyer and Company and similar [i.e., the German-Jewish] houses."[524] In the end, the terrific clash during the Harriman-Hill war of 1901 between two rivaling houses of investment bankers, the Morgans and Kuhn, Loeb and Company, showed that competition of investment bankers did not work any better than that between railroads. Thus thereafter the big houses appeared definitely arm-in-arm and hand-in-glove; but if one reads between the lines (for instance, in Vanderlip's recollections[525]), Schiff was hardly ever considered by Morgan an ally without reservation in contrast to Stillman who after 1907 was so accepted. Schiff cooperated with the latter rather than with Morgan and Baker.

When investment bankers abandoned competition they did so by "recognizing" each others' clients. It was not considered "good form," as Schiff expressed it, "to create unreasonable interference or competition... After the negotiation has once begun [a banking house] should not endeavour to get it away from somebody else."[526] As a matter of fact, however, the established investment bankers went further. They recognized certain corporations as belonging to the domain of certain houses

and so would not compete for their business. But, if we can believe Schiff whose upright behavior before the Pujo Committee makes an excellent impression on the historian, there was interference and attempted interference in what were probably borderline cases.

According to Professor Cochran's material the beginnings of the tying of certain corporations to certain investment bankers can be dated back to the 1880's. In that decade, strong roads whose securities were popular and in demand could still float them by asking for bids, without taking punishment later. This was the case, for instance, with the Chicago, Burlington and Quincy Railroad. Weaker roads, in contrast, had to abandon the method even against their will. The Northern Pacific is a case in point. In 1880 a syndicate, with the Morgans and Winslow, Lanier and Company as the leading members, took up the financing of the road at the point at which Jay Cooke had left it when he failed. A few years later, when a new flotation became necessary, the members of the earlier syndicate considered it their right to have the new securities; but the company asked publicly for bids. It received only one which was tendered by August Belmont and Company. Thereupon J. P. Morgan lodged a strong protest with its president. He denounced asking for bids as a breach of faith with the syndicate.[527]

The investment bankers of 1900 do not seem to have relied on the loyalty of their colleagues and potential competitors, but to have aimed at regular tying contracts, as can be guessed from the following extract from a meeting of the reorganization committee of the Northern Pacific Railroad held on March 14, 1896:

> The chairman stated that "it had been considered desirable that the bankers who had charge of the reorganization should, if possible, continue their friendly relations with the reorganized company for further ten years upon terms and conditions set forth in an agreement" which was ratified by the committee and declared binding upon the railroad.

In this agreement dated March 16, 1896, the banks in question (J. P. Morgan and Company and Deutsche Bank, Berlin) agreed for ten years to market the road's securities, if it desired, upon such terms and for such compensation as might be agreed upon, without being bound to do so. The company during that period was under the obligation of informing the bankers regarding "accounts, operations and conditions of the company and its property."[528]

In consequence of such policies and tactics, the great investment bankers, Morgan, Baker, Stillman, Kuhn, Loeb and Company, Lee Higginson and Company, and Kidder, Peabody and Company, controlled large transactions almost to the complete exclusion of outsiders, i.e., minor houses which they did not approve. Between about 1900 and 1910 there was only one issue exceeding $10,000,000 that was floated without their participation, and even that (an issue of $13,500,000) had the Morgan blessing. But dominance did not mean monopoly. There were other investment bankers[529] besides those belonging to the inner ring, such as the Speyers, Seligmans, Fisks, Blairs, Hallgartens, Salomons, and others, at least two commercial banks in Chicago, and several trust companies in New York which were interested in the field and will be discussed later. Dominance, however, meant that no important business in the area could be done without participation by the leading houses.

And still not all avenues were closed to newcomers, and not all doors to competition were slammed. This becomes evident from the remarkable rise of new investment banking firms after World War I. To a certain extent, the mere extension of capital needs would have made it impossible to uphold a tight control permanently. In fact, local investment houses made their appearance in the 1900's and so testified to the growing capital accumulation in secondary banking centers. But the true reason for the rise of new firms, which started on their careers between 1900 and 1910 when the power of the allied investment banking leaders was without match, lay in the latter's shortsightedness, the nemesis of their creativity, to use Toynbee's term. Small issues of industrials they could leave to outsiders without fear of punishment. For example, Harvey Fisk and Sons, which was on good terms with the House of Morgan, financed Bethlehem Steel.[530] But what the great men of the period, with perhaps one exception, did not see was that two main gaps were left wide open through which, somewhat later, new blood and vigorous competition could make their entrance again. These gaps were in the fields of public utilities and of retail distribution of securities. As to the former, utility bonds were then not in favor with the public and the big houses were rather reluctant to establish connections in this field. Stillman of the City Bank and Storrow of Lee, Higginson and Company seem to have been the only ones who came near to gaining a foothold therein.[531] On the beginnings of efficient retail distribution of securities a few words have already been said.

Thus, prior to World War I, the foundation was laid for the rise of the firms Harris, Forbes and Company and Halsey, Stuart and Company. The former was founded by Norman Wait Harris (1846-

1916) who had started as a soliciting agent for a life insurance company in Cincinnati, in which he rose and which he developed. In 1881 he founded the banking house of N. W. Harris and Company in Chicago[532] which specialized in state, county, city, and public utility bonds. He was the first to emphasize the need for and to build an efficient sales organization for securities. Noah W. Halsey (1856-1911), on the other hand, started his firm, N. W. Halsey and Company, in New York in 1901 after having been employed in Harris's organization as the New York branch manager. In 1903 he opened a Chicago office with H. L. Stuart in charge. Like Harris he took an interest in municipal bonds and entered the public utility field at a very early moment: In 1907 H. L. Stuart made the firm's first contact with Samuel Insull; and Halsey brought together in the 1900's the early constituents of the Pacific Gas and Electric Company and took a share in the founding of the Tri-City Railway and Light Company. Moreover he was one of the innovators in security retailing. Jay Cooke's security selling from house to house had been long forgotten, when Halsey, following on the heels of Harris, again adopted this method. In 1904 he also started national advertising of securities, advertising of the so-called "educational" type, and three years later, in cooperation with other bond houses, called a conference to discuss the possibilities of creating a broader market for securities.[533] (N. W. Halsey and Company ran into difficulties in 1916. The New York house was absorbed by the National City Company while the Midwestern offices became Halsey, Stuart and Company.) One readily sees that a younger generation of creative business leaders was here, between about 1900 and 1907, turning in new directions of which the accomplished leaders of the period hardly thought. But spectacular success was to be theirs only in a period beyond the scope of this book.[534]

When the Money Trust Investigation took place in 1913 financial capitalism was at the acme of its career, indeed, but the seed of decay was implanted and would soon sprout. The work of the Morgans, Bakers, Stillmans, and Schiffs was necessitated by the growth of enterprises in the fields of transportation and industry and, vice versa, it made their further growth possible. Thus their activities were meaningful and highly beneficial in the first instance. But, of course, the development had the undesirable aspect of power concentration for which a remedy was in the making at the expense of the investment banker as an institution. The growth of industry, assisted by the investment banker, was soon to reach a point at which big enterprises could to a certain extent dispense with the former's activities. Moreover, after the collapse of high pressure selling of securities in the 1920's the range of potential customers narrowed down. Thus the investment banker was caught between two millstones, self-financing by industry out of oligopoly profits and elimination of the middlemen by the largest institutional security buyers who acquired securities directly from the issuing borrower. Financial capitalism did not fail, but, to that extent and to the extent that government entered the scene as a financing agency in the 1930's, it fell from its dizzy height and lost that control over the national economy which its great nineteenth-century representatives had built.[535]

XV

In America financial capitalism, the organization of the large-scale sector of the national economy under the guidance and to the advantage of the investment banker, was the work of no more than half-a-dozen firms and hardly twice as many men. Outstanding among the former were: J. P. Morgan and Company, the First National and the National City Banks of New York, Kuhn, Loeb and Company, and to a smaller extent the two Boston houses, Lee, Higginson and Company and Kidder, Peabody and Company. The leaders of these firms, with the single exception of the German Jew, Jacob Schiff, were the descendants of New England Puritans, although some of them had not themselves grown up as Puritans. These men were first of all: J. P. Morgan, descendant of Connecticut pioneers, although himself educated in England and Germany; James Stillman, Texas-born Yankee; and George F. Baker who grew up on a Massachusetts farm in a strictly Puritan atmosphere. (The Yankee, Levi P. Morton, was in the beginning very close to this set of men, but fell behind because of his political ambitions.) Morgan and Baker, born in 1837 and 1840, respectively, belong to the generation of the Robber Barons,[536] while Schiff and Stillman, born in 1847 and 1850, respectively, were ten years their juniors. The Bostonians, Robert Winsor, Gardiner M. Lane, and James J. Storrow, who were about twenty years younger than Morgan and Baker, no longer belonged to the pioneers of financial capitalism, and yet came early enough to play a part in its creation through their Boston firms above-mentioned.[537]

This list of leading firms and men should be a warning for the scholar not to adopt the widely-held but erroneous belief, that in America in the nineteenth and early twentieth centuries, investment banking was the exclusive domain of private bankers. As to sheer numbers private bankers

undoubtedly exceeded commercial bankers in the field. But when one looks at the small number of men who by 1910 were at the apex of the pyramid, Morgan, Baker, Stillman, and Schiff, one finds two commercial bankers among the four top men. The activities of commercial banks in our field during the period under investigation will be discussed later in more detail.

The creative achievements of the men who brought financial capitalism into being were rooted in their organizational ability as well as in their capacity to think in magnitudes which would have made dizzy their lesser contemporaries. But organizational ability and vision alone would not have led to such staggering results as they actually achieved, had these bankers not been ruthless, brutal, and domineering. Theirs was the era of criminal buccaneering by businessmen. Without those qualities they would not have succeeded in bringing order into the chaos caused by reckless competition of large-scale enterprises. They were intellectually and morally superior to those with whom they dealt and whom often enough they fought a outrance; they were no buccaneers, but from our point of view their standard of ethics remained low because of their failure to recognize national or social responsibility. Theirs was the era of laissez-faire which, once embraced as a matter of creed, foredoomed any feeling for responsibility. If, as these men believed, the natural law ruling social life demanded the fight for the survival of the fittest, there was no room for what today would be called high business ethics. Thus these men were both magnificent builders and ruthless destroyers and their creative concentration on the organizational and financial side of transportation and industry, while overlooking the human and strictly industrial aspects, gives their destructiveness "daimonic" character.

It goes without saying that Morgan was the real leader among the leaders. John Pierpont Morgan (1837-1913) was the son of Junius Spencer Morgan (1813-1890), Peabody's partner and creative successor. He grew up in Hartford, London, and Vevey (Switzerland) and as a teen-ager spent some time in the Azores, experiences which were bound to give him an international outlook with a European tint. The American West was unknown to him until after the Civil War. The environment in which young Morgan's personality was shaped was typically bourgeois and, in line with American tradition, church-influenced. As a matter of play, the boy formed a partnership with a cousin keeping books as to income and expenditure. For his own use and for his own satisfaction, beginning as a child and for many years as an adult, he accounted strictly for his own expenditures. Rechenhaftigkeit, as Sombart calls the trait of the bourgeois, the enjoyment of accounting and of translating everything into figures, was typical of this man.

After having finished his general education by studying a few semesters at the University of Göttingen, young Morgan spent a short while in his father's counting-house and in 1857 was sent for additional training to Duncan, Sherman and Company in New York. There he was just an apprentice, notwithstanding much that has been written to the contrary. Needless to say, everything was done to facilitate the broadest possible business education of the youngster, who in 1859 went to New Orleans and Cuba. Returning, he opened an office of his own, and in 1860 with a relative he founded the firm of J. P. Morgan and Company, New York, which took over the agency of the London Peabody firm. (This, incidentally, implied a change in the policy of the latter house which previously, and in contrast to the Barings and Rothschilds, had worked through American correspondents.) The beginnings of J.P. Morgan and Company which fell into the opening years of the Civil War were not satisfactory all the way through. To be sure, by that time the young man was showing traits of independence, decisiveness, and willingness to tackle what for him were still big affairs. But when thrown into the maelstorm of Civil War business he became associated with "dirty deals" (the Hall carbine affair and certain gold dealings) and with doubtful personalities, such as Edward Ketchum, associations which show lack of caution, injudiciousness, and poor judgment of character. Indeed, Morgan never became a good judge of men, as he himself knew. As his latest biographer[538] hints, the fact that J. P. Morgan and Company became Dabney, Morgan and Company in 1864 might indicate that Junius Spencer Morgan preferred to have a reliable older supervisor for his son. When the Civil War ended Dabney, Morgan and Company flourished so that J. P. earned more than $50,000 a year and thus, as has been described, could come to play the orthodox role of an active young businessman, citizen, and church member.

In 1871, that is to say, at the time when Junius Spencer Morgan put his London house in the front rank of European investment bankers through the successful termination of the very risky French loan flotation, Drexel, Morgan and Company was formed by the merging of Reed, Drexel, and Company and Dabney, Morgan, and Company. This merger, which has been mentioned before, seems to have been conceived by Anthony J. Drexel and was highly beneficial for both concerns.

Prior to the merger J. P. Morgan's business had consisted of buying and selling bills of exchange

502. Money Trust Investigation, 1842, 1843, 1846, 1847; Pujo Committee, Report, 134.
503. James, Chicago Banks, 697.
504. The Pennsylvania Commissioners of Banking reported in the early 1900's that "quite recently the State [had] been invaded by the representatives of so-called bond houses and kindred corporations;" Report (for 1902), ix.
505. Willis and Bogen, op. cit., 8.
506. Nourse, op. cit., 100.
507. Ibid., 107.
508. For an example, see Chamberlain, op. cit., 62.
509. The preceding description is based on ibid., 18, 20, 21, 23, 24, 47-50, 57-61, 67, 113, 119, 125, 127.
510. Ibid., 83, 86, 129.
511. Pujo Committee, Report, 159, 160.
512. Money Trust Investigation, 313, 316.
513. Ibid., 1816, 1824. Much material on voting trusts can be found in that publication with the help of the index, pages 2196, 2197. For voting trust agreements, see 1092, 1093, 656 ff.
514. Adler, Schiffs, I, 140.
515. Money Trust Investigation, 1019, 1020, 1453-1455, 1561. The discussion before the Pujo Committee and in public is marred by lack of distinction between management and policy determination; see ibid., 1963, 1964.
516. Money Trust Investigation, 1984, 1985.
517. Of $1,360,000,000 worth of securities floated between about 1900 and 1905, Schiff sold about $100,000,000 to the Equitable, the New York Life, and the Mutual Life; Adler, Schiff, I, 192. As to those affiliations, see Money Trust Investigation, 984, 988; Pujo Committee, Report, 60, 69, 78, 135; Brandeis, op. cit., 15, 16.
518. Adler, Schiff, I, 185 ff.
519. By 1870 Jay Cooke used deposits lodged in his banking house for advances to the Northern Pacific Railroad; Larson, Cooke, 432.
520. For details see this volume, page 181.
521. Money Trust Investigation, 347.
522. For details, see Pujo Committee, Report, 57, 106.
523. For example, see Money Trust Investigation, 1525, 1686; Allen, Lords, 79.
524. Allen, Morgan, 107.
525. Op. cit., 195.
526. Money Trust Investigation, 1665, 1666, 1668, 1669, 2045.
527. With Professor Cochran's permission.
528. Money Trust Investigation, 1341, 1342.
529. The names of other smaller houses can be found in ibid., 1698. The above mentioned Blair and Company financed, for example, the Republic Iron and Steel Company.
530. Money Trust Investigation, 1554, 1563, 1564, 1669.
531. Stillman (National City Bank) financed Consolidated Gas; ibid., 1673.
532. His son Albert Wadsworth Harris (born in 1867) entered his father's firm in 1888 and became managing partner in 1907. By the time he entered N. W. Harris and Company (actually in 1891), Allen Boyd Forbes (1866-1923) joined it also. Forbes was a lawyer and had started in the legal department of Swift and Company of Chicago. He became a partner of the Harris firm in 1901, but only in 1909 was the firm rechristened Harris, Forbes and Company. See Huston, op. cit., III, 34 ff.
533. Bryson, op. cit., 6, 7; Commercial and Financial Chronicle, CIII (1916), 708, 709.
534. In contrast, the strength of Dillon, Read and Company did not root in preliminary achievements in pre-World War I days. It was due to the activities of Clarence Dillon which fall entirely into the post-War period. Dillon (born in 1882) was the son of a clothing merchant and small banker in San Antonio whose original name was Samuel Lapowski. Young Dillon went to Harvard, graduating in 1905, and after having had a few minor jobs went to Europe where he is supposed to have studied fine arts. This at least was gossiped in his firm. After his return he became the president of a machine tool factory in the Middle West and in 1916 joined the New York banking firm of William A. Read and Company whose founder, William A. Read, born in 1858, died that same year. (Read had come up in the banking house of Vermilye and Company. Being an able bond man he had cooperated occasionally with Stillman and Schiff and after falling out with the former had been financed by the Hanover National Bank, dying a wealthy man.) Dillon became senior partner of his house in 1920 and changed the firm's name to Dillon, Read and Company in 1921. See Barron, op. cit., 29; Allen, Lords, 370; Who is Who in Finance, Banking and Insurance, 1933-35 (Philadelphia, 1935).
535. Pujo Committee, Report, 159 ff; Sweezy, op. cit., passim.
536. See this author's forthcoming paper "The Business Leader as a 'Daimonic' Figure."
537. Since the Cravath law firm in New York acted for Kuhn, Loeb and Company, Speyer and Company, Hallgarten and Company, J. and W. Seligman and Company, Harvey Fisk and Sons, and William Salomon and Company, much information on the legal aspect of the investment bankers' business can be found in Swaine's book on that firm.
538. Allen, op. cit., 237, 27, 29.
539. Corey, op. cit., 88.
540. Allen, Lords, 94.
541. Allen, Morgan, 85 ff. As to Morgan's railroad reorganizations, see Campbell, op. cit., 145 ff.
542. The voting trust agreement of the stockholders of the Bankers Trust Company can be found in Money Trust Investigation, 656 ff.

543. Paine, Baker, 269.
544. Op. cit., 142.
545. The sources for Morgan's activities are extraordinarily unsatisfactory. Corey's book is totally unreliable; Satterlee's is irksome because of its lack of criticism. Allen's book, better balanced than any of its predecessors, adds very little to what was known before. Good is the article on Morgan in Gras-Larson, Case Book although it lacks critical appraisal. Important, of course, is the Money Trust Investigation, 1003 ff, 1808 ff, 1959 ff, 2126 ff.
546. The dates are from Who's Who in Finance; Adler, Schiff Life and Letters, I, 15 ff.
547. Ibid., II, 329.
548. He is supposed to have become later a partner of Hallgarten and Company, New York.
549. Oberholtzer, op. cit., II, 214, 215; Larson, Cooke, 295 ff.
550. Jenks, op. cit., 292.
551. See Pujo Committee, Report, 78-80.
552. Adler, op. cit., I, 197 ff.
553. As an ally of Lee, Higginson and Company and the Seligmans, Kuhn, Loeb and Company took an interest in the issues of General Motors; Money Trust Investigation, 1689.
554. Pujo Committee, Report, 57.
555. Money Trust Investigation, 1663.
556. Ibid., 1698, 1760 ff.
557. For a list of securities purchased without associates in the first instance, see ibid., 1758, 1759.
558. Pujo Committee, Report, 78; Money Trust Investigation, 1660 ff, especially 1661, 1662, 1663, 1668, 1671, 1677, 1684, 1695-1698, 1757 ff; Adler, op. cit., I, passim, especially 27, 28, 91 ff, 151.
559. Page 90.
560. Incidentally, Brown Brothers and Company whom we have met before as merchant bankers took an interest in investment banking, beginning about 1880 when Eugene Delano took charge of the Philadelphia office. But they did not belong to the leading houses in the field. We find them as allies of the Morgan group of banks when in 1887, for instance, they cooperated with Drexel, Morgan and Company in the flotation of securities of the Philadelphia and Reading Railroad. In the 1900's they appear repeatedly as allies of Kuhn, Loeb and Company, Kidder, Peabody and Company, and Lee, Higginson and Company. See Brown Brothers and Company, Experiences, 53, 54; Money Trust Investigation, 1698, 1760, 1926-1929, 1932, 2073, 2074, 2078, 2083. Incidentally the Baltimore house, Alexander Brown and Sons, also appears as a participant in a flotation; see ibid., 1698.
561. The Central Trust Company, J. and W. Seligman and Company, and Kuhn, Loeb and Company cooperated in the reorganization of General Motors; Pearson, op. cit., 124.
562. The preceding is based on Stevens's manuscript, op. cit., passim, especially 1-7, 22, 28, 32; Pearson, op. cit., passim, especially 97 ff; Perry, Bliss, op.cit., 239, 268 ff; Pujo Committee, Report, 75, 76; Money Trust Investigation, 1898 ff, 2003 ff.
563. Harvard College Class of 1880, Fiftieth Anniversary Report (Report X-1930), privately printed, 1930, 146 ff.
564. Pujo Committee, Report, 76, 77; Money Trust Investigation, 1995 ff, 2051 ff.
565. Bankers Magazine, XIII (1858/59), 15.
566. Secretary of the Treasury, Report on the Finances (1860), 481.
567. Oberholtzer, op. cit., I, 112 ff.
568. Among the subscribers of the first federal loan of 1894 were the following: American Exchange National Bank: $2,500,000; Chase National Bank: $500,000; Gallatin National Bank: $400,000; National Park Bank: $1,000,000; Seaboard National Bank: $200,000; Hanover National Bank: $1,500,000; Bank of the Manhattan Company: $500,000; Importers and Traders National Bank: $1,000,000; Merchants National Bank; $500,000; Bank of America: $500,000; Mechanics National Bank: $500,000; Chemical National Bank: $1,000,000; Central National Bank: $1,250,000; National Bank of Commerce: $1,000,000; Fifth Avenue Bank: $500,000; Fourth National Bank: $1,000,000. It is, of course, impossible to decide what proportion of these subscriptions were, respectively, for investment and for resale (investment banking). The list of subscribers can be found in U.S. 54th Congr. 2d sess., Senate Document 187, 34, 35. Again one can find numerous banks as subscribers to the loan of 1896; see the list of subscribers in U.S. 54th Congr. 1st sess., Senate Document 221, passim.
569. Peach, op. cit., 38 ff, especially 50; Comptroller of the Currency, Annual Report (1915), I, 35 ff.
570. Hollander, op. cit., 796, 813, 814; Peach, op. cit., 75, 76.
571. Paine, Baker, 69, 70, 84, 90, 91, 94, 95. A scholarly biography of Baker would be highly desirable.
572. The date is not certain. In some sources 1874 is given as the year in which Baker became president.
573. As to Fahnestock, see Larson, Cooke, 92, 107, 113, 114, 227, 256, 307, 308, 313, 421.
574. Money Trust Investigation, 2031, 2032.
575. Pujo Committee, Report, 66 ff, 80 ff; Paine, Baker, 125, 129; Money Trust Investigation, 1019, 1419 ff, 1895 ff; pages 2205 ff contain a list of joint, syndicate, and pool transactions of the First National Bank over a period of ten years.
576. As to the joint account and syndicate transactions of the National City Bank, see ibid., 2111 ff.

The BELL TELEPHONE SYSTEM

by

ARTHUR W. PAGE
Vice-President of the
American Telephone and Telegraph Company

HARPER & BROTHERS PUBLISHERS
NEW YORK AND LONDON
1941

THE BELL TELEPHONE SYSTEM

SECOND EDITION

K-Q

in the United States which has worked any harder or more sincerely toward that common objective than has the management of the Bell System which I have closely observed in the last ten years. Yet in the long run, I am certain that the presence of the commissions is essential for three purposes: first, to obviate the necessity of the legislatures dealing directly with the utilities on rates and services; second, to give the public assurance that some agency besides that rendering the service is looking after its interests; and third, to provide a continuing tribunal to receive, hear and decide complaints. But with the operating groups and the regulatory groups both agreed that the main objective is the best service at the least cost, the points of difference ought to be within a relatively small range. That there will be points of difference is certain, both because people differ and because an estimate of what can be done in a given circumstance made by the people who are going to do the work is likely to vary from an estimate by those who are going to watch it being done.

State commissions as a political mechanism for regulating the intrastate telephone business can claim a very satisfactory record. The industry it has regulated has constantly increased and improved its service, the rates have been reasonable, the industry on the whole is prosperous enough to be in condition to continue to improve its service and to meet any local or national emergencies.

The record of state regulation indicates that it has been a very active force. In the sixteen years, 1925 to 1940, there have been rate changes affecting local charges for telephone service in practically every exchange of the Bell System.

A rough calculation of orders affecting Bell System companies, made by the different state commissions—including the District of Columbia—from the beginning of their jurisdiction to March, 1936, gives a total of more than 5,600. This shows a very considerable activity and indicates a fairly constant scrutiny of rates and adaptation to changing condi-

tions in the needs for service and operations in providing it. Of these 5,600 orders, about 2 per cent were litigated by the companies. A little more than 2 per cent reached court with some other plaintiff. The rest of the orders went into effect without an appeal to the courts. This whole record indicates a general and successful practice of cooperation between the companies and the commissions. Another check on the effectiveness of state regulation is the time taken by commission cases. There were between August, 1919 and June 30, 1936, about 950 orders affecting Bell System Companies. Of these, some 600 were completed within six months, about 150 more within a year, about 120 more within two years and some 70 took more than two years. The greater number of orders are issued without ever becoming formal commission cases. That fact does not imply that the companies have not had an opportunity to discuss the facts and issues with the commission. In practically all instances they do. But in most instances the orders are based upon informal discussion between the commission and the company and agreed to without formal hearings. Even when the companies originate a rate reduction, they usually go to the commission and talk it over with the commission and quite often it appears as a commission order. On the whole there is a constant and effective examination of rates going on almost all the time. It takes a lot of hard work and serious discussion on both sides, and proceeds with relatively little friction.

This kind of regulation gets results with a minimum of expense either to the commission or to the company and a minimum diversion of the company's efforts from operation to rate case arguments, and this is important because a company whose management is primarily tied up with a rate case is temporarily, at least, not functioning at its best on its main job.

However, while most state regulation goes on more or less in this manner there are exceptions.

In 1925, the beginning of the period under discussion, there were four rate cases on the docket of a kind which a student of regulation might well say were evidences of its ineffectiveness. One was a case which the New York Telephone Company had started in 1920 to increase rates to care for the increase in costs arising from the high price era following the war of 1917-18. The facts were in favor of the company, but in one way and another the case was delayed so that it never got the decision granting increases until 1930. As the company was endeavoring to raise rates neither reason, nor the actual facts, would indicate that the company was the cause of the delay.

Another was a case started by the commission in Ohio in 1924. Hearings were begun in 1925. As far as the company was concerned, the case was submitted to the commission on evidence and briefs in April, 1927. Against its protest the case was reopened by the Attorney General. It went through various vicissitudes after that and was finally settled by compromise more than ten years later.

A third was a more or less similar case in Michigan begun in 1919 and ended in 1936.

Both the Michigan and Ohio cases were delayed somewhat by the court decisions in the Illinois rate case. This, the fourth of the protracted cases, was begun in 1921. The longest delay in that suit was from the fall of 1925 until the fall of 1928, a delay entirely at the instance of the City of Chicago, and so stated by the court.

There have been criticisms of the Bell System for using the law's delays. In the kind of cases described above there have been law's delays aplenty and an almost total absence of that necessary aspect of full justice, which is swift justice. But as to who caused the delays I think the record is clear enough that the Bell System is far more sinned against than sinning. And this is natural, for there is nothing that interferes with the flexibility or effectiveness of management more than one

of these semi-perpetual rate cases. Many things which the management feels should have prompt decisions can't be decided while the rate case is going on, for they are affected by it; or the company can't tell what to do because it can't tell which way the case will come out. And all the while, telephone rates become more and more a political football, debated by candidates for office—the very thing which regulation was supposed to eliminate and which in most cases it has eliminated.

The Bell System does not like to go to court with rate cases. It does not like them while they are in court. It does not want to keep them there. If in the legal processes of trying cases the Bell System counsel put in too lengthy evidence, as some people claim, or in any other way contributed to the tedious length of these proceedings, I am certain that they would welcome any court's ruling for trial on a simpler basis. But once the companies come to the place where they feel they are forced to go to court, and also in the almost equal number of cases in which another party takes the case to court, it is the duty of the lawyers to present the case as fully as may be necessary to obtain final decision on the merits under the existing rules and practices of the courts in which they appear.

Generally speaking, the state laws provide that rates shall be just and reasonable, neither unreasonably low nor unreasonably high. There is quite a margin between these two extremes. The federal Constitution provides that no person's property shall be taken without due process of law, that is, it shall not be confiscated. The federal courts hold that fixing rates so low as to deprive the owner of the opportunity of earning a fair return on the fair value of the property would be confiscation. In Massachusetts the principle is followed that rates which would justify a prudent investor in putting his money in the business are proper rates. The Bell System policy says "earnings must be sufficient to assure the best

possible service at all times and to assure the continued financial integrity of the business."

If one looks over all these criteria for rates and earnings, it would seem that a rate base that just missed confiscation was too low, that the Massachusetts prudent investment and the Bell System's "financial integrity" bases would probably be about the same if judged by the same people, and that a reasonable rate of return for a utility ought not to be lower than the return for equal efficiency in the competitive field.

The knowledge, experience and point of view of the commission or court which is determining the matter have much more to do with the result than the theory which they accept: If the rates are cut until the company begins to show signs of financial distress, the assurance of good service will be threatened and a recession in business catching a company in that condition may cripple it for a long time. If the rates are set so low as to require the company to go in debt to get money, again it is on the downward path. The return which will satisfy stockholders in the long run, the cost of equity money, is the essential criterion.

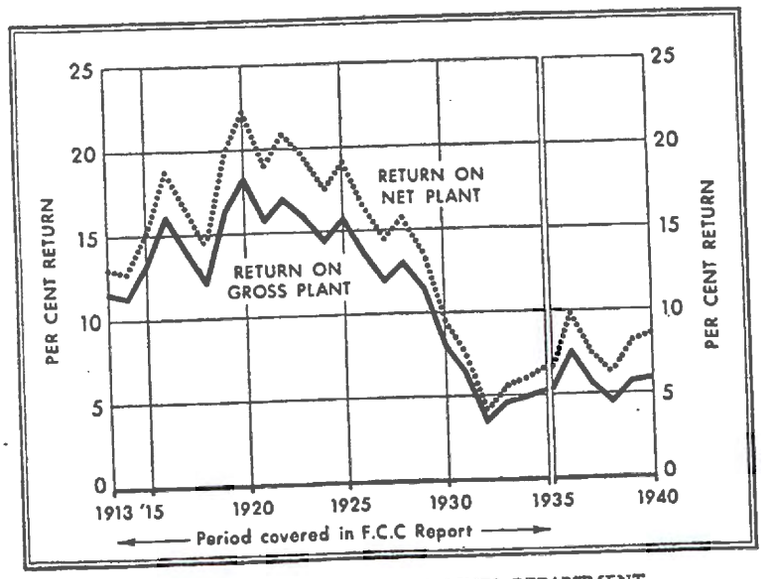
Before a Senate Committee in 1930, Mr. Gifford testified:

> So far as we are concerned in the Telephone business, so far as I am concerned in charge of trying to operate the business and give telephone service, these figures of rates of return and all of these legal terms are not of particular importance except when we do not earn what we need to earn to carry on the business. The thing that interests me is whether we have enough money and enough income to carry on this business which requires hundreds of millions of dollars of new money each year if we are going to go forward.

So far, under state regulation, the Bell System has met this test. State regulation of telephony has as good, if not a better, record than any other regulation in the United States. By the same token the Bell System has had as good or a better record of successful cooperation with regulation than any other industry. Either group can claim credit in varying de-

grees to suit itself. The element in the commissions which has made the system work has not been so much the theories on which it is based, or the technical processes of regulation, but the ordinary horse sense and business judgment of the commissions and their staffs on the simple question—is the company making too much or too little money to enable it and encourage it to give good service at the present and plan for better service in the future? The answer to that comes down to a matter of judgment.

American Telephone and Telegraph Company's long distance service under the Interstate Commerce Commission were reduced about as rapidly as they have been since that time, for the rate of technical improvement made it possible.



THE EARNINGS OF THE LONG LINES DEPARTMENT

This chart shows the annual per cent net return on Long Lines plant. The solid curve shows the return in relation to the plant investment (i.e., the plant as carried on the books at cost); the dotted curve shows the return on the plant investment after deduction of the reserve for depreciation of plant. On the left of the break in the grid, the chart is a copy of a Federal Communications Commissions chart. The curves on the right of the break show similar information for the subsequent period as reflected by the Long Lines Department records. From 1913 to 1934 the Interstate Commerce Commission had jurisdiction over the Long Lines Department. The Federal Communications Commission's report calls that the "nugatory" period of regulation. The 1935-1940 period has been under the jurisdiction of the Federal Communications Commission.

It may well be that what is called strict regulation of the interstate business from 1910 to 1934 would have been a very distinct disservice to the public. It is quite possible that

"strict" regulation might have produced the system prevalent in Europe where long distance connections habitually have many minutes—and sometimes even hours—delay, for that kind of service could have been made cheaper to begin with. The no-delay service is the result of long range planning and the availability of funds to finance it. It is quite possible that regulation which provides encouragement may produce better and cheaper service in the long run than a process of seeing how close a business can be kept to confiscation. If regulation is to be a success and the regulated industries are to be strong and serviceable both normally and in emergency, regulatory bodies must consider what it is that encourages men and organizations to function.

From the time the Federal Communications Commission took over the regulation of the interstate telephone business through 1940, there have been five reductions in long distance telephone rates. Three of these were made by the American Telephone and Telegraph Company, as it had done previously when under the jurisdiction of the Interstate Commerce Commission, and two after discussions initiated by the Federal Communications Commission, in the manner frequently followed by state commissions in their dealings with the operating companies. There have also been several reductions in the interstate rates of associated companies.

The Federal Communications Commission also made some changes in the standard accounting practices which had been developed by the Interstate Commerce Commission.

The Federal Communications Commission under the new statute departed from the "nugatory" attitude of its predecessor in two other matters. The language of the 1934 act covering telephone regulation followed the act covering railroad regulation. In the latter act there was a provision that no company could build a new interstate line without the Commission's agreeing that it was in the public convenience or necessity. The purpose of this was to limit un-

CHAPTER 9

The Vail Years: Organizing for the Universal Network

THEODORE VAIL WAS SIXTY-ONE YEARS OLD when he became AT&T's president for the second time, in the spring of 1907. He had served on the firm's board of directors since 1902 at the behest of J. P. Morgan and his colleague George F. Baker (of First National Bank of New York), both of whom had extended their substantial holdings of AT&T stock during the years of Fish's administration.[1] Convinced that the troubled enterprise required a steady and experienced hand at the helm, the Morgan faction now charged Vail with the job of revitalizing the Bell System.

He had much to do. Strapped by burgeoning financial obligations, troubled by intense competition, haunted by a reputation as an insensitive, ruthless monopoly, and hounded by the specter of regulation and municipal ownership, the company seemed adrift, its management unable to deal effectively with the major changes taking place in the industry and American business. Over the thirteen years he spent as head of AT&T, Vail was to fashion within the Bell System—and to a considerable degree in the American public—a new consensus concerning the type of telephone system that the United States should have. He gambled that his vision of a universal, centrally managed system regulated to protect the public interest would strike a responsive chord among those frustrated with

the results of competition—that the public would choose integration over redundancy in telephone operations and regulated monopoly over a decline in the quality of service brought about by unfettered competition. Soon after taking over as head of AT&T, Vail moved to popularize his vision and implement his plans.

"One system, one management, universal service" became the credo of the Bell System under Vail. Before the public and in annual reports, which increasingly became a forum for his ideas, Vail argued that the value of a telephone system was measured by the number of subscribers that it connected together. Cooperation and operational interdependence, not competition, constituted the centerpiece of his vision. His message was clear: "Duplication of plant [was] a waste to the investor. Duplication of charges [was] a waste to the user."[2]

Regulation played a crucial role in Vail's plans. Astute enough to realize that the kind of system that he proposed—a universal, integrated monopoly—would stand little chance of gaining public approval without some form of public control, he embraced state regulation. In doing so, he broke with his company's longstanding opposition to what its management had traditionally regarded as an unwarranted intrusion on its prerogatives. But after years of unfettered competition, during which the firm's financial strengths had been sapped and its efforts to build an integrated system had been dangerously undermined, regulation became a much-preferred alternative. Vail harbored no serious objections to state regulation, provided it was "independent, intelligent, considerate, thorough and just, recognizing, as [did] the Interstate Commerce Commission . . . that capital [was] entitled to its fair return, and good management or enterprise to its reward."[3]

Not all kinds of regulation appealed to him—only state regulation, the most conservatively inclined among the lot. Regulation itself had blossomed into a movement of sweeping proportions since Vail had last managed a telephone business. Although less than a dozen states boasted a utility commission—and these were vested with varying degrees of authority over telephone rates and operations—many more states were seriously considering establishing such governing bodies.[4] It was regulation of the municipal variety that Vail hoped to outflank by accepting the authority of state utility

agencies. The proponents of municipal ownership embodied a movement that seemed to be of a more radical bent.[5]

Vail's success in persuading a large and, as it turned out, important segment of the public to support his ideas would represent one of the more notable achievements of his administration. Also, it almost certainly would come to be regarded as one of the most masterfully orchestrated excursions in public relations of his day. But his claims for the business, and the new relationship he sought to establish between the Bell System and its public, were more than mere rhetoric. They were backed by dramatic changes in policy and outlook, in management structure and practice.

Among the areas witnessing great changes was management's attitude toward the company's independent rivals. Under Hudson and Fish the company had met the opposition with "fighting rates," patent infringement suits, and even, according to an FCC report, "propaganda campaigns" carefully designed to discredit the financial condition and operations of competitors. Even more significant was the firm's refusal to connect with most independently owned properties, a policy that denied them access to AT&T's extensive intercity network. Though modified somewhat during Fish's term to permit noncompeting independents employing Western Electric equipment access to the Bell System, the new policy still applied only to a small number of Bell's rivals. As of 1906, only 297,000 out of an estimated 2.16 million independent stations were connected to the Bell System.[6]

Under Vail, AT&T's policy on interconnection was further liberalized. Restrictions against employing equipment manufactured by vendors other than Western Electric were dropped; in their place AT&T established certain technical standards for interconnection. The results were dramatic. In 1907 alone the number of independent stations connected to the Bell System more than doubled; in 1908 the total of nonconnecting independent stations declined for the first time (see app. A). By 1910 there were more independent telephones connected to Bell's lines than there were remaining outside the system. Three years after taking office, Vail had reversed AT&T's competitive situation in the industry.

Prompting Vail's decision to open up Bell's network to noncompeting independents were the financial strains of building

39. FCC, *Telephone Investigation*, exhibit 1060B, 395.
40. For a sampling of the various opinions among the AT&T management concerning this issue see George V. Leverett to Fish, 17 October 1901, AT&T Archives, box 1355; Hall to Fish, 22 October 1901, ibid., box 1375; Davis to Fish, 23 October 1901, ibid.; and C. E. Yost to Fish, 12 September 1902, ibid., box 1353.
41. Fish to Wheeler, 20 July 1906, Fish Letter Book, 5:163, AT&T Archives. Similar letters urging a "radical change in policy in the matter of spending money" and of the "vital importance [of] hold[ing] up construction to the last dollar" were sent to all Bell Company presidents and to officers of AT&T Long Lines.

Chapter 9 The Vail Years

1. Danielian, *AT&T*, 57–69.
2. *1907 Annual Report*, 17, 18, AT&T Archives.
3. Ibid., 18–20.
4. By the end of 1907 the following states had established public agencies with regulatory authority over the telephone business: Indiana (1885); Mississippi (1892); Louisiana (1898); South Carolina (1904); and Nebraska, Nevada, Oklahoma, and Alabama (all 1907). Between 1908 and the end of 1911, fourteen additional states vested public-utility authorities with specific telephone regulatory powers: Vermont, Washington, Maryland, New Jersey, New York, Oregon, Michigan, New Hampshire, New Mexico, North Dakota, Ohio, California, Connecticut, and Kansas. Twelve more states added telephone regulation to the more traditional duties of their utility authorities over the next two years.
5. Martin J. Schiesl, *The Politics of Efficiency: Municipal Administration and Reform in America, 1880–1920* (Berkeley: University of California Press, 1977). For a contemporary account of this movement, see "Municipal Ownership versus Adequate Regulation," chap. 2 in Clyde Lyndon King, ed., *The Regulation of Municipal Utilities*, National Municipal League Series (New York: D. Appleton & Co., 1918).
6. FCC, *Telephone Investigation*, 134, 129.
7. Fish to Sherwin; to Charles F. Cutler; to Charles H. Wilson; and to W. T. Gentry—all 20 July 1906, Fish Letter Book, 5:157, 158, 159, and 160, respectively. In the letter to Gentry, vice president and general manager of the Southern Bell Telephone and Telegraph Company, Fish emphasized "the necessity of reducing expenditures

Bibliography

Most of the material used in this book can be found in the American Telephone and Telegraph Company Archives, 195 Broadway, New York, N.Y. The AT&T Archives contain an extensive collection of material documenting the early corporate development of AT&T and its associated Bell System companies.

Among the most useful sources of information is the company's letter book collection, which includes about six hundred volumes of general manager correspondence covering the period October 1877 to July 1930. Despite a gap between the crucial years 1901 and 1907, the General Managers' Letter Books provide a broad view of company operations and organization. Corporate policy development, on the other hand, can be gleaned from the forty-three volumes of Presidents' Letter Books, which cover basically the same period. In addition, there are the private letter books of Theodore N. Vail; E. J. Hall, Jr.; George Bradley; and C. J. French. Together these letter books represent a substantial portion of the outgoing correspondence of the company's officers and management during its formative stages.

Incoming correspondence, including but not limited to special agent reports; licensee and operating telephone company reports; monthly and annual reports of various departments; financial correspondence and records; and documents dealing with the acquisition of independent telephone companies, state and federal government relations, and organization plans can be found in the five hundred boxes of loose material catalogued and indexed in the archives. For the most part, this material covers the years 1877 to 1930. Material of more recent vintage is less rich in content.

The archives also house a complete collection of annual reports for AT&T and its predecessor enterprises. An incomplete

collection of annual reports submitted to AT&T by its associated companies is also available.

Supplementing this material are Exchange Association Conference minutes, minutes of the meetings of the Switchboard and Cable committees and the Telephone Rate Conference reports. These represent an invaluable source of information both on the specific subjects covered and on the dialogue that occurred between Bell Company officials and their licensees. The last three are particularly useful for understanding the more arcane technical and economic problems of the business during the period of network formation.

The AT&T Archives also contain an extensive collection of books on communications in general and the Bell System in particular. The following list of books comprises those books that I found most useful.

Bell Telephone Laboratories. *Engineering and Operations in the Bell System.* Murray Hill, N.J., 1971.

Bode, H. W. *Synergy: Technical Integration and Technological Innovation in the Bell System.* Murray Hill, N.J.: Bell Telephone Laboratories, 1971.

Bray, Douglas W.; Campbell, Richard J.; and Grant, Donald L. *Formative Years in Business: A Long Term AT&T Study of Managerial Lives.* New York: Wiley-Intrascience, 1974.

Brock, Gerald W. *The Telecommunications Industry: The Dynamics of Market Structure.* Cambridge, Mass.: Harvard University Press, 1981.

Bruce, Robert V. *Bell: Alexander Graham Bell and the Conquest of Solitude.* Boston and Toronto: Little, Brown & Co., 1973.

Casson, Herbert N. *The History of the Telephone.* 9th ed. Chicago: A. C. McLurg, 1917.

Chandler, Alfred D., Jr. *Strategy and Structure: Chapters in the History of the American Industrial Enterprise.* Cambridge, Mass.: MIT Press, 1962.

———. *The Visible Hand: The Managerial Revolution in American Business.* Cambridge, Mass.: Harvard University Press, 1977.

Conway, Connie Jean. "Theodore Vail's Public Relations Philosophy." *Bell Telephone Magazine* 37, pt. 1 (Autumn 1958), 39–46; pt. 2 (Winter 1958/59), 522–59.

Coon, Horace. *American Tel & Tel: The Story of a Great Monopoly.* New York and Toronto: Longmans, Green & Co., 1939. Reprint. Freeport, N.Y.: Books for Libraries Press, 1971.

Danielian, N. R. *AT&T: The Story of Industrial Conquest.* New York: Vanguard Press, 1939.

Fagen, M. D., ed. *A History of Engineering and Science in the Bell System: The Early Years, 1875–1925.* N.p.: Bell Telephone Laboratories, 1975.

Federal Communications Commission. *Proposed Report: Telephone Investigation.* Washington, D.C.: U.S. Government Printing Office, 1938.

Gabel, Richard. "The Early Competitive Era in Telephone Communication, 1893–1920." *Law and Contemporary Problems* 34 (Spring 1969), 340–59.

Harlow, Alvin F. *Old Wires and New Waves: The History of the Telegraph, Telephone and Wireless.* 1936. Reprint. New York: Arno Press, 1971.

Hounshell, David A. "Elisha Gray and the Telephone: On the Disadvantages of Being an Expert." *Technology and Culture* 16 (April 1975), 133–61.

Hughes, Thomas P. *Networks of Power: Electrification in Western Society, 1880–1930.* Baltimore: Johns Hopkins University Press, 1983.

Lockwood, Thomas D. *Practical Information for Telephonists.* New York: W. J. Johnston, 1882.

Miller, Kempster B. *American Telephone Practice.* 3d ed. New York: McGraw Publishing Co., 1900.

Prescott, George Bartlett. *The Electric Telephone.* 2d ed. New York: D. Appleton & Co., 1890.

Reid, James D. *The Telegraph in America: Its Founders, Promoters and Noted Men.* New York: John Polhemus, Publisher, 1886. Reprint. New York: Arno Press, 1974.

Rhodes, Frederick Leland. *Beginnings of Telephony.* New York: Harper & Brothers, 1929.

Sobel, Robert. *The Entrepreneurs: Explorations within the American Business Tradition.* New York: Waybright & Talley, 1974.

Stehman, J. Warren. *The Financial History of the American Telephone and Telegraph Company.* Boston: Houghton Mifflin Co., 1925.

Tosiello, Rosario J. "The Birth and Early Years of the Bell Telephone System, 1876–1880." Ph.D. diss., Boston University, 1971.

U.S. Congress, Senate, Temporary National Economic Committee. *Investigation of the Concentration of Economic Power: Hearings.* 76th Cong., 3d sess. Washington, D.C.: U.S. Government Printing Office, 1939–41.

Walsh, J. Leigh. *Connecticut Pioneers in Telephony: The Origin and Growth of the Telephone Industry in Connecticut.* New Haven: Telephone Pioneers of America, 1950.

Index

References to illustrations and tables are printed in italic type

Competition in a Network Industry: The Telephone Industry, 1894–1910

DAVID GABEL

The re-emergence of AT&T as the dominant firm in the telephone industry resulted from its adopting a predatory response to entrants. AT&T's strategy was effective because government regulations and capital market imperfections provided the incumbent with a first-mover advantage that prevented challengers from entering simultaneously in all markets.

Although turn-of-the-century Americans worried a lot about predatory behavior by large-scale businesses, most present-day scholars argue that it was both irrational and rare for large firms to engage in predation. Much of the current scholarship on the extent and rationality of predation can be traced to John McGee's seminal study of predatory pricing by Standard Oil. McGee focused on the Supreme Court case *Standard Oil v. U.S.* because the allegedly predatory practices detailed there played a large role in motivating subsequent legislation and court rulings.[1] Based on his reading of the evidence, McGee concluded that Standard Oil did not drive rivals out of business by initiating price wars and that such predation would have been an irrational strategy for the firm to pursue. He pointed out that by merging with its rival instead of cutting prices, Standard Oil could earn higher profits. Because predation involved an unneeded sacrifice of profits, merger was the preferred strategy. Theoretically, therefore, it seemed unlikely that dominant firms would pursue aggressive pricing strategies.[2]

Despite the dominant influence it has attained, McGee's argument can be challenged on several grounds. First, antitrust laws may preclude

The Journal of Economic History, Vol. 54, No. 3 (Sept. 1994). ISSN 0022-0507.

David Gabel is Associate Professor, Queens College and Graduate Center, Department of Economics, City University of New York, Flushing, NY 11367, and Affiliated Research Fellow, Center for Telecommunications and Information Studies, Columbia University.

This article has benefitted greatly from suggestions of and discussions with Michael Edelstein, David Weiman, Naomi Lamoreaux, Louis Galambos, Alan Gardner, Kenneth Lipartito, John Langdale, Malcolm Burns, Milton Mueller, Joan Nix, Franklin Fisher, Rodney Stevenson, two anonymous referees of this JOURNAL, and members of the Columbia and Yale University Economic History Seminars. The research was supported by a grant from The City University of New York PSC-CUNY Research Award Program, and the Economic History Association. Rebecca Tsui, Victor Fichera, and Brenda Baskin provided helpful research assistance. The generous help of staff at the AT&T Corporate Archive was essential for the research.

[1] *Standard Oil v. U.S.*, 221 U.S. 1 (1911).

[2] McGee, "Predatory Price Cutting," p. 137. McGee's influence on the current state of the law is reflected in the Supreme Court's assertion in *Matsushita Electric Industrial Co. v. Zenith Radio Corp.* that "predatory pricing schemes are rarely tried, and even more rarely successful." 475 U.S. 574, 589 (1986).

the merger option. Second, the incumbent may find predation profitable because, by acting aggressively, it can inflict enough financial harm on a rival to yield savings in acquisition costs in excess of its short-term losses. Third, as game theorists have argued, McGee's analysis ignores the strategic value of reputation. A firm supplying multiple markets may be willing to incur losses in one market in order to establish a reputation as an aggressive incumbent. An aggressive response to a first entrant can signal to potential rivals that entry will be unprofitable. It thus can deter entry in other markets and increase future profits.[3]

This article uses the history of the American telephone industry to critique McGee's view of predation. The industry's first firm, the American Telephone and Telegraph Company (AT&T), has been charged with predatory pricing on a number of occasions, but the cases have never been fully litigated.[4] Nevertheless, the general consensus of business historians is that AT&T did not make significant use of predation and that it retained control of the industry during the competitive period 1894 to 1910 because of its superior long-distance network and quality service.[5] These researchers have argued that AT&T's rivals focused on providing inexpensive local service, but this conclusion is based on inadequate research. Many of the entrants, here collectively referred to as the Independents, were in fact committed to providing quality service and building a long-distance market. AT&T's leaders knew this. Indeed, they were well aware that superior service was available from the Independents in certain areas of the Midwest and the West Coast. Both Frederick Fish, AT&T's president during the height of the competitive era, and his successor, Theodore Vail, acknowledged that competition resulted largely from AT&T's failure to develop its markets fully and to provide quality telephone service. In letters to Bell Operating Company executives, Fish frequently emphasized the need to improve the service: "We must give good service and must do everything that is necessary to have good service. Most of our opposition troubles are due, not so much to rates as to two other things,

[3] Ordover and Saloner, "Predation," pp. 350–56; Yamey, "Predatory Price Cutting," p. 129; and Burns, "Predatory Pricing," p. 266.

[4] Koller, who has undertaken the most comprehensive study of federal antitrust cases against alleged predators, did not consider cases in which a consent decree had been reached by the parties. Koller, "Myth," p. 111. The three federal cases filed against AT&T all ended in consent decrees.

[5] Chandler, *Visible Hand*, p. 202–3; Wasserman, *Invention*, pp. 121–22; Langdale, "Growth," p. 145; Federal Communications Commission, *Investigation*, p. 130; and Lipartito, *Bell System*, p. 93, and "System Building," p. 328. Weiman and Levin, "Preying," argue that AT&T attempted predatory pricing in the South but found that its market could be best secured by other means—for example the extension of its network and the use of administrative processes to prevent new entrants from obtaining franchises. In this article, I focus on the entrants' more successful efforts in the Midwest. The extension of AT&T's toll network was not by itself a sufficient means for eliminating AT&T's rivals outside the South. In the Midwest, AT&T's rivals quickly secured a large share of the market despite the company's already extensive toll network.

namely, bad service and not covering the field." Even where AT&T had successfully developed the market, poor service continued to endanger its position.[6]

In this article I argue that the demise of the Independents, especially in the Midwest, owed more than anything else to predatory actions by AT&T. AT&T chose to use predation rather than acquisition to control the industry because aggressive response to entry in one market deterred potential rivals in other markets. AT&T's management realized that if it pursued the acquisition strategy suggested by McGee, the compensation provided to rivals would encourage future entry.[7] In order to deter entry, therefore, AT&T set prices at predatory levels in its rivals' strongest markets. The strategy succeeded, and the rivals were forced to sell their assets at a loss.

WHAT CONSTITUTES PREDATION?

Various economic and legal tests exist for predation. Their principal feature is that the predator's action is intended to drive an equally efficient rival out of business and to scare off potential entrants.[8] The test of predation often used by the courts is to evaluate the relationship between price and either the marginal, average-variable, or total cost of production. Many analysts have pointed out, however, that cost tests are difficult to implement or misleading because the data needed to calculate the cost of production are difficult to obtain and subject to arbitrary cost-allocation decisions. More important, a price below marginal, average-variable, or total cost of production may have nothing to do with predation.[9] For example, at the start of this century, AT&T's managers believed that residential service should be priced at a rate that was less than the direct cost of service. This "loss" was more than made up by the higher charges that could then be set for business lines.[10] This below-cost price is not an example of predation because the intent was to bring new customers onto the network and thereby raise the value of service to existing customers.

Typically, predation takes the form of a temporary price reduction; but firms can also employ other exclusionary acts, such as predatory use of the administrative process and noisy advertising. By conveying to an entrant that it will have to incur large legal expenses or undertake an expensive advertising campaign, the incumbent raises the rivals pro-

[6] American Telephone and Telegraph Corporate Archive [hereafter AT&TCA], Fish/Burt, Feb. 14, 1903, Presidential Letter Books [hereafter PLB], vol. 26 (quote), and Fish/Glass, Mar. 23, 1903, PLB, vol. 27; and Danielian, *AT&T*, p. 58.

[7] AT&TCA, Fish/Pettengill, Apr. 21, 1902, PLB, vol. 23.

[8] See, for example, Tirole, *Industrial Organization*, p. 373; and Bork, *Antitrust Paradox*, p. 159.

[9] Bork, *Antitrust Paradox*, p. 154; and Tirole, *Industrial Organization*, p. 373.

[10] AT&T, "Conference."

spective costs and thus reduces the likelihood of entry.[11] Regardless of the method, by causing financial harm to rivals, the predator sends a signal to its existing and future rivals that rivalry will be costly to all parties.

THE STRATEGY OF THE INDEPENDENTS

In 1879, after a short period of competition with Western Union, the Bell System gained exclusive control of the telephone industry. Until Alexander Graham Bell's patents expired in 1893 and 1894, AT&T focused on serving the business community in the nation's larger cities. AT&T decided that because the marginal efficiency of capital was higher in more densely populated markets, it would largely ignore rural areas, towns, and smaller cities.[12]

The larger cities were served by AT&T licensees, called Bell Operating Companies. In exchange for the exclusive right to develop the market in a local region, the operating company agreed to provide the parent with 35 percent of its stock, purchase its equipment from AT&T's subsidiary Western Electric, interconnect with AT&T's long-distance network, and allow the parent company to monitor its engineering practices.

During the monopoly era, AT&T's strategy was quite profitable; Robert Bornholz and David Evans have estimated that the firm earned an average annual return on investment of 46 percent.[13] When the patents expired in 1893 and 1894, entrants were attracted to the industry because of the high profits and because AT&T had ignored less densely populated markets and the residential community. Promoters believed that profitable opportunities were available in undeveloped markets as well as those that Bell was already serving. The entrants felt that they would do well in the large cities because of the incumbent's high prices relative to cost, and because customers were dissatisfied with the quality of service on Bell's network.

Like AT&T, the Independents were committed to linking the different exchanges together through a toll network. But the entrants' approach to building a network was significantly different than AT&T's. The founder of one of the leading Independent journals noted that "the Bell people worked from the top down and the Independents from the bottom up."[14] The Independents resolved rate and engineering questions at state and national trade association meetings. At these meetings, voting was controlled by the local exchange companies, rather than the management of a national holding company. No party had the

[11] Salop and Schiffman, "Raising Rivals' Costs," p. 267.
[12] *Wisconsin Telephone News*, 1 (Dec. 1906), p. 1; and MacMeal, *Story*, p. 24.
[13] Bornholz and Evans, "Early History," p. 25.
[14] MacMeal, *Story*, p. 24.

power to force the numerous Independent exchange companies to adopt a particular practice.

In contrast, decision-making power for AT&T resided at its New York headquarters. By the start of the twentieth century, AT&T had increased its ownership in most Bell Operating Companies to over 50 percent. Its voting power allowed the parent company to standardize procedures more rapidly than the Independents. Nevertheless, there were drawbacks associated with this vertical organizational structure. Independent officials were more aware of local conditions and had greater latitude in adopting policies that met the needs of their communities. As AT&T consultant George Anderson pointed out, local control had been "a substantial factor making for the success" of the Independents.[15]

The Independents did especially well in meeting the demand for telephony in markets that had been neglected by Bell. With the expiration of Bell's patents, farmers began to purchase telephones from any one of a large number of new manufacturers of telephone equipment. Thereafter, the telephone quickly became a popular item on the farm. It served two general functions: it reduced the level of social isolation and provided a means for quickly contacting merchants in nearby towns.

Between 1894 and 1899, AT&T turned down the request of the companies that served rural America for interconnection with its networks, a policy that encouraged entrepreneurs to establish competitive exchanges. Wholesalers, millers, doctors, and other businessmen who worked in large cities realized that their trades would be aided by establishing an Independent exchange that could reach markets overlooked by AT&T. Such merchants and professionals provided an important source of local capital for the companies that competed with Bell.[16]

Bell's rivals knew that if they did not construct a long-distance network, they would be unable to attract customers away from Bell or to retain their customers' patronage. The Independents believed that toll service was highly valued by the business community, and they were keenly aware that their own connections to smaller towns and rural communities provided a competitive advantage in local markets. But in order to secure the patronage of business customers who were engaged in transactions over a larger region, they needed to construct a toll network that rivaled Bell's in breadth.[17]

[15] Anderson, "Telephone Situation," p. 67; and Whitney, "Report," p. 21.

[16] AT&TCA, Allen/Fish, Feb. 16, 1903, Allen Letter Books [hereafter ALB]; and Johnson, "Experience," p. 580.

[17] Wisconsin State Historical Society [hereafter WSHS], Dane County Telephone Papers [hereafter DCTP], Brown/Harper, Mar. 30, 1898, and Twining/Harper, Oct. 24, 1899; and AT&TCA, Jackson-French, Jan. 16, 1897, box 1277.

The Independents did construct regional networks. These networks were linked together. By 1904, for example, there was Independent toll service between Cleveland and St. Louis. The clarity of conversation on these long-distance networks, however, was often inferior to Bell's, and the lack of trunk lines meant that it took longer to set up a toll call on the Independents' systems. Clarity was inferior because no central organization had dictated construction standards. Consequently, the interconnecting equipment was not always compatible.[18] The Independents tried to solve this problem through their regional and national trade associations, the same mechanism used by the railroads. During trade association meetings, some of the Independents' leaders recommended that high-grade construction procedures be followed. High-quality equipment was recommended and installed because the predominant users of the network, business customers, were more interested in obtaining reliable, rather than cheap service. By 1906, the Independents had succeeded in adopting and implementing uniform standards within their regional networks. For calls over approximately 200 miles, however, the problem of standardization had not been fully resolved.[19]

Capital was needed for the construction of the high-quality trunk lines that could expedite the completion of long-distance calls. The Independents believed that the funds should be raised either by regional toll companies or by a national organization that owned all the regional toll lines. But the toll companies experienced trouble raising capital. Much of their stock was owned by local telephone companies; but despite their recognition of the necessity for constructing a toll network, these companies faced financial constraints that prevented them from making large subscriptions.[20]

Poor accounting practices were responsible for some of the local Independents' financial problems—some of the exchange companies made inadequate allowances for depreciation—but the effects of AT&T's predatory actions were more important.[21] By forcing its rivals to take losses in local markets, AT&T damaged entrants' ability to fund the construction of their toll network or to finance expansion into new markets. For example, AT&T feared that an Independent stronghold in upstate New York would serve as a lever for gaining entry into New York City.[22] Thus, the upstate Bell Operating Companies operated at a loss in order to serve as a "buffer" for the company's profitable New

[18] AT&TCA, Allen/Fish, Dec. 3, 1903, and June 4, 1904, ALB.

[19] "Report of the Fourth Annual Convention"; *Western Electrician*, 2 (Mar. 1, 1902), p. 148; and Nichols, "Result," p. 17. The national trade association meetings were only attended by the larger Independent companies. Because both large and small companies attended the regional meetings, it was within this forum that the most progress was made in establishing uniform operating and construction procedures.

[20] WSHS, Harper/Brester, May 12, 1899, DCTP; and *United Telephone Voice*, May 1921.

[21] Mathews, "Truth," pp. 305–6.

[22] AT&T, "Conference," p. 226.

York City monopoly. Part of the payoff for this strategy came in 1907 when the Independent in Rochester defaulted on its bonds and agreed to sell AT&T its properties.[23] AT&T's acquisition reduced the value of the Independents' properties at nearby exchanges. As a network industry, the strength of each Independent was dependent on the number of customers that could be reached on the Independents' network. The importance of network connections is reflected in the decline of a neighboring telephone company's stock after the Independent in Rochester was acquired by Bell. The Federal Telephone Company of Buffalo, a holding company that operated in Buffalo and elsewhere, saw its stock fall from $33 to $13 per share when the Rochester purchase was announced.[24]

The harm done to the Buffalo Independent resulted in part from the Independents organizational structure, in particular the lack of common ownership. An Independent company may have found it in its best interest to sell its properties to Bell, even though the action was harmful to other Independents. The Independents were aware that if exchanges such as Buffalo and Rochester were under common ownership, no one Independent could take action that was in its best interest but harmful to the general interests of the group. They therefore made several attempts to consolidate their operations under one management and to organize an independent, nationwide competitive communications system.[25] The most successful effort was made in 1909, but, as I describe in the next section, it was eventually halted by the predatory behavior of AT&T. AT&T's aggressive pricing was effective because some of its markets were partly protected by barriers to entry. These protected markets helped finance the incumbent's short-term losses in more competitive markets. In the following sections, I describe the source of the barriers—regulatory rules and capital market imperfections that impeded the Independents efforts to establish a ubiquitous network.

COMPETITION IN THE MIDWEST

As shown in Table 1, the Midwest was the region where the Independents met with the greatest success. Central Union, one of AT&T's operating subsidiaries in the Midwest, provided service in Indiana, Ohio, and Illinois. Although its service territory included most areas in these states, Chicago, Cincinnati, and Cleveland were served by other Bell Operating Companies.

Regional data underscore the strength of the Independents in the service territory of Central Union. In 1902 Central Union's network

[23] AT&TCA, Vail/Winsor, Mar. 26, 1909 (quote), "Proposed Consolidation," box 47; and *Telephone Securities Weekly*, Apr. 13, 1907.

[24] *Telephone Securities Weekly*, Apr. 7, 1907.

[25] Federal Communications Commission, *Investigation*, pp. 130–32.

TABLE 1
BELL AND INDEPENDENT MARKET SHARES, 1907
(percentages)

Region	Bell	Independents	Independents Affiliated with Bell[a]	Bell + Affiliated Independents
United States	51.2	48.8	13.7	64.9
North Atlantic	74.9	25.1	3.3	78.2
South Atlantic	57.2	42.8	7.4	64.7
North Central	33.8	66.2	20.5	54.3
South Central	50.2	49.8	18.6	68.9
Western	71.0	29.0	6.7	77.7

[a] These were Independent stations that exchanged service with the Bell System.
Source: U.S. Department of Commerce, *Telephones and Telegraphs, 1907*, table 10, p. 23.

connected one-third as many subscribers as the Independents. At the end of 1908 it included only 48 percent of all subscribers in its service territory.[26] By 1906 most of the major Independent exchanges (for example Toledo, Cleveland, and Indianapolis) were controlled by a holding company, the United States Telephone Company, whose corporate structure was similar to AT&T's. United States provided long-distance service in Ohio and Michigan and controlled the New Long Distance Company of Indiana. New Long Distance provided toll service in the Hoosier State and, along with United States Telephone, owned approximately 20 local exchange companies.[27] United States's trunk lines connected exchanges in Ohio, Michigan, and Indiana with other regional Independent systems. For example, a subscriber in Indianapolis could connect with the Federal Telephone System to reach Buffalo or with the Kinloch System to reach St. Louis.

The initial success of the Independents in the Midwest was largely due to four factors: improved local service, reduced price, more extensive regional connections, and the public's inclination to support a local firm.[28] Confronted with the Independents' initial success, Central Union attempted to retard its rivals' expansion by adopting rates that the firm's directors believed were "below the cost of doing the business." Central Union operated at a loss in order to protect AT&T's network.[29] According to L. N. Whitney, a superintendent of Central Union and a member of its board of directors, Central "cut [its] rates" as part of a general strategy "to cause every dollar invested in Independent property to be lost." Whitney added that these losses

[26] AT&TCA, Minutes of Director's Meeting, Central Union Telephone Company, Mar. 18, 1908, p. 264; and *Read et al.*, Richardson/Dubois, Jan. 22, 1909, in "Competition, Opposition, Mergers, Connections with Independents," p. 141.

[27] New England Telephone, *Telephone*, pp. 45–49.

[28] Whitney, "Report," p. 15.

[29] AT&TCA, Minutes of Director's Meeting, Central Union Telephone Company, Jan. 20, 1897, p. 237 (quote); and *Read et al.*, "Opinion Rendered by Judge William E. Dever," Jan. 20, 1917 slip. op., p. 41.

served "as a warning to other investors, who might dare to invade the field of the Central Union monopoly."[30]

In formulating its competitive response in the Midwest, AT&T studied other regions to identify strategic moves that could be used to secure the territory. On the West Coast, under the leadership of John Sabin, the Pacific Telephone Company had encountered little competition. In 1901 AT&T believed that entry had been forestalled in that area because the market had been widely developed through the use of inexpensive, ten-party service (ten customers sharing one connection to the central office).[31] In May 1901 AT&T put Sabin in charge of the Central Union Company. Upon taking control, he converted most of Central's customer connections from four-party to ten-party service. According to employees of Central and AT&T, this degradation in service increased the public's interest in obtaining service from the Independents, who mostly offered one- and two-party service.[32]

To the dismay of AT&T's chief engineer, Joseph Davis, and some other AT&T employees, ten-party service was unprofitable. Davis believed that the operating costs associated with ten-party service were so burdensome that the total cost of providing it was as high or higher than single-party service. But because of its inferior quality, the price for Bell's service had to be lower. Davis concluded that Central Union was providing service at a loss and advised the president of AT&T that the situation could only be reversed if Sabin was ordered to stop marketing ten-party service. Davis's proposal was rejected, and not until Sabin died in 1903 did the marketing of ten-party service terminate.[33]

The Independents' ability to take advantage of AT&T's strategic error was hindered by two factors. First, Central's below-cost prices made it difficult for the Independents to generate internal cash for expansion. Second, before service could be started in towns and cities, a franchise had to be obtained from the local government. The franchise often included regulations that were not part of the charter of Central Union or other Bell Operating Companies.

In granting a franchise to an entrant, the cities frequently stipulated maximum rates. The prices reflected the cost of doing business in an exchange that was comparable in size to the incumbent's. The low entry prices stimulated demand to an extent that had not been anticipated. Under the prevalent mode of manual switching, the cost per subscriber increased as the size of the network expanded. Larger networks

[30] Whitney, "Report," p. 5 (quote); and *Telephony*, 65 (Nov. 22, 1913), p. 23.

[31] Atwater, "History," pp. 53, 56, 68, 275. The Independents eventually did well on the West Coast because customers were attracted to their high-quality, one-party service. AT&TCA, Fish/Glass Mar. 23, 1903, PLB, vol. 27.

[32] Atwater, "History," pp. 78, 89, 275.

[33] Atwater, "History," pp. 53, 56, 68.

required more expensive switchboards, and operating procedures were more complex, requiring additional manual operations and time. Ironically, since the cost of service per subscriber increased as the number of telephones connected to the network increased, the entrants' success caused them to incur financial losses in some cities.[34] Although the Independents' initial prices were designed to cover their costs, the per-customer cost increased as their systems grew. Because the franchises did not include any mechanism for adjusting the price to reflect the increased cost, the Independents were in jeopardy.[35] But because the promise to sell service at low rates had influenced the granting of the franchise, the cities were reluctant to allow the Independents to raise their rates.

The degree to which city regulations hindered the Independents varied across the states. The Ohio Supreme Court decided in 1905 that the cities did not have the authority to fix rates, and therefore the Independents could adjust their rates to a paying basis.[36] The Indiana courts ruled differently, finding that the rates prescribed in the franchise were enforceable. This decision was especially harmful to the Indianapolis Telephone Company, which started service with rates approximately 50 percent lower than Central's during the monopoly era. The demand for the entrant's service exceeded the promoters' expectations, in part because the Independent also had a strong presence in the toll market. The New Long Distance Company connected Indianapolis subscribers with 48,000 customers in surrounding communities, whereas Central Union only offered access to 19,000 subscribers. The differential was a decided advantage for the Independent because the majority of toll calls were to neighboring communities.[37]

The Indianapolis Telephone Company found that in order to sustain good service, it needed to increase its exchange rates. Unlike Central Union, the Independent could not change its rates without permission from the City. In 1906, after extensive public hearings, the Board of Public Works turned down the request. According to one observer, city officials felt that because the Independent had proposed the original rates, it had to "make the best of a bad bargain."[38]

[34] See, for example, Lee, *Economics*, p. 74.

[35] The Independents' rates were not predatory because the below-cost prices were due to the regulatory process and were not adopted with the intent to drive an equally efficient rival out of business. Where left unconstrained by municipal regulations, the Independents raised their prices to reflect their increasing unit costs. WSHS, J. C. Harper to Wisconsin Railroad Commission, Sept. 1, 1907, series 1344, box 107, file 900.4.

[36] Stehman, *Financial History*, p. 88.

[37] New England Telephone, *Telephone*, pp. 61–63; AT&TCA, Richardson/Caldwell, Nov. 29, 1907, "Indianapolis," B1153; Sears, *Telephone Development*, p. 27; Pickernell/Fish, Oct. 20, 1905, reprinted in Federal Communications Commission Accounting Department, *AT&T Security Investments*, vol. 1, p. 129; and *Read et al*, "Testimony of Horace Hill," tr. 3037–38.

[38] AT&TCA, N.A., "Brief History of Indianapolis Litigation," "Indianapolis Consolidation," N.D., box 36.

As a result of the insufficient rates, the quality of service offered by Indianapolis Telephone declined.[39] This development coincided with improvements made in the Bell system. When Sabin died in May 1903, he was replaced by L. R. Richardson. Richardson found Central's service throughout the three Midwest states to be "poor." Central's general manager, Horace Hill, found, on the other hand, that the Independents' service was "satisfactory" and "efficient." Richardson decided that in order to win control of the territory, the quality of service on Bell's network had to be improved, and the number of cities connected to its network had to be increased. Advances in the quality of service were noticeable by 1905. Bell's principal advantage had been its superior long-distance connections, and Richardson felt that there was a need to establish a similar advantage in the short-distance toll market. Whereas the Independents had developed strong county systems, Richardson believed that the construction of cross-country toll lines would help improve Central's market position.[40]

While Richardson was upgrading the Central Union network, he took steps to retard the growth of the Independents. The decision of the Indianapolis Board of Works to deny its rate application damaged Indianapolis Telephone, but a more general problem for the Independents was Central Union's decision to operate at a loss until the Independents were driven from the market. Central Union could afford to improve and expand its network while operating at a loss because of the financial support provided by AT&T.

Theodore Vail, AT&T's President, commented that during the competitive era, Central Union stock was "practically valueless," and if not for AT&T's support, the firm would have been "liquidat[ed]."[41] AT&T invested approximately $30 million between 1898 and 1913, despite the prospect that Central would "have no earning capacity for a long-time." AT&T was willing to make these investments so that "the fight" in places such as Indianapolis, Toledo, and Columbus could "be carried out to a finish."[42] By curtailing or eliminating the profits of the Independents in their strongholds, AT&T was able to forestall their expansion into the monopoly markets of AT&T.[43] From the beginning of competition, a consensus had emerged within the parent organization and among the Bell Operating Companies "that the profit need not

[39] Stehman, *Financial History*, p. 86.

[40] AT&TCA, Richardson/Vail, Feb. 27, 1908, box 1357, (first quote); *Read et al.*, "Testimony of Horace Hill," tr. 3067 (second quote), tr. 3453–54; AT&TCA, Minutes of Board of Directors, Central Union, Mar. 18, 1908, p. 265; and Atwater, "History," p. 135.

[41] *Read et al.*, "Deposition of Theodore N. Vail," Feb. 1915, p. 241.

[42] *Read et al.*, American Telephone and Telegraph, "Brief and Argument for Appellant," Appellate Court of Illinois, First District, Gen. No. 23664, Mar. 1918, p. 2; and AT&TCA, Fish/Sabin, Dec. 24, 1902 (quote only) Private Presidential Letter Books [hereafter PPLB], vol. 2.

[43] *Read et al.*, "Final Decree by Judge William E. Dever," July 10, 1917, p. 77.

necessarily be immediately attached to the particular transaction, but that the company itself profit by what is done."[44]

Outside of Indianapolis, the Indiana Independents faced different constraints. In their smaller markets, city franchises were less of a limiting factor but prices were important. In Indianapolis, the Independent had a large share of the business market because the entrant had improved the quality of service. In other states, Independents had learned that if they continued to provide quality service, these high-margin customers would retain their service after a price increase. In less dense markets, where price was more of a factor, the Independents believed that it would be difficult to raise their rates unless Bell did the same. The Indiana Telephone Association suggested to Bell that the rivals end their ruinous rate wars. The Indiana Independents wanted to raise their rates to a paying basis, but believed that the rate increase would not be sustainable unless Central Union did the same. Central turned down the proposition and instead commented that competition in the industry "must and will" end.[45] AT&T was not willing to raise its prices to a paying basis until its rivals were eliminated.

Working with F. A. Pickernell, the AT&T official in charge of the parent company's competitive toll pricing policy, Central Union adopted other predatory tactics designed to limit the Independents' internal cash flow. Pickernell wrote to Richardson in 1905 that a means should be found to block the Indianapolis Independent from raising money for improvements: "If, by any means, the Indianapolis Telephone Company is prevented from getting money to put its plant in good condition, its earnings will decrease, and I would expect it would not be long before there would be difficulty in obtaining money to meet the fixed charges. This would mean . . . a receivership and a reorganization of the property."[46]

On March 2, 1909, partly in response to the deterioration of service on Indianapolis Telephone's network, the city of Indianapolis reversed its earlier position and granted the entrant a rate increase. Central Union, in line with Pickernell's suggestion, attempted to block this source of additional revenue by providing funding for a legal suit in opposition to the entrant's rate increase.[47] The Indianapolis suit was limited to the issue of the price for local service, because the city did not have the authority to regulate intercity (toll) rates. The outcome of litigation over

[44] AT&T, "Conference," p. 157.

[45] *Central Union News*, 3 (Feb. 1908), p. 8.

[46] *Read et al.*, Pickernell/Richardson, Oct., 13, 1905, reprinted in "Competition, Opposition, Mergers, Connection with Independents," p. 56 (quote); and AT&TCA, Fish/Caldwell, Dec. 1, 1905, PLB vol. 41.

[47] AT&TCA, N.A, "Brief History of Indianapolis Litigation," N.D.; and *Telephony*, 18 (Sept. 25, 1909), p. 317. Elsewhere, AT&T surreptitiously fought rate increases of the Independents in Court. See, for example, AT&TCA, Fish/Bethell, Dec. 23, 1902, PPLB vol. 2, and Fish/Yensen, June 26 and June 30, 1902, PLB, vol. 21.

local rates became immaterial when, on May 1, 1909, Central Union and AT&T reduced their rates on competitive toll lines. As described in the next section, this predatory rate reduction led to the sale of the Indianapolis exchange and other United States properties to an agent of AT&T.

CONTROL OF THE LONG-DISTANCE MARKET

In 1909 the Independents took an important step to overcome the dearth of long-distance trunk lines. They had already established regional networks in the Midwest, the Middle Atlantic States, upstate New York, and on the West Coast, and in the spring of 1909 the Independent Long Distance Telephone and Telegraph Syndicate took steps to unite the regional systems into a national network and increase the number of long-distance trunk lines. By mid-April the national toll company had either signed or was in the final stages of signing contracts with the nine regional Independent toll companies providing service east of the Rockies.[48]

This development concerned AT&T, for the regional toll companies had captured some of its traffic. At Buffalo, for example, the message growth rate on AT&T's monopoly toll routes was 26.5 percent for the three-year period ending March 1909, but only 9.6 percent on its competitive routes.[49] The growth of the Independents' toll network cut into Bell's profits as well as its traffic. Furthermore, Pickernell believed that the Independents' toll lines were often profitable, and their expansion was improving the position of the Independent exchange companies. He attributed the success of the regional Independent toll system in New York and elsewhere to four factors: the Independents had more customers in some exchanges, lower day rates, and offered both evening- and bulk-toll-rate discounts (neither of which were made available by AT&T). Pickernell believed that the cumulative effect of these advantages "ha[d] been considerable," as it had "rob[bed] the Bell system of a substantial amount of toll traffic, thus not only assisting the revenue of the opposition but greatly increasing its prestige with the more important telephone customers."[50]

Because of the threat the Independents posed to AT&T, Pickernell felt that AT&T "ought to do everything possible to hasten the downfall of the opposition in order that [their properties] may be purchased at a low price and merged with the Bell." AT&T had to do more than just match the rates of the Independents, for on heavily used routes, division of traffic at the Independents' rates would still be profitable for the

[48] AT&TCA, Contract United States Telephone with Max Koehler, Apr. 19, 1909, box 36; and *Telephony*, 19 (Mar. 26, 1910), p. 380.

[49] AT&TCA, Pickernell/Hall, May 21, 1909, B1376.

[50] Ibid.

Independents. Pickernell convinced AT&T officials to "attack" the Independents' most profitable lines, postulating that if the number of stations at two network nodes were essentially equal, the traffic would follow the rate.[51]

Pickernell advocated adopting rates that were lower than the Independents and that, if the Independent matched the price reduction, AT&T should "cut the rate again to a point that will control, or if [the Independent Toll Company] is losing money at least divide the traffic." AT&T's competitive toll-pricing policy architect argued that his plan would "enormously impair the earnings of the competitor with comparatively slight loss to the Bell company." The up to 50 percent price reductions would only be applied at competitive points. Pickernell thought that at the reduced rates, AT&T's earnings on competitive routes would be below the cost of money. He reckoned that because of AT&T's earnings in monopoly markets, there would be only a slight reduction in the firm's overall earnings. But the losses from a price war could push the opposition into receivership, and this would provide Bell with the opportunity to acquire its rivals and re-establish rates at the existing level.[52]

Pickernell's letters do not indicate the magnitude of the short-term loss that he thought might result from the price reduction. However, a letter written by B. Sunny, the president of the Bell Operating Company in Chicago, suggests that the forecasted annual loss to Central Union from a proposed rate cut that was being debated within AT&T in April 1909 may have been as little as $140,000. Sunny, in a letter to the president of AT&T, argued that losses at the Independents' strongholds in Ohio and Indiana were sensible because of the system-wide benefits to AT&T. By taking these losses, Central Union would prevent its rivals from operating profitably. If the existing Independents sustained losses, it would diminish their opportunity to expand into markets such as Chicago or to raise money internally for their toll lines. Naturally, a poor return on existing investments would also hurt the Independents' ability to raise money from external sources. Thus, Sunny wrote, the losses of Central Union were in the best interest of AT&T because they would help " 'exterminat[e]' " United States Telephone, a firm that was " 'a menance to our whole organization.' "[53]

In May 1909 Pickernell's policy was implemented. On competitive toll routes in the Central Union territory, as well as at other competitive points that were to be part of the Syndicate's emerging network, rates were cut by approximately one-third. The rate cuts were seen by the newspapers as an attempt to "checkmate" the Independents' national

[51] Ibid. (quote); and AT&TCA, Pickernell/Hall, May 12, 1909, B1376.

[52] Ibid.

[53] *Read et al.*, Sunny/Vail, Apr. 1, 1909, quoted in "Opinion Rendered by Judge William E. Dever," Jan. 20, 1917, pp. 135–36, and Testimony of Frank F. Fowle, tr. 633–35.

TABLE 2
IMPACT OF RATE REDUCTION IN 20 OHIO CITIES: TOLL MESSAGES AND REVENUES, SEPTEMBER 1908 AND SEPTEMBER 1909

	September 1908	September 1909	Percent Change
Messages			
Outward Central Union messages to reduced points	34,001	52,041	53.1
Outward Central Union messages to nonreduced points	26,766	29,783	11.3
Outward AT&T messages to reduced points	13,000	20,120	54.8
Outward AT&T messages to nonreduced points	5,196	6,650	28.0
Revenues ($)			
Central Union message revenue to reduced points	10,916	9,554	−12.5
Central Union message revenue to nonreduced points	5,271	5,628	6.8
AT&T message revenue to reduced points	9,662	9,152	−5.3
AT&T message revenue to nonreduced points	7,293	9,184	25.9

Source: AT&TCA, Thayer/Vail, Nov. 18, 1909, B2019, "Long Lines Department."

toll system.[54] When the price cuts were matched by United States Telephone, AT&T and Central Union cut their toll rates an additional third. The Independent did not match the second reduction because operations at that level would have meant doing business at a price that was less than the cost of business.[55]

Since AT&T's toll rates were now lower, United States Telephone could not continue in business. As Pickernell forecasted, traffic indeed followed the rate. The effect of the toll cut on Bell's traffic is shown in Table 2. Message volume increased by 54 percent on the short-haul routes of Central Union and the long-haul routes of AT&T. The rate reduction led to a short-term reduction in AT&T's profits. Despite the large increase in traffic, revenue declined.[56] In order to characterize an act as predatory, the aggressor must sacrifice short-term profits in order to increase long-term earnings. Because revenues declined, and AT&T's intent was to drive an efficient rival out of business, the price reduction was clearly predatory. Predation may also be inferred by looking at the price-cost relationship on competitive toll routes. Phillip Areeda and Donald Turner have argued that predation may be inferred

[54] *Daily Telephone News*, May, 4, 1909.

[55] *Telephony*, 18 (Aug., 21, 1909), p. 182, and 19 (Jan. 8, 1910), p. 53. United States Telephone did not indicate if the price was less than its average total or variable cost. The firm merely stated that operations were unprofitable at that level.

[56] The data also indicate the extent of toll competition. In 1908, 71 percent of the messages sent over AT&T's long-distance lines could have reached the same destination over the rivals' network. On short-distance toll calls, the option was only available for 56 percent of the traffic. The difference may be attributable to there being a lower likelihood of competition in small cities and towns. The long-haul traffic may have been between large cities.

TABLE 3
PRICE/COST RELATIONSHIP: AT&T'S COMPETITIVE LONG-DISTANCE TOLL ROUTES, SEPTEMBER 1908 AND SEPTEMBER 1909
(dollars)

	September 1908	September 1909
Revenue per message to reduced points[a]	0.743	0.455
Revenue per message to nonreduced points[a]	1.404	1.381
Nationwide average-variable cost per message	n.a.	0.48
Nationwide average-total cost per message[b]	n.a.	0.753

[a] Revenues are for messages originating in Ohio.
[b] Averages are calculated on the basis of variable cost plus depreciation and return on investment.
Note: n.a. = not available.
Source: AT&TCA, Thayer/Vail, Nov. 18, 1909, B2019, "Long Lines Department."

when prices are set below the average-variable cost.[57] Although region-specific cost data are unavailable, the available information suggests that AT&T's rates were below its variable cost of production. As shown in Table 3, the average revenue per message originating in Ohio was $0.455, $0.025 less than AT&T's nationwide average-variable cost per message.

Facing the prospect of future losses, United States agreed in October 1909 to sell its toll and exchange properties. In light of a recent circuit court's decision that found Standard Oil in violation of the Sherman Anti-Trust Act, AT&T was apprehensive that the Department of Justice might object to the acquisition of its former rival and therefore did not directly take over ownership of the properties.[58] Instead, it provided the R. L. Day Company with the funds for the purchase. The sale effectively put AT&T's market share at 100 percent in the territory formerly served by United States. After Day took over control of the Company, toll rates returned to their pre-May 1909 level.[59]

By adopting predatory prices, AT&T had succeeded in obtaining "key" properties at a fire-sale price. The United States's lines accounted for slightly over 50 percent of the regional Independent toll-line mileage. Day paid $7.3 million for the properties. AT&T's comptroller calculated that the value of the property was $12.85 million, a calculation based on both the earnings of the properties prior to the rate war, and the reproduction cost of the property. The two methodologies provided essentially the same result.[60]

[57] Areeda and Turner, "Predatory Pricing." Areeda and Turner's is but one of many tests for predation that exist in the law and economics literature. I have used their yardstick not because it is necessarily the most appropriate but because it is the most widely cited and one of the hardest to pass. For example, by comparison, Joskow and Klevorick have proposed a less stringent test that compares price with the average cost of production (Joskow and Klevorick, "Framework," p. 213).

[58] *Telephony*, 19 (Feb. 22, 1910), p. 186; and *Standard Oil v. United States*, 173 Fed. 177.

[59] *Telephony*, 19 (Mar. 26, 1910), p. 386.

[60] Sunny/Vail, Nov. 19, 1909 (quote), reprinted in Federal Communications Commission,

For a multimarket firm, the payoff from predation may extend beyond being able to buy out a rival at a low price. By establishing a reputation for predatory actions, the supplier is able to induce other rivals to take actions favorable to the incumbent. AT&T's toll-rate reduction in Ohio helped it secure control of St. Louis in the Fall of 1909. St. Louis was served by Bell of Missouri and the Kinloch Telephone Company. Kinloch had more toll connections to nearby points and consequently had higher per-station toll revenue. Financially, Kinloch was also more profitable. Pickernell estimated that, after proper allowance for depreciation, the entrant's return on actual dollars invested was 6.7 percent, 360 basis points more than Bell's rate of return. Kinloch's return was higher despite having effectively lower rate levels. The anomaly was the result of the entrant having lower maintenance and operator costs, as well as less spare capacity per subscriber.[61]

In 1908 Kinloch added 3,724 customers whereas Bell gained only 297 subscribers. AT&T felt that some action had to be taken in light of its rival's gains and the prospect that Kinloch would be able to expand further in the future. In August 1909 Bell replaced its measured service with Kinloch's flat-rate structure and levels. AT&T anticipated that because of increased expenses and the reduction in revenue, the change of rates would lead to a short-term financial loss of $250,000. Although AT&T executives expected that the revenue effect would be positive within a year, they did not believe that the new rates would provide a satisfactory rate of return in the long run.[62]

When Bell adopted the Kinloch rates, the entrant did not respond with a price reduction. Once the firm lost its status as the low-price supplier, however, its market share declined. Kinloch left its rates intact because it did not wish to enter "a vigorous rate war . . . similar to the Ohio campaign." Instead, despite its strong financial position, the firm exhibited an increased willingness to sell its properties to AT&T. The elimination of United States as a rival also increased the willingness of other Independents in such states as Ohio, Missouri, and Kansas to join the Bell network through a license contract.[63]

Ironically, the most serious legal challenge to AT&T's predatory actions was taken by some minority stockholders of Central Union, where AT&T was the majority stockholder.[64] Central's aggressive

---

Control, vol. 3, p. 174; and AT&TCA, DuBois/Vail, Oct. 12, 1909, "Ohio Consolidation," box 36. Burns, "Predatory Pricing," has provided an econometric estimation of the impact predation had on the prices of tobacco manufacturers acquired by American Tobacco. I am unable to employ Burns's methodology because of the lack of financial data for the overwhelming majority of firms acquired by AT&T.

[61] AT&TCA, Thayer/Durant, Feb. 24, 1909, and Pickernell/Thayer, June 2, 1909, box 4.

[62] Ibid.; and AT&TCA, Pickernell/Thayer, June 7, 1909, box 4.

[63] AT&TCA. Calhoun/Brooke, Jan. 18, 1910 (quote), and Transcript of Conversation between Calhoun and Brooks/Wilson, Mar. 23, 1910, box 4; and *Telephony*, 19 (Mar. 26, 1910), p. 377.

[64] Federal and State agencies considered blocking the sale of U.S. Telephone properties, but no

response to entry was in the best interest of AT&T, but the reverse was true for its minority stockholders. During the competitive era Central operated at a loss, paid no dividends, and the stock sold below par. In *Read et al. v. Central Union*, the judge found that the decision of Central Union to respond aggressively to entry, rather than act as a cooperative duopolist, hurt the minority stockholders of Central Union. The jurist noted that Central Union had "borne the full burden of this expensive fight." The decision of Central Union's directors to adopt policies that were in the interest of AT&T rather than that of the firm was a violation of their fiduciary responsibilities. For this reason, along with other fiduciary violations and AT&T's attempt to monopolize the telephone market, the judge ordered AT&T to sell its holdings in Central Union. The sale did not occur, because prior to the end of the appeals process, an out-of-court settlement was reached between the firm and the plaintiffs. AT&T agreed to pay the minority stockholders $1.75 million for 1,978.5 shares. The stock had a par value of $197,850 and a market value of approximately $90,000.[65]

THE INDEPENDENTS' FAILED EFFORT TO ENTER AT&T's MONOPOLY MARKETS

Regulatory Barriers to Entry

When the Indianapolis Telephone Company obtained its franchise, it did not anticipate how the setting of its local rates by the city would harm its long-term prospects. The Indianapolis maximum-rate rules were but one of many seemingly innocuous state and local rules that severely damaged the Independents. In this section, I explain how

---

action was taken. In December 1909, in anticipation of legal action, R. L. Day Company informed AT&T that it no longer wanted to hold the properties. Upon hearing this news, AT&T asked J. P. Morgan & Co. to take control of the properties. AT&T informed Morgan that a transaction had to occur quickly, and therefore the investment firm abandoned its standard procedure of determining the value of the properties. Morgan/Vail, Aug. 9, 1915, reprinted in Federal Communications Commission, *Report*, vol. 3, appendix 16, p. 24. The antitrust authorities apparently dropped the investigation after an officer from Morgan submitted a sworn affidavit stating that the purchase had been made " 'as an investment . . . with its own moneys,' " and that there was no agreement with AT&T regarding the control or management of United States Telephone, nor an arrangement to lessen the extent of competition. *Telephony*, 9 (Jan. 22, 1910), p. 88, and 55 (July 16, 1910), p. 57.

[65] *Read et al.*, "Final Decree by Judge William E. Dever," July 10, 1917; and Read/Kinsgsbury, Apr. 4, 1919, reprinted in Federal Communications Commission, *AT&T Security Investments*, vol. 1, appendix 9, p. 16. A similar suit was almost filed in New York. AT&T had feared that an Independent stronghold in upstate New York would serve as a lever for gaining entry into New York City. The upstate Bell Operating Companies operated at a loss in order to protect AT&T's profitable New York City monopoly. Because of these predatory losses, the minority stockholders of the upstate New York Bell Operating Companies threatened to sue AT&T for violating its fiduciary responsibilities. The suit was not filed because AT&T provided satisfactory compensation when these upstate companies were merged with the profitable downstate firms. AT&TCA, Vail/Gould, Apr. 3, 1908, PPLB, vol. 6.

regulatory barriers to entry impeded the Independents' ability to expand into AT&T's most profitable markets.

The Independents had to establish exchanges in New York, Chicago, and other monopoly markets of the incumbent in order to counter Bell's expansion, improved service, and predatory actions.[66] AT&T's expansion had been funded in part with borrowed money, and a substantial portion of this capital was invested in areas where the Independents were strong. Because of this competition, the investment "[did] not bring back proper return."[67] If AT&T's monopoly exchanges lost their ability to cover these losses, the firm would have had difficulty repaying its loans. As aptly noted by a New York City official, the high returns in monopoly exchanges "seem[ed] to invite competition."[68] In 1905 the Independents were busily trying to enter the large cities in which AT&T still held monopolies. Entry conditions were ripe. There was strong public interest in the establishment of Independent exchanges, and because AT&T's resources were strained, the firm would have found it difficult to respond aggressively toward new rivals.[69] In some cities franchise procurement was dependent on the outcome of a public referendum. In 1906 and 1907 referendums were held in Denver, Omaha, Portland (Oregon), and San Francisco, and an overwhelming majority of people voted to grant the Independents franchises. In New York City, there was widespread dissatisfaction with Bell's prices and rate structure. Chicago residents also expressed keen support for the Independents because of the toll connections that would become available to those markets the Independents controlled.[70]

Entry into AT&T's monopoly markets was, however, impeded by state and local regulations. Municipal officials were aware of Bell's large earnings during the patent period. This, along with the heated bidding between promoters, made it clear that a telephone franchise was a highly valued, intangible property. City officials in the early twentieth century, unlike those in the 1870s, were not going to give this right away without imposing conditions. When franchises were issued to the Independents, therefore, they typically included stipulations that set maximum rates, required free telephone service to the city government, free use of the telephone poles and underground conduits for fire and

[66] WSHS, "To the Citizens of Madison: Statement Issued by Dane County Telephone," 1906; and Whitney, "Report," p. 32.

[67] AT&TCA, Fish/Pickernell, Aug. 3, 1906, PPLB, vol. 5 (quote); and Garnet, *Telephone Enterprise*, p. 192, fn.11.

[68] Nichols, "Report," p. 22 (quote).

[69] Garnet, *Telephone Enterprise*, p. 127.

[70] *Western Electrician*, July 1, 1905, p. 11, and Mar. 3, 1906, p. 184; AT&TCA, Fish/Burt, July 29, 1905, PLB, vol. 40; *Telephony*, Dec. 1906, p. 358; Weik, "Telephone Movement," pp. 267–68; *City Record*, June 25, 1907, p. 1; *Daily Telephone News* (1905 issues); and Richardson/Fish, Oct. 16, 1901, reproduced in Atwater, "History," p. 76.

police lines, and royalty fees.[71] These regulations constituted a barrier to new entry because they were not imposed on Bell as well. Many of Bell's franchises had been granted when telephony was new and its commercial value uncertain. They therefore did not include similar requirements.

The establishment of these barriers owed to a mixture of three factors. First, as just described, cities were seeking to share the profits from the rapidly growing service. Second, as I will show, laws and franchises were granted that had unanticipated deleterious effects on entrants. Finally, Bell successfully lobbied (at times illegally) for municipal rules that were harmful to entrants.[72]

The Independents considered New York City the "keystone" of the Bell System, as Manhattan alone accounted for approximately one-fifth of all Bell Operating Company profits in 1903. Such a lucrative market invited repeated but unsuccessful Independent challenges to AT&T's monopoly position.[73] New York Electric Lines, for instance, failed to gain entry because a state court ruled that the city was required by contract to compel joint use of the conduit owned by the Empire Subway Company, a subsidiary of AT&T. An 1884 state law had required the placement of utility wires underground. At that time, underground transmission was experimental, and therefore it was difficult to raise capital for the construction of the conduits. Empire Subway had agreed to build the subways on the condition that New York City require other utilities to use their conduit. Empire agreed to make space open to others when it was available and to rent the space at a "reasonable rate." No procedure was established to determine what constituted a reasonable rate.[74] Neither New York Electric Lines, nor any other entrant, wanted to rely on Empire for subway space. When the potential entrants did attempt to rent space, they were usually told it was unavailable. When Empire made space available, the rates appeared to be unreasonably high.[75] Despite these unfavorable entry conditions, the court's ruling left the Independents with no alternative.

The last major Independent effort to enter New York City was made by the Atlantic Telephone Company in 1907. The Board of Estimate and

[71] See, for example, AT&TCA, "Ordinance Granting Telephone Franchise to Automatic Telephone Company by Board of Public Works," New Bedford, June 27, 1899.

[72] Hendrick, *Age*, p. 123. For example, Louis Glass, Vice-President of Bell's Pacific Telephone Company, was convicted of giving bribes to the City of San Francisco supervisors in exchange for their refusal to grant a franchise to an Independent. *Telephone Securities Weekly*, Sept. 7, 1907, p. 3.

[73] Latzke, *Fight*, p. 12 (quote); and AT&TCA, Hall/Fish, July 24, 1904, box 1348.

[74] *People ex. rel. New York Electric Lines Co. v. Ellison*, 81 Northeastern Reporter 447, 449 (1907); New York Laws of 1884, chap. 534; New York Laws of 1885, chap. 499; and AT&TCA, Merchants' Association of New York, "Inquiry Into Telephone Service and Rates in New York City" (1905), p. 15, box 1019.

[75] *New York Tribune*, Mar. 15, 1905; and Federal Communications Commission, *Report*, vol. 3, appendix 14.

Apportionment granted Atlantic a franchise in June, but conditions included in the franchise prevented the company from beginning construction. Like New York Electric Lines, Atlantic had to rent conduit space from Empire. In addition, it had to pay an initial $250,000 licensing fee and had to obtain the permission of the Board of Alderman in order to issue stocks or bonds. Bell was not subject to either of these requirements.[76] The fee was included in the franchise because the city believed that the license had an "inestimable value" to the Independents and that the local government should get a share of the gains. The regulation of stocks and bonds was made part of the franchise because of the city's belief that "[n]early all the complaints against public service corporations [were] traceable to over-capitalization."[77]

A fourth clause included in Atlantic's franchise contract best illustrates the kind of difficulties encountered by entrants to the New York City market. After receiving the franchise, Atlantic had only six months to show city officials contracts that established toll connections to all cities with populations greater than 4,000 people within a 1,000 mile radius. Failure to meet this, or any other condition, was grounds for charter revocation. This toll-connection stipulation required Atlantic to offer its subscribers the same ubiquitous service available on the Bell network. Although supplying this level of service was certainly an objective of the Independent movement, in the short-term it was virtually impossible to achieve. Individually and collectively, regulatory barriers to entry increased the risk of constructing an Independent exchange in New York. Since the franchise requirement of toll connections to cities within a 1,000 mile radius could not be met, potential investors faced the threat that the Independents' New York franchises would be revoked.

Nearby Connecticut passed a law in 1899 that essentially established an unregulated telephone monopoly. At that time, the legislature was considering a request from the Independents for a corporate charter to do business in the state. Extensive hearings in which the Independents and Bell argued over the merits of rival networks led only to a stalemate. Finally, the Independents and Bell agreed that the substantive issue of opening up the market should be considered by some other party than the legislature. With the support of both parties, the legislature passed a law requiring an entrant to obtain a special charter from the Connecticut legislature, as well as a superior state court finding that competition was justified by public necessity. Eight years later, when it was apparent that the 1899 law was a barrier to entry, the Independents claimed that neither they nor the legislature had understood that the law would stifle competition. Although a 1907 amendment to the law removed the

[76] *City Record*, June 25, 1907, pp. 3–4; and *Telephone Securities Weekly*, June 29, 1907. Eight months later, the city agreed to modify the license fee. ibid., Feb. 22, 1908, p. 5.

[77] *City Record*, May 1, 1906, pp. 3–5.

requirement of a state charter, the need to obtain a court finding was still a significant impediment to entry.[78] For example, investors believed that the law raised their level of risk, and as a result, they were reluctant to provide any financing until this barrier was removed.[79] Moreover, the procedure forced entrants to reveal information that Bell could use to improve its operations while the court was considering their petitions.

The Connecticut law was but one of many regulatory barriers that prevented the Independents from constructing a ubiquitous network. A combination of municipal and court rulings blocked the Independents' efforts to establish exchanges in Boston and Chicago. The Board of Alderman of Boston granted an Independent the right to install telephone lines on specific streets in 1906, but construction could not begin until the legality of the permit was validated. In 1909, the Massachusetts State Supreme Court ruled that the grant was unconstitutionally vague because "[n]o specific part of any street [was] designated."[80] In 1907, the Chicago City council rejected an Independent firm's petition to construct an exchange. The Council found that the proposed rates were unreasonably low and therefore concluded that the petition was not credible.[81]

Capital Markets

AT&T's aggressive response to the Independents impaired the entrants' ability to raise capital internally. Funds were needed for entering new markets and for expanding the size of existing facilities. Lacking sufficient internally generated funds, the Independents attempted to raise money from the nation's capital markets. Their effort was impeded, however, by their poor earnings records, by franchise requirements, and by capital market imperfections.

The Independents spent considerable effort trying to raise capital in New York. Their securities were not traded on the New York market and they believed that one reason for this was that they had had less direct contact with the East.[82] Although there were many financial magazines and newspapers during this period, little coverage was given to the Independents. Nor were there any major security-rating services that could help investors evaluate the financial standing of the Independents. Moody's, for example, did not directly rate the soundness of different securities but merely suggested that investors learn from the habits of more sophisticated buyers. *Moody's Classified Investments* advised that an investor could infer that a security was relatively safe if

[78] Laws of Connecticut 1899, chap. 158, and 1907, chap. 245; Connecticut Legislature, *Connecticut Judiciary Hearings* (1905), pp. 616–17, and (1907), pp. 16, 149–55, 763–64.

[79] *Commercial and Financial Chronicle*, 69 (Dec. 16, 1899), p. 1223.

[80] *Metropolitan Home Telephone Company v. Emerson*, 202 Mass. 402, 403 (1909).

[81] *Telephone Securities Weekly*, Jan. 11, 1908, p. 3.

[82] Weik, "Telephone Movement," pp. 267–68.

leading banks and financial institutions included the item in their portfolios. The investment manual presented a list of the securities held by large institutions. Unlike Bell's, the Independents' securities were not widely held by the large financial institutions in the East.[83] Based on the information found in Moody's, an investor could conclude that Independent securities were relatively risky as compared to Bell's. If risk-averse small- and medium-sized investors relied on Moody's investment method, the Independents would need to convince large financial institutions to invest in their securities before small investors would be willing to invest in their companies.

The large investors, however, were closely allied in their support of AT&T. Firms such as J. P. Morgan and Kidder Peabody sought to establish industrial order. This translated into providing financing for only one firm—AT&T. To do otherwise would have promoted competition. These underwriters were closely tied with other large financiers, and they used these connections to deny the Independents access to funds.[84] For example, in 1902, George Sheldon, a member of the New York Stock Exchange, decided to help provide the financing for an Independent company in Milwaukee. When the president of AT&T learned of this, he asked an official of J. P. Morgan & Co. to talk to Sheldon about withdrawing his support. Sheldon was subsequently visited by George F. Baker of the First National Bank and George W. Perkins of J. P. Morgan and Co. According to Sheldon, Baker and Perkins convinced him that he "could not be in the position of actively pushing an opposition to their interests in Milwaukee." He withdrew his support. After Sheldon dropped out, the Independents' effort to establish an exchange in Milwaukee collapsed.[85]

AT&T's President Fish frequently relied on business associations in the financial community, industry, and other public utilities to interfere with the Independents' expansion plans.[86] Particularly threatening to AT&T was the possibility that the Independents would rent space on telegraph-company poles, a move that would have reduced the cost of establishing a toll network. Western Union and Postal Telegraph agreed not to rent the Independents space; in exchange, AT&T promised that it would not let one telegraph company use AT&T's facilities for the

[83] *Moody's Classified Investments*, pp. 7–8.

[84] *Read et al.*, "Testimony of Leroy Kellogg," tr. 8464, 8519; Moody, *Masters*, pp. 117–18; Keller, *Life Insurance Enterprise*; Redlich, *Molding*, vol. 2, pp. 379–80; and Carosso, *Morgans*.

[85] AT&T compensated Sheldon for the expenses he had incurred in support of the Independents. AT&TCA, Fish/Steele, June 19, 1902, PPLB, vol. 1, Fish/Sheldon, Jan. 23, 1903, PLB, vol. 26, and Sheldon/Fish, July 30, 1902 (quote), box 66.

[86] See, for example, AT&TCA, Fish/Burt, Aug. 19, 1905, PLB, vol. 40, Fish/Waterbury, Oct. 4, 1902, PPLB, vol. 1, and Fish/Thayer, Apr. 18, 1902, PLB, vol. 20.

purpose of getting into territory controlled by another telegraph company.[87]

The incumbent also used strategic acquisitions to impede entrants' access to capital. AT&T was aware that in large cities telephone manufacturers would install equipment for the Independents in exchange for their stocks and bonds. In part to end this source of financing, AT&T purchased two of the leading Independent manufacturers, Stromberg-Carlson and Kellogg Manufacturing. AT&T controlled Kellogg from 1902 to 1909, when the holding was found to be a restraint of trade, and AT&T was ordered to sell the properties.[88]

Unable to raise money in the East, the Independents had to rely on regional stock exchanges in Cincinnati, Columbus, St. Louis, Toledo, Minneapolis, and Cleveland. These exchanges, however, were inadequate for the task. For example, Cleveland was one of the largest regional stock exchanges, but in 1906 the number of shares traded there was less than 1 percent of the volume traded on the New York Stock Exchange.[89] It was not feasible for these smaller markets to handle the large capital requirements of a telephone network.

Regardless of whether the market was in the East or the Midwest, investors were aware that AT&T had a major institutional advantage over its competitor. A critical criterion used by "conservative bankers" to evaluate the financial soundness of a public utility was to measure how its franchise compared with that of its rival.[90] Since the Independents' franchises often included regulations that were not part of the Bell Operating Companies' permits, the Independents' securities were a more risky investment.

THE POSTCOMPETITIVE YEARS

According to McGee, even if a dominant firm engages in predation, society's welfare may increase. Customers benefit from low prices, and these gains may exceed the losses that occur if the predator gains monopoly power.[91] AT&T's below-cost pricing did provide some short-run benefits, boosting the number of subscribers on AT&T's network as new customers were attracted by the low prices. But this rapid development ended with the disappearance of the Independents. As shown in Table 4, telephone growth was at its peak during the competitive era. With the demise of the Independents, AT&T's commercial department no longer had the same incentive to seek new

[87] AT&TCA, Fish/Chandler, Feb. 13, 1907, PLB, vol. 47, and Fish/Clowry, Jan. 31, 1905, PLB, vol. 37.

[88] *Dunbar v. American Telephone and Telegraph*, 238 Illinois 456, 478–81 (1909).

[89] *Journal of Commerce and Commercial Bulletin*, Jan. 3, 1907; and *Finance*, Feb. 9, 1907.

[90] Vanderlip Collection, Frank A. Vanderlip, "Address to National Electric Light Association," June 1909, box D-13.

[91] McGee, "Predatory Pricing," p. 168.

TABLE 4
TELEPHONES PER 1,000 POPULATION: RATES OF GROWTH, 1885–1929

Years	Percent Growth
1885–1893	4.6
1894–1907	20.6
1908–1912	5.5
1913–1917	3.9
1918–1929	3.1

Source: U.S. Department of Commerce, *Historical Statistics*, vol. 2, p. 783.

customers. The slow rate of development during the post-competition years occurred despite a low level of telephone penetration—in 1920 only 35 percent of the households in the United States had telephones.

During the competitive era, AT&T for the first time took a keen interest in developing the rural market. The incumbent realized that the areas outside the cities had to be secured, otherwise the Independents would use their stronghold to gain entry into AT&T's profitable urban markets. But the passing of competition reduced Bell's incentive to develop the rural market. Consequently, the proportion as well as the number of farms with telephones declined in the 1920s and 1930s.[92]

Finally, as result of the lack of competition and effective regulation, AT&T's long-distance operations earned an average annual rate of return of 10.9 percent between 1913 and 1935. The firm's cost of money during these years was approximately 5 to 6 percent.[93] The sizeable difference between the cost of money, and AT&T's earnings on toll calls suggests that there was a significant, persistent welfare loss to society due to the elimination of competition.

CONCLUSION

Recent research in business history has emphasized that AT&T emerged as the industry leader because of the firm's strategy and structure. Researchers have concluded that AT&T's decision to build and control centrally a higher-quality network than its rivals was the primary factor that determined the incumbent's success. The evidence presented in this article suggests that for the first decade of competition in the Midwest, AT&T marketed an inferior local service, had a smaller toll network for the area in which most toll calls were placed, and maintained its operations poorly. Furthermore, AT&T's operations were unprofitable. Despite these liabilities, by 1910 the firm emerged in control of the region. The vanquishing of the Independents' challenge

[92] Fischer argues that falling farm prices only partly account for the decline. The decrease in telephone subscription coincided with an increase in the percentage of farms with automobiles, indoor water and electricity, and radios. Fischer, "Technology's Retreat," pp. 295–97, 315.

[93] Federal Communications Commission, *Long Lines*, p. 15, and *Investigation*, p. 435.

owed to important strategic moves by AT&T's management, not least of which was predatory pricing.

McGee has pointed out that in the absence of barriers to entry, it would be "foolish" for a firm to engage in predatory price cutting. Without this protection, the predator cannot be certain that even if it regains control of the market, it will be able to recover the losses sustained during the price-cutting period.[94] Although there were no legal barriers to entry for the provision of toll service, AT&T was able to prey on its rivals because of other obstacles in local markets. State and municipal regulations, and to a lesser extent AT&T's ties with the nation's leading financiers, established barriers that allowed the game of rivalry to be played sequentially, rather than simultaneously.[95] If competition had occurred simultaneously in all markets, AT&T would have been unable to adopt a predatory strategy. As it was, by operating at a loss at competitive points, AT&T hindered the Independents' ability to raise capital for the construction of an integrated network. The shortage of money also undermined what was originally the Independents' strongest competitive asset—their quality of service. Lacking the internal cash flow needed for the proper maintenance of their facilities, they had to watch the quality of service on their networks deteriorate.[96] The financial panic of 1907 exacerbated their financial problems. Consequently, AT&T reemerged in control of the industry as increased numbers of Independents either sold their properties to Bell or joined Bell's network on terms that had been considered unsatisfactory a few years earlier.

The historical analysis presented here provides some insight into the contemporary analog of the *Standard Oil* case, the court-approved divestiture of AT&T in *United States vs. AT&T*.[97] In 1974 the Justice Department charged AT&T with conduct that had been "designed to maintain and expand its existing telecommunications service monopoly."[98] Section 2 of the Sherman Anti-Trust Act prohibits attempts to monopolize an industry. Justice Department lawyers argued that during the post–World War II era, AT&T violated this law by preying on rivals. According to the Department of Justice, AT&T was able to impede competition through its control of local exchange facilities: "Local telephone exchanges are 'bottlenecks' under classic antitrust theory. The control of these franchises provides AT&T with the incentive and opportunity to protect, maintain and extend its monopoly in telecom-

[94] McGee, "Predatory Pricing," pp. 142, 168 (quote).

[95] In a review of federal antitrust cases that led to convictions, Koller found a high correlation between predatory attempts and facilitating government practices. Koller, "Myth," p. 113.

[96] AT&TCA, Allen/Fish, Nov. 6, 1902, Dec. 3, 1903, and Jan. 8, 1904, ALB.

[97] *United States v. AT&T*, 552 F. Supp. 131, 226–34 (D.D.C. 1982), *aff'd, Maryland v. United States*, 460 U.S. 1001 (1983).

[98] U.S. Department of Justice, Plaintiff's First Statement of Contentions and Proofs, *United States v. AT&T*, 74-1698 (D.D.C), p. 4.

munications services overall." In order to eliminate this structural impediment to competition in the long-distance, telecommunications-equipment, and information-service markets, the government proposed that the Bell Operating Companies be prohibited from providing these services.[99]

AT&T replied that it was not guilty of any Section 2 violations, and that divestiture of the Bell System would not be in the nation's best interest, because AT&T had "provided . . . the world's best telecommunications service." AT&T argued that the monopoly structure was the result of "technological and economic imperatives" in the industry. "A review of the history of the telecommunications (from 1876 to [the] present) makes it plain that the structure of the industry . . . evolved directly from the technological imperatives of networking, the interactive and interdependent nature of the telecommunications network, and the need for a single network manager to control, plan and operate the network in order to assure efficiency."[100] By contrast, the review of AT&T's conduct from 1894 to 1910 presented in this article suggests that the monopoly structure of the telephone market was not merely the result of "technological and economic imperatives," but also resulted from such Section 2 violations as predatory pricing, funding of court cases in order to interfere with price increases granted to the Independents by municipalities, acquisition of manufacturers of telephone equipment in order to limit the Independents' access to the capital markets, and bribes or threats to financiers to discourage financing of the Independents.[101]

Until the market for exchange facilities becomes competitive, the possibility that exchange companies will prey on competitors in order to forestall entry into the telecommunications industry remains very live.[102] By separating the ownership of long-distance and local facilities, the Department of Justice in *United States vs. AT&T* succeeded in eliminating the incentive for local exchange companies to thwart their rivals' efforts in the long-distance market. Although this structural separation increased the degree of competition in the interexchange market, it did not eliminate the threat that local exchange companies may attempt to leverage their control of the telephone market into new data and video markets. In most areas today, the telephone line provides the only available means of two-way communications. Until economical, alternative avenues of electronic communication become

[99] Ibid., pp. 4 (first quote), 70 (second quote), 527.

[100] Defendants' First Statement of Contentions and Proof, *United States v. AT&T*, 74-1698 (D.D.C.), pp. 1 (first and second quotes), 4, 80 (third quote).

[101] Abuse of the regulatory process with the intent to harm competitors is evidence of unlawful intent and purpose to monopolize. *Otter Tail Power Co. v. United States* 410 U.S. 366, 379–80 (1973), *on remand*, 360 F Supp. 451, 451–52 (D.Minn. 1973).

[102] *United States v. Western Electric*, 673 F. Supp. 525, 540–62 (D.D.C. 1987).

more widely available, regulatory authorities should continue to exercise due diligence over the practices of local exchange carriers.

REFERENCES

American Telephone and Telegraph Company (AT&T), "Conference Held at Boston, January 23, and 24, 1900: Telephone Service and Charges," AT&TCA.

American Telephone and Telegraph Company (AT&T), "Defendants' First Statement of Contentions and Proof," *United States v. AT&T*, 74-1698 (D.D.C.).

American Telephone and Telegraph Corporate Archive (AT&TCA), Warren, NJ.

Anderson, George, "The Telephone Situation: Its Causes and its Future," Oct. 12, 1906, AT&TCA.

Areeda, Phillip, and Donald Turner, "Predatory Pricing and Related Practices Under Section 2 of the Sherman Act," *Harvard Law Review*, 88 (Feb. 1975), pp. 697–733.

Atwater, M. D., "The History of the Central Union Telephone Company," Aug. 26, 1913, AT&TCA.

Bork, Robert H., *The Antitrust Paradox: A Policy at War with Itself* (New York, 1978).

Bornholz, Robert, and David S. Evans, "The Early History of Competition in the Telephone Industry," in David S. Evans, ed., *Breaking Up Bell: Essays on Industrial Organization and Regulation* (New York, 1983), pp. 7–40.

Burns, Malcolm R., "Predatory Pricing and the Acquisition Cost of Competitors," *Journal of Political Economy*, 94 (Apr. 1986), pp. 266–96.

Carosso, Vincent, *Morgans: Private International Bankers, 1854–1913* (Cambridge, MA, 1987).

Central Union News (various dates), New York Public Library.

Chandler, Alfred D., Jr., *The Visible Hand: Managerial Revolution in American Business* (Cambridge, MA, 1981).

City Record [New York] (various dates).

Commercial and Financial Chronicle (various dates).

Connecticut Legislature, *Connecticut Judiciary Hearings: Telephone Matters* (Hartford, 1905).

Daily Telephone News (various dates), New York Public Library.

Danielian, N. R., *AT&T: The Story of Industrial Conquest* (New York, 1939).

Federal Communications Commission, *Investigation of the Telephone Industry in the United States* (Washington, DC, 1939).

Federal Communications Commission Accounting Department, *Long Lines Department: Financial and Operating Summary* (Washington, DC, Apr. 15, 1936).

Federal Communications Commission Accounting Department, *Report on American Telephone and Telegraph Company Corporate and Financial History* (Washington, DC, Jan. 16, 1937), 3 vols.

Federal Communications Commission Accounting Department, *AT&T Securities Investments* (Washington, DC, Jan. 25, 1937), 5 vols.

Federal Communications Commission Accounting Department, *Control of Communications: Control of Independent Telephone Properties* (Washington, DC, June 15, 1937), 3 vols.

Finance (various dates), New York Public Library.

Fischer, Claude, "Technology's Retreat: The Decline of Rural Telephony, 1920–1940," *Social Science History*, 11 (Fall 1987), pp. 295–327.

Garnet, Robert, *The Telephone Enterprise: The Evolution of the Bell System's Horizontal Structure* (Baltimore, 1985).

Hendrick, Burton J., *The Age of Big Business: A Chronicle of the Capture of Industry* (New Haven, 1919).

Johnson, F. G., "Experience of a Pioneer Physician in Northern Wisconsin," *Wisconsin Medical Journal*, 38 (July 1939), pp. 576–88.

Joskow, Paul, and Alvin Klevorick, "A Framework for Analyzing Predatory Pricing Policy," *Yale Law Journal*, 89 (Dec. 1979), pp. 213–70.

Journal of Commerce and Commercial Bulletin (various dates).

Keller, Morton, *The Life Insurance Enterprise, 1885–1910: A Study in the Limits of Corporate Power* (Cambridge, MA, 1963).

Koller, Roland H., "The Myth of Predatory Pricing—An Empirical Study," *Antitrust Law and Economics Review*, 4 (Summer 1971), pp. 105–23.

Langdale, John V., "The Growth of Long-Distance Telephony in the Bell System: 1875–1907," *Journal of Historical Geography*, 4 (Apr. 1978), pp. 145–59.

Latzke, Paul, *A Fight With an Octopus* (Chicago, 1906).

Lee, John, *The Economics of Telegraphs and Telephones* (London, 1913).

Lipartito, Kenneth, *The Bell System and Regional Business: The Telephone in the South, 1877–1920* (Baltimore, 1989).

Lipartito, Kenneth, "System Building at the Margin: The Problem of Public Choice in the Telephone Industry," this JOURNAL, 49 (June 1989), pp. 323–36.

McGee, John, "Predatory Price Cutting: The Standard Oil (N.J.) Case," *Journal of Law and Economics*, 1 (Oct. 1958), pp. 137–69.

MacMeal, Harry, *The Story of Independent Telephony* (Chicago, 1934).

Mathews, G. C., "The Truth About State Regulation of Utilities in Wisconsin," *Annals of the American Academy of Political and Social Science*, 54 (July 1914), pp. 303–20.

Moody, John, *The Masters of Capital: A Chronicle of Wall Street* (New Haven, 1919).

Moody's Classified Investments, (New York, 1905).

New England Telephone, *The Telephone: A Description of the Bell System with Some Facts Concerning the So-called 'Independent' Movement* (Boston, 1906), Widener Library, Harvard University.

New York Tribune (various dates).

Nichols, Harry P., "Report of the Bureau of Franchises Upon the Application of the Atlantic Telephone Company," Oct. 12, 1905, AT&TCA.

Nichols, Harry P., "Result of Investigation of the Operation of a Dual System of Telephones in Various Cities," Nov. 21, 1906, AT&TCA.

Ordover, Janusz A., and Garth Saloner, "Predation, Monopolization, and Antitrust," in Richard Schmallensee and Robert Willig, eds., *Handbook of Industrial Organization* (Amsterdam, 1989), pp. 537–96.

Read et al. v. Central Union Telephone Company, Superior Court of Cook County Illinois, Chancery General Number 299,689. All documents cited are available in AT&TCA.

Redlich, Fritz, *The Molding of American Banking: Men and Ideas* (New York, 1951), vol. 2.

"Report of the Fourth Annual Convention of the Independent Telephone Association" (1900), 12, box 11274, Museum of Independent Telephony, Abilene, KS.

Salop, Steven, and David Schiffman, "Raising Rivals' Costs," *American Economic Review*, 73 (May 1983), pp. 267–71.

Sears, Vinton, A., *Telephone Development: Status of the Industry, Scope and Effect of Competition* (Boston, 1905).

Stehman, Warren J., *The Financial History of the American Telephone and Telegraph Company* (Boston, 1925).

Telephone Securities Weekly (various dates), New York Public Library.
Telephony (various dates).
Tirole, Jean, *The Theory of Industrial Organization* (Cambridge, MA, 1989).
U.S. Department of Commerce, Bureau of the Census, *Telephone and Telegraphs: 1907* (Washington, DC, 1910).
U.S. Department of Commerce, Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970* (Washington, DC, 1975), vol. 2.
U.S. Department of Justice, Plaintiff's First Statement of Contentions and Proofs, *United States v. AT&T*, 74-1698 (D.D.C).
United Telephone Voice (various dates), Museum of Independent Telephony, Abilene, KS.
Vanderlip, Frank. Collection. Columbia University, New York.
Wasserman, Neil, *From Invention to Innovation: Long-Distance Telephone Transmission at the Turn of the Century* (Baltimore, 1985).
Weik, Jesse, "The Telephone Movement: Another Point of View," *Atlantic Monthly*, 97 (Feb. 1906), pp. 263–69.
Weiman, David, and Richard Levin, "Preying for Monopoly: The Case of Southern Bell, 1894–1912," *Journal of Political Economy*, 102 (Feb. 1994), pp. 103–126.
Western Electrician (various dates).
Whitney, L. N., "Report on Conditions in Indiana," Aug. 1907, box 11275, Museum of Independent Telephony, Abilene, KS.
Wisconsin State Historical Society (WSHS), Madison, WI.
Wisconsin Telephone News (various dates), Wisconsin Bell Telephone, Milwaukee, WI.
Yamey, Basil S., "Predatory Price Cutting: Notes and Comments," *Journal of Law and Economics*, 15 (Apr. 1972), pp. 129–42.

such lines is due to the constant and continued attention given this subject.

Every new trouble, and there are many, comes before this department. When settled there, it is settled for all. This has established a commercial, operating and plant practice not only for our own associated companies, but for others of high standing throughout the world.

All devices or inventions submitted receive the most thorough and painstaking investigation, and it is safe to say that there has as yet been no instance where any invention, system or method, rejected by the Patent and Engineering Departments of the American Telephone and Telegraph Company has ever had any permanent success when used elsewhere.

The Manufacturing Department creates and builds the equipment and apparatus which have been adopted. In this way throughout the whole grand system will be found standardization and uniformity. This is not any handicap on improvement or development of the art, for, on the contrary, every suggestion or idea, and there are many, has abundant opportunity to be tested, which would not be possible otherwise. No one of the companies could by itself maintain such an organization, and it would be fatal to any service to introduce or try out undeveloped ideas in actual service.

In the Legal Department all the big and general questions are looked after. It forms a clearing house in all legal matters for all the legal departments of the separate companies to which assistance and advice are given on all questions of general scope.

In the administration all questions which affect all companies, all questions between the associated companies, and the general policy and the general conduct of the business, are considered and close touch and relationship maintained

with all parts of the system. Experts on every subject connected with this business are continually at work on old or new subjects and ready at call to go to the assistance of any of the companies. In short, the great work and substantially all the expense of the American Telephone and Telegraph Company are involved in this "Centralized General Administration," taking care of all those matters which are common to all companies, or which if taken care of by each company would mean multiplication of work, effort, expense without corresponding advantage or efficiency.

To sum up, quoting the words of the representative of a large stockholding interest in one of the associated companies: "The contract relation with the American Telephone and Telegraph Company is the biggest asset this company has."

Criticism of Independents.

We have been criticised to some extent for our policy of publicity so far as it concerns the so-called "Independents." There has not been sufficient distinction between the "Independents" and the "Opposition" in the minds of the public. We have no quarrel with either. With many of the Independents we are working in complete harmony and for all practical purposes our system is part of theirs and their system part of ours. In fact it is expected and believed that a large part of the development in the semi-urban and rural territory can be done much more effectively and satisfactorily through independent local companies operating with us through or under connecting contracts or sub-licenses.

We can be called antagonistic only because we try in the protection of our property to expose and correct the misleading statements and impossible promises put out by would-be franchise vendors or mistaken company organizers,

or mistaken associations for public protection, or when we call attention to the fact that what we claimed would happen, has happened.

In view of our preponderating interests in the telephone business of the country, we think it is due to ourselves to at least call attention to misleading statements, to promises in prospectuses impossible of fulfilment, and to advertisements offering to the public securities at large discounts, promising large prospective dividends, issued to build exchanges in which service is to be given at impossible rates.

If all who are interested in honest corporate securities would take the trouble to educate the public and exhibit courage enough to denounce all such misleading efforts, there would be a much more healthy condition.

In all controversies as to rates, franchises, etc., in all hearings before public bodies, our representatives have been confronted with such promises—statements as to what interests other than the Bell were doing—assertions that if it were not for watered stock or other methods of milking the public, rates could be reduced, or the business conducted at a profit on much more favorable terms to the public. All that experience has taught was as nothing before the promises of franchise vendors and manufacturers' agents. Established business and property were put in jeopardy with the result that there are many instances where the public has on its hands a partially duplicate exchange with partially duplicate subscription costs and no one has benefited except the promoters of the schemes.

There is now a decided tendency on the part of the public to favor consolidation wherever there are two exchanges. A great difficulty in the way is that, as a rule, much of the duplication of plant cannot be utilized for many years, if ever.

Gradually the public is becoming convinced that—quoting from last year's report—

"Two exchange systems in the same community, each serving the same members, cannot be conceived of as a permanency, nor can the service in either be furnished at any material reduction because of the competition, if return on investment and proper maintenance are taken into account. Duplication of plant is a waste to the investor. Duplication of charges is a waste to the user."

} Quote from prev. annual report public accepting

General.

In submitting this report, we wish to call your attention to two things which indicate the stability of the company and property.

One is the wide dispersion and small average holding of the shares—including the shareholders in the associated and connected companies, there are over 70,000 shareholders in the Bell system. From January 1 to March 2, the date of bond conversion, the shareholders increased about one hundred per week.

Another is the stability of the business, year after year shows an increase, no matter what the prevailing business conditions. There has, it is true, been a slight decline in the rate of increase in exchange earnings, and the toll line business has given some indication that conditions were not normal, but even in that there was an increase in earnings.

This stability and the position that the Bell system holds is due very largely to the policy and conditions under which it was developed, not alone to the telephone.

A telephone—without a connection at the other end of the line—is not even a toy or a scientific instrument. It is one of the most useless things in the world. Its value depends on the connection with the other telephone—and increases with the number of connections.

The Bell system under an intelligent control and broad policy has developed until it has assimilated itself into and in fact become the nervous system of the business and social organization of the country.

This is the result of the centralized general control exercised by the company, the combination of all local systems into one combined system developed as a whole.

Nor could the development have been made in any other way. If the business had been developed by different organizations—each absolutely independent of and unrelated to the others—each little system would have been independent and self-contained without benefit to any other. No one has use for two telephone connections if he can reach all with whom he desires connection through one. Through the development of the Bell system, the relation and benefit as a whole have been considered. The policy has been to bring together all units which contribute to the value of the whole. The demand for facilities is seldom found waiting in these days for the facilities to come. The demand is created by the existence of the facilities. This is particularly true of the telephone service. It took courage to build the first toll line—short as it was—and it took more to build the first long-distance line to Chicago.

If in the early days the immediate and individual profit of the long-distance toll lines had been considered, it is doubtful if any would have been built.

There are no other countries where the telephone service occupies the same relation to the public. Elsewhere narrow control and a policy of restriction have prevented its full development. Whatever is good in those systems has been adopted from the practice in this country.

There has been oftentimes comparison between the rates of this and other countries. The average rate of this country taking all classes of service and conditions into consideration

is about the same as the average rate of all other countries. There may be no maximum rates in other countries equal to some in this country, but on the other hand, there is no such maximum value given. Cheapness is relative to value, not to price. Value in telephone service depends on development, extent of system, certainty and promptness. Promptness and certainty mean operators and facilities sufficient to meet the maximum demands. It means constant and close attention on the part of attendants, sufficient in number to immediately care for any of the many troubles inherent in everything connected with the service from both outside and inside, the troubles which seem to develop and multiply with the development and increase of the business. Promptness and certainty in meeting maximum demands mean idle operators when the demand is less; it means a small average use of operators and facilities.

In any given time a certain possible use—number of connections or messages—expressed in units of service can be given by any fixed number of operators with certain given facilities. If in any given time these possible units of service are not availed of, they are lost—they pass away with the time.

Promptness and certainty therefore mean that each message, connection or other unit of actual service availed of must bear the expense of a number of unused possible units not availed of. If, instead of the immediate or prompt service of this country, the service as it exists in most other countries were in vogue, the cost would be reduced, but to a much greater extent would the value be reduced. Delayed service—service which keeps a line of customers waiting, so that there need be no loss of units of service, would reduce to a minimum the number of operators and given facilities, and all that creates cost.

Instead of waiting and idle operators and facilities, there would be waiting, idle and patient, customers.

We do not think the American public desires this kind of service.

During the year we have had many questions before the courts, state commissions and other public bodies. We have met them in a spirit of absolute frankness and candor. The results have been on the whole satisfactory, and the treatment we have received has been fair and considerate, and we have found an evident desire to ascertain the real conditions and to meet them fairly.

While during these discussions the anxiety of the officials of our companies has been keen, their attention distracted from the ordinary operations of business and the work and expense incurred in furnishing information and in attendance have been great, we believe that through this work and through our policy of publicity, our relations with the public are closer, the public mind is better informed, many erroneous impressions and opinions have been corrected, and that the public is beginning to recognize and admit—what the "Bell system" as conducted by the American Telephone and Telegraph Company stands for to the community at large.

For the Directors,

THEODORE N. VAIL,
President.

BELL SYSTEM IN THE UNITED STATES.—TOLL LINES.

	Jan. 1, 1900.	Jan. 1, 1901.	Jan. 1, 1902.	Jan. 1, 1903.	Jan. 1, 1904.	Jan. 1, 1905.	Jan. 1, 1906.	Jan. 1, 1907.	Jan. 1, 1908.	Jan. 1, 1909.	Increase.
Miles of Pole Lines,	89,292	101,087	110,459	122,409	130,178	136,547	145,535	154,869	163,218	161,452	*1,766
Miles of Wire . .	501,832	607,599	716,265	837,912	975,702	1,121,228	1,265,236	1,461,173	1,664,081	1,732,039	67,958

* Decrease.

TOLL CONNECTIONS.

The average daily number of toll connections is	463,021
Or a total per year of about	149,093,000

BELL SYSTEM IN THE UNITED STATES.—EXCHANGES.

	Jan. 1, 1900.	Jan. 1, 1901.	Jan. 1, 1902.	Jan. 1, 1903.	Jan. 1, 1904.	Jan. 1, 1905.	Jan. 1, 1906.	Jan. 1, 1907.	Jan. 1, 1908.	Jan. 1, 1909.	Increase.
Exchanges . . .	1,239	1,348	1,411	1,514	1,609	4,080	4,532	4,889	5,108	5,043	*65
Branch Offices . .	1,187	1,427	1,594	1,861	2,131						
Miles of wire on poles and buildings.	524,123	644,730	841,140	1,109,017	1,358,140	1,654,379	2,159,567	2,754,571	3,057,138	3,467,092	409,954
Miles of wire underground . . .	489,250	705,269	883,679	1,328,685	1,618,691	1,888,760	2,345,742	3,241,471	3,883,051	4,625,047	741,996
Miles of wire submarine	3,404	4,203	4,200	6,048	6,358	6,671	9,373	11,690	6,322	6,540	218
Total miles of wire,	1,016,777	1,354,202	1,729.019	2,443,750	2,983,189	3,549,810	4,514,682	6,007,732	6,946,511	8,098,679	1,152,168

* Decrease.

BELL SYSTEM IN THE UNITED STATES.—EXCHANGES. Continued.

	Jan. 1, 1900.	Jan. 1, 1901.	Jan. 1, 1902.	Jan. 1, 1903.	Jan. 1, 1904.	Jan. 1, 1905.	Jan. 1, 1906.	Jan. 1, 1907.	Jan. 1, 1908.	Jan. 1, 1909.	Increase.
Total Circuits . .	422,620	508,262	592,467	742,654	798,901	930,251	1,135,449	1,384,175	1,541,727	1,668,211	126,484
Total Employees	29,818	37,067	45,990	55,403	61,476	67,756	89,661	104,646	100,884	98,533	†2,351
*Total Stations. .	632,946	800,880	1,020,647	1,277,983	1,525,167	1,799,633	2,241,367	2,727,289	3,035,533	*3,215,245	179,712

* Including all companies connected with the Bell system, the number of stations is 4,364,629 against 3,839,000 at January 1, 1908, an increase of 525,629 stations. † Decrease.

EXCHANGE CONNECTIONS.

The estimated number of exchange connections daily in the United States, made up from actual count in most of the exchanges, is 18,499,376
Or a total per year of about 5,956,800,000
The number of daily calls per station varies in different exchanges, the average throughout the United States being about 6.

American Telephone and Telegraph Company.

Balance Sheet, December 31, 1908.

ASSETS.

Stocks of Associated Companies	$235,729,305.60	
Bonds and other obligations of Associated Companies	73,289,388.92	$309,018,694.52
Telephones	$9,599,137.26	
Real Estate	2,181,728.67	
Long Distance Telephone Plant	42,650,989.97	54,431,855.90
Cash and Deposits	$41,137,264.33	
Temporary Cash Loans	7,988,000.00	
Short Term Notes	3,277,466.52	52,402,730.85
Accounts Receivable		2,969,140.64
Treasury Stock		22,110,400.00
		$440,932,821.91

LIABILITIES.

Capital Stock	$180,587,000.00	
Surplus	16,225,917.64	$196,812,917.64
Four Per Cent. Collateral Trust Bonds, 1929	$53,000,000.00	
Four Per Cent. Convertible Bonds, 1936	136,000,000.00	
Four Per Cent. American Bell Bonds, 1908	48,000.00	
Five Per Cent. Coupon Notes, 1907,	6,000.00	
Five Per Cent. Coupon Notes, 1910,	25,000,000.00	
Dividend Payable January 15	3,169,532.00	
Interest and Taxes accrued but not due	3,709,232.91	
Accounts Payable	1,302,979.83	222,235,744.74
Depreciation Reserve		21,884,159.53
		$440,932,821.91

C. G. DuBOIS, *Comptroller.*

American Telephone and Telegraph Company.

Comparative Statement of Earnings and Expenses.

	1907.	1908.
EARNINGS:		
Dividends	$11,805,166.81	$13,280,127.54
Interest and other revenue from associated and licensed companies	9,307,023.72	9,720,466.04
Telephone Traffic (net)	3,901,653.93	3,976,512.07
Real Estate	162,228.49	160,007.95
Other Sources	433,598.31	761,856.45
	$25,609,671.26	$27,898,970.05
EXPENSES	2,130,381.16	2,003,956.06
NET EARNINGS	$23,479,290.10	$25,895,013.99
Deduct Interest	7,209,902.16	7,773,306.73
	$16,269,387.94	$18,121,707.26
Dividends Paid	10,943,644.00	12,459,156.00
Balance	$5,325,743.94	$ 5,662,551.26
Carried to Reserves	$3,500,000.00	$3,000,000.00
Carried to Surplus	1,825,743.94	2,662,551.26
	$5,325,743.94	$ 5,662,551.26

C. G. DuBOIS, *Comptroller.*

American Telephone and Telegraph Company.

Annual Earnings and Dividends.

1900–1908.

Year.	Net Revenue.	Dividends Paid.	Added to Reserves.	Added to Surplus.
1900	$5,486,058	$4,078,601	$937,258	$470,198
1901	7,398,286	5,050,024	1,377,651	970,611
1902	7,835,272	6,584,404	522,247	728,622
1903	10,564,665	8,619,151	728,140	1,217,374
1904	11,275,702	9,799,117	586,149	890,435
1905	13,034,038	9,866,355	1,743,295	1,424,388
1906	12,970,937	10,195,233	1,773,737	1,001,967
1907	16,269,388	10,943,644	3,500,000	1,825,744
1908	18,121,707	12,459,156	3,000,000	2,662,551

C. G. DuBOIS, *Comptroller*.

1910

ANNUAL REPORT

OF

THE DIRECTORS

OF

AMERICAN TELEPHONE & TELEGRAPH COMPANY

TO THE STOCKHOLDERS

FOR THE

YEAR ENDING DECEMBER 31, 1910

NEW YORK, 1911.

1910

ANNUAL REPORT

OF

THE DIRECTORS

OF

AMERICAN TELEPHONE & TELEGRAPH COMPANY

TO THE STOCKHOLDERS

FOR THE

YEAR ENDING DECEMBER 31, 1910

NEW YORK, 1911.

American Telephone & Telegraph Company

OFFICERS

President
THEODORE N. VAIL

Vice Presidents
EDWARD J. HALL
U. N. BETHELL WILLIAM R. DRIVER N. C. KINGSBURY
B. E. SUNNY H. B. THAYER CHARLES P. WARE

Treasurer
WILLIAM R. DRIVER

Secretary
CHARLES EUSTIS HUBBARD

Comptroller
CHARLES G. DuBOIS

General Counsel
GEORGE V. LEVERETT

Chief Engineer
JOHN J. CARTY

DIRECTORS

CHARLES W. AMORY
THOMAS B. BAILEY
GEORGE F. BAKER
FRANCIS BLAKE
HARRY H. BRIGHAM
ALEXANDER COCHRANE
T. JEFFERSON COOLIDGE, JR.
W. MURRAY CRANE
HENRY P. DAVISON
RUDULPH ELLIS
NORMAN W. HARRIS
HENRY L. HIGGINSON
HENRY S. HOWE
CHARLES EUSTIS HUBBARD
LEWIS CASS LEDYARD
JOHN J. MITCHELL
WILLIAM LOWELL PUTNAM
THOMAS SANDERS
SYLVANUS L. SCHOONMAKER
EUGENE V. R. THAYER
THEODORE N. VAIL
FRANK E. WARNER
JOHN I. WATERBURY
MOSES WILLIAMS
ROBERT WINSOR

REPORT OF THE DIRECTORS OF AMERICAN TELEPHONE AND TELEGRAPH COMPANY.

New York, March 13, 1911.

To the Stockholders:

Herewith is respectfully submitted a general statement covering the business of the Bell system as a whole, followed by the report of the American Telephone and Telegraph Company, for the year 1910.

BELL TELEPHONE SYSTEM IN UNITED STATES.

SUBSCRIBER STATIONS.

At the end of the year the number of stations which constituted our system in the United States was 5,882,719, an increase of 740,027. 1,852,051 of these were operated by local, co-operative and rural independent companies or associations having sub-license or connection contracts, so-called connecting companies.

WIRE MILEAGE.

The total mileage of wire in use for exchange and toll service was 11,642,212 miles, of which 1,162,186 were added during the year. These figures do not include the mileage of wire operated by connecting companies.

TRAFFIC.

Including the traffic over the long-distance lines, but not including connecting companies, the daily average of toll connections was about 602,500, and of exchange connections about 21,681,500, as against corresponding figures in 1909 of 517,000 and 19,925,000; the total daily average for 1910 reaching 22,284,000, or at the rate of about 7,175,448,000 per year.

PLANT ADDITIONS.

The amount added to plant and real estate by all the companies, excluding connecting companies, constituting our system in the United States during the year 1910 was:—

Real Estate	$2,518,133
Equipment	19,628,357
Exchange Lines	13,409,546
Toll Lines	14,959,048
Construction Work in Process	3,067,734
	$53,582,818

PLANT ADDITIONS OF PREVIOUS YEARS.

The amount added in 1900 was $31,619,100; in 1901, $31,005,400; in 1902, $37,336,500; in 1903, $35,368,700; in 1904, $33,436,700; in 1905, $50,780,900; in 1906, $79,366,900; in 1907, $52,921,400; in 1908, $26,637,200; and in 1909, $28,700,100, making the total expenditure for additions to plant during the eleven years $460,755,700.

MAINTENANCE AND RECONSTRUCTION.

During the year $52,028,000 was applied out of revenue to maintenance and reconstruction purposes.

The total provision for maintenance and reconstruction charged against revenue for the last eight years was over $283,500,000.

CONSTRUCTION FOR THE CURRENT YEAR.

Estimates of all the associated operating companies and of the American Telephone and Telegraph Company for all new construction requirements in 1911 have been prepared. It is estimated that about $60,000,000 will be required for current additions to plant in 1911, of which amount some $30,000,000 will be provided by the existing and current resources of the companies. All who are responsible for these expenditures are working in complete understanding of these estimates and the limits set on their expenditures.

DEPRECIATION.

The question of depreciation has been considered very critically and analytically during the past year, by commissions and other bodies, in connection with studies on the rate question. While a depreciation reserve was generally favored, there seemed to be a disposition to apply experience and theories, gleaned from other lines of business, to the telephone business.

The telephone business is unique in that it supplies its own terminals, which are vast in number, are temporary in character, and call for large investment, unique in that a very considerable part of its plant is of a rapidly deteriorating character. Underground conduits and cables and aerial cables are fast changing this, but in the outlying rural and semi-urban districts and for long-distance lines construction will always have to be overhead on poles. There is nothing analogous to it in industrial or public utility service except the telegraph.

The entire disregard or underestimating of depreciation and future replacement, is the cause of nearly all the financial disasters that have occurred in the telephone business, and has been the common failing of newcomers in the telephone field from the beginning to the present time.

Current repairs on new plant, even of the old time temporary character, were small; no surplus or reserve was provided; profits were apparently large, as were dividends.

A false atmosphere of prosperity surrounded the business which was not dispelled until replacements of plant through decay or obsolescence became imperative; until the overhead gave way to the underground, until the individual board gave way to the multiple central office system, until central office energy supplanted the magneto system, until exacting construction requirements of long-distance speaking began, until expansion of business and extension into new fields, some unremunerative, were obligatory; until a condition existed where, to correct mistakes of the past, capital had to be expended without producing any corresponding increase in the revenue.

The inevitable was in some cases postponed by excessive charges to construction account, but came in time, as it is bound to come under such conditions. The apparent profits and dividends had been at the cost of the capital and, at the time of the greatest necessity, resources were at the lowest ebb.

Ignorantly or wilfully, every cause but the right cause was blamed, and although the management had been in the hands of the outside interests, the Bell parent company was given the responsibility, had to carry the burden, and assume the work of reconstruction and rehabilitation.

An illustration may make the necessity of depreciation reserve even clearer. If a carter or local expressman or hackman owning his own carriages, horses or motor cars, should consider as profit all revenue over and above his current expenses and costs of current repairs, and should spend it, saving nothing with which to replace his plant when worn out or damaged beyond repair, he would be called thriftless and improvident. He had enjoyed his capital, and had nothing upon which to raise more.

The present policy of the Bell System is to provide against every probable contingency and to base the amount and extent of such provision on past experience—not on future expectations. It is conjectured that the future will show a decrease in the depreciation or reconstruction due to decay, wear and tear, and obsolescence. Changes—improvements—are going on as rapidly as in the past, but the general character of plant and methods is assuming more permanency. The improvements are being evolved from, and are being grafted on to, the old system and methods. The disturbing and sometimes seemingly destructive conditions following the rapid development of high pressure power and transmission have been to a great measure overcome.

All this has been made possible through the unremitting study and research of the staff of the Engineering and Experimental Departments of the Company, who by close attention, observation and study, anticipate and provide for all such contingencies and conditions as can possibly be anticipated or provided for in advance.

Under these conditions there is small probability that any such causes as those which forced the wholesale reconstruction or rearrangement of plant in the past will again occur; it is, however, for the benefit of the public and of the corporation to have an ample reserve for any contingency which may happen.

Local telephone service up to the present requirements cannot be furnished by isolated or individual companies, and facilities for general service must be co-extensive with speaking limits, so that it is imperative for any system which pretends to be comprehensive to meet, and meet promptly, all demands for service. Its public usefulness as well as corporate existence and prosperity make it imperative to meet the continuing demand for extension which sometimes seems almost overwhelming in its magnitude.

Not only must this increase be met, but to be met economically or efficiently, it must be anticipated; subways cannot be built conduit by conduit, or filled wire by wire—cost would be prohibitive and service impossible. Central office buildings must be located and erected and connected by subway with the general system before switchboards or wires or equipment can be introduced. When built they must be built for the future. To build for present requirements only, and enlarge as demand comes, is impossible in much of this work; and, where possible, impracticable from service standpoint, or prohibitive from that of cost. Advance construction of this kind of the Bell Telephone System, including construction in process, December 31, 1910, was estimated at $180,000,000. Had no plant been built in advance of needs except that which was unavoidable the expenditure would have been reduced by $112,000,000, but the cost of the plant not built at first, if provided later and only as required, would have been $250,000,000 instead of $112,000,000. In other words, not to provide for advance construction doubles the cost of the plant.

The capital for this advance construction must be provided by and at the cost of the present, as was the advance construction of the past provided by and at the cost of the past. To the extent that advance construction reduces the cost of necessary plant and anticipates reconstruction and replacement, to that extent the capital charge to be borne by present and future is reduced and to that extent it immediately puts the depreciation reserve to its intended use. The criticism that any excess of reserve is at the cost of the present for the benefit of the future is true, but only to the extent that it may be found eventually to be in excess of actual requirements. In any case it would be no more than might rightly be considered an insurance against obsolescence which cannot be foreseen.

FIGURES FOR THE YEAR.

The following tables show the business for the year of the Bell Telephone System including the American Telephone and Telegraph Company and its associated holding and operating companies in the United States, but not including connected independent or sub-licensee companies, nor the Western Electric Company and Western Union Telegraph Company except as investments in and dividends from those companies are included respectively in assets and revenue. All inter-company duplications are eliminated in making up these tables so that the figures represent the business of the system as a whole in its relations to the public.

The gross revenue collected from the public in 1910 for telephone service by the Bell System—not including the connected independent companies—was $165,600,000; an increase of nearly $16,000,000 over last year. Of this, operation consumed $54,000,000; taxes, $8,000,000; current maintenance, $25,700,000; and provision for depreciation, $26,200,000.

The surplus available for charges, etc., was $51,000,000, of which $11,550,000 was paid in interest and $25,000,000 was paid in dividends to the public.

The total capitalization, including inter-company items and duplications, of the companies of the Bell System is $1,114,310,979. Of this $502,306,910 is owned and in the treasury of the companies of the Bell System. The capital stock, bonds and notes payable outstanding in the hands of the public at the close of the year were $612,000,000. If to this be added the current accounts payable $21,700,000, the total obligations of every kind were $633,700,000, as against which there were liquid assets, cash and current accounts receivable, of $53,600,000, leaving $580,100,000 as the net permanent capital obligations of the whole system outstanding in the hands of the public.

Against these obligations, the companies had prop-

erty $696,700,000—an excess of $116,600,000, or 20 per cent.

There is a large additional surplus, which is legitimate and proper and which could be properly added to the book Surplus, representing as it does the value of intangible property, such as franchises, contracts, patents, rights of way, both public and private, which are not carried at any valuation in the book accounts.

In every case where the public authorities have appraised the plant of the companies, the valuation has been far in excess of the book valuation. It is within the bounds of conservatism to say that the obligations of all the companies outstanding in the hands of the public are represented by 150 per cent. of property at a fair replacement valuation of the plants and assets, not including public franchises.

In spite of these facts and figures shown from year to year in our annual reports; in spite of reports to the contrary of every public or semi-public body which has examined and reported on the value of the property of the Bell System; in total disregard of information at the disposition of every one, there are many who for some purpose or other—sometimes to induce credulous investors to take some worthless securities in hope of extraordinary and impossible returns; sometimes for political purposes; sometimes for sensation or notoriety—continue to spread the reports of fabulous over-capitalization of the Bell System as a whole and of its component parts, and gross and extortionate charges for service.

Particular attention, therefore, is invited to the tables following, and also to the one showing averages of operating units of associated companies, on page 13.

Bell Telephone System in United States.

COMPARISON OF EARNINGS AND EXPENSES, 1909 AND 1910.

(ALL DUPLICATIONS, INCLUDING INTEREST, DIVIDENDS AND OTHER PAYMENTS TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY BY ASSOCIATED HOLDING AND OPERATING COMPANIES, EXCLUDED.)

	1909.	1910.	Increase.
Gross Earnings	$149,914,708	$165,612,881	$15,698,173
Expenses—Operation	$49,731,941	$54,235,449	$4,503,508
Current Maintenance	23,723,681	25,763,082	2,039,401
Depreciation	21,115,272	26,264,927	5,149,655
Taxes	6,976,306	8,355,015	1,378,709
Total Expenses	$101,547,200	$114,618,473	$13,071,273
Net Earnings	$48,367,508	$50,994,408	$2,626,900
Deduct Interest	10,221,383	11,556,864	1,335,481
Balance Net Profits	$38,146,125	$39,437,544	$1,291,419
Deduct Dividends Paid	23,910,603	25,160,786	1,250,183
Surplus Earnings	$14,235,522	$14,276,758	$41,236

COMBINED BALANCE SHEET, 1909 AND 1910.

(DUPLICATIONS EXCLUDED)

ASSETS:	Dec. 31, 1909.	Dec. 31, 1910.	Increase.
Contracts and Licenses	$7,212,781	$2,943,381	$4,269,400*
Telephone Plant	557,417,146	610,999,964	53,582,818
Supplies, Tools, etc.	17,048,196	20,987,551	3,939,355
Receivables	49,744,919	26,077,802	23,667,117*
Cash	32,055,866	27,548,933	4,506,933*
Stocks and Bonds	38,166,284	64,766,089	26,599,805
Total	$701,645,192	$753,323,720	$51,678,528
LIABILITIES:			
Capital Stock	$352,904,063	$344,645,430	$8,258,633*
Funded Debts	187,685,339	224,791,696	37,106,357
Bills Payable	40,721,625	42,566,943	1,845,318
Accounts Payable	24,633,780	21,721,125	2,912,655*
Total Outstanding obligations	$605,944,807	$633,725,194	$27,780,387
Surplus and Reserves	95,700,385	119,598,526	23,898,141
Total	$701,645,192	$753,323,720	$51,678,528

*Decrease.

AVERAGE OPERATING UNITS OF ASSOCIATED OPERATING COMPANIES.

(*See table on next page.*)

The table on the following page shows average operating revenue and expenses per station, operating ratios, unit plant costs, etc., of the associated operating companies (not including the American Telephone and Telegraph Company's long-distance lines), for the years 1895, 1900, 1905 and 1910.

It will be noted that there has been a steady decrease both in expenses and revenue per subscriber's station, so that now the average subscriber pays for a higher grade, more comprehensive service, less than half what he paid fifteen years ago for the much less useful service that was then possible.

This reduction in cost of service has made it possible for every one who needs a telephone to have one and to get the great advantage of being within reach of everybody by telephone.

The greatly decreased plant investment per station to which attention was called in the previous annual report has been still further reduced during the year to $142, notwithstanding the extensive additions to toll lines shown on page 4.

There is a steady increase in the proportion of wires underground, as shown on page 63, which indicates a greater permanence of plant and decreases the maintenance costs. This low cost of plant and this decreasing maintenance cost are only made possible by the central supervision of engineering and manufacturing of the Bell System and the advance construction referred to at length under the head of Depreciation.

The percentage of net profits to capital stock, although not so good as in the earlier years of the business, shows for 1910 an improvement over recent years.

Average Operating Units of Associated Operating Companies, 1895 to 1910.

(THIS TABLE COVERS THE COMPANIES OWNING ALL THE EXCHANGES AND TOLL LINES OF THE BELL TELEPHONE SYSTEM EXCEPT THE LONG-DISTANCE LINES OF AMERICAN TELEPHONE & TELEGRAPH CO.)

Average per Exchange Station.	1895.	1900.	1905.	1910.
EARNINGS:				
Exchange Service	$69.75	$44.08	$33.31	$31.28
Toll Service	11.35	12.00	9.95	9.47
Total	$81.10	$57.28	$43.26	$40.75
EXPENSES:				
Operation	$20.15	$21.03	$16.00	$15.14
Taxes	2.23	2.37	1.49	2.00
Total	$31.38	$24.00	$18.45	$17.14
Balance	$49.72	$33.28	$24.81	$23.61
Maintenance and Depreciation	26.20	17.68	13.91	13.46
Net Earnings	$23.52	$15.60	$10.90	$10.15
Per Cent. Operation Expense to Tel. Earnings	35.0	37.8	39.2	37.2
Per Cent. Telephone Expense to Tel. Earnings	71.0	72.8	74.8	75.1
Per Cent. Maintenance and Depreciation to Average Plant, Supplies, etc.	9.1	8.4	8.9	9.5
Per Cent. Increase Exchange Stations*	15.7	26.5	24.5	11.8
Per Cent. Increase Miles Exchange Wire*	15.9	33.2	27.2	12.0
Per cent. Increase Miles Toll Wire*.	21.3	25.2	12.4	11.5
Average Plant Cost per Exchange Station (including Exchange and Toll Construction)	$200	$190	$145	$142
Average Cost per Mile of Pole Line (Toll) (Including Wire)	$210	$348	$438	$688
Average Cost per Mile of Wire (Toll) (Including Poles)	$81	$71	$62	$66
Per Cent. Gross Telephone Earnings to Average Plant	33.4	31.7	31.7	29.8
Per Cent. Net Profits to Average Capital Stock	10.11	9.44	8.84	8.48
Per cent. Dividends to Average Capital Stock	5.07	6.19	5.75	6.31

*Increase during year shown, over previous year.

WESTERN ELECTRIC COMPANY.

The Western Electric Company occupies a unique position in the manufacturing business. It is in fact the manufacturing department of the Bell System.

To develop efficiency in service it was necessary to control the evolution of apparatus as well as of methods of operation. To control the quality and style of apparatus, to control the improvements which suggested themselves in the course of, and were the outcome of the experimental work and the development and improvement studies and experiments, it was necessary for the Bell System to control the manufacture of equipment and apparatus.

The present Western Electric Company was the outgrowth of this necessity.

This relation created the business of the Western Electric Company.

This relation of the Western Electric Company with the Bell System not only eliminated the expense which such companies must incur in the establishment of their business, but also largely reduced the operating or continuing expenses. Its business was either for the Bell Companies, or came to it because of its relation to the Bell Companies. Its manufactured products were made upon advance orders or to fill regular and definite continuing demands. A relatively small merchandise stock had to be carried.

There was no selling expense which, in the ordinary manufacturing business, absorbs such a large percentage of the manufacturing profits. There were no bad debts. The capital of the company was small and the floating debt large—at times much larger than the capital.

The growth had been so rapid that there had been no time to adjust the business to the changing conditions. It became apparent that some of these conditions must be changed for the permanent good of the company.

Before instituting any changes an offer was made to the outside shareholders of the Western Electric Company for an exchange or sale of their stock to the American Telephone and Telegraph Company. The offer was considered a liberal one and was accepted by a very large majority of the smaller holders and by a majority of the total shareholdings not held by the American Company.

A definite program of readjustment to new conditions was adopted and has been steadily pushed forward.

Outside lines of manufacture which were not only unprofitable but were absorbing a very large proportion of the capital of the company have been abandoned and the company's energy and efforts concentrated on the manufacture and sale of telephonic apparatus and auxiliary supplies.

The Hawthorne works have been enlarged and the Chicago City Clinton Street and Polk Street properties have been sold at a slight advance over their book values. The company's debt has been funded and it has ample working capital.

The prices charged to the Bell System are lower than the prices charged to other telephone customers. In the year 1910 the rate of gross profit on sales to the Bell System was 7.5% less than on sales to such other customers. This difference was offset by the lower expense in selling to the Bell Companies.

The relation between the Bell System and the Western Electric Company has the advantage of a ready made business, with none of the ordinary drawbacks and expenses and risks that other manufacturing companies have. Because of that relation, however, all investigations made as to the cost and expenses of the telephone business by public bodies include an investigation to ascertain whether or not the Bell System is getting, indirectly, abnormal profits through its manufacturing department by making excessive

charges for apparatus and supplies. While all such investigations have, so far, ended satisfactorily, they bring into the discussion the profits of the company, its relations to public utilities, its profits, and the proportion of these profits which should be divided among the shareholders.

Everything indicates that the company can make satisfactory prices to the telephone companies for its products and maintain a 10 per cent. dividend. This rate has been started and it is not believed that existing conditions or a conservative policy would justify more.

REPORT OF THE AMERICAN TELEPHONE AND TELEGRAPH COMPANY.

The improvement which has marked previous years still continues. The net revenue for the year was $31,933,214.49, out of which were paid interest, $5,077,321.33, and dividends, $20,776,822.12. The balance, $6,079,071.04, shows an increase, notwithstanding the large increase in dividends due to the exchange of convertible bonds for shares.

CONVERTIBLE BONDS.

At the close of business, December 31, 1910, $111,059,000 of the $150,000,000 convertible bonds sold had been handed in for conversion, leaving outstanding at that date $38,941,000.

SHARE CAPITAL.

Due to the conversion of the bonds, there has been an increase of $6,860,300 in the outstanding share capital. This increase has been well distributed. The number of shareholders, 40,381, on December 31, 1910, shows an increase of 4,558 during the year. The distribution is general, there being 40,087 shareholders who hold less than 1,000 shares each, 266 who hold from 1,000 to 5,000 shares each and 28 who each hold 5,000 shares or more. The total holdings in blocks of 5,000 or more are less than 10 per cent. of the stock outstanding. A majority of the company's stockholders are women. Less than 8 per cent. of the stock was at December 31st in the names of brokers.

ISSUES OF CAPITAL STOCK AND BONDS.

There has been no issue of share capital during the year except in exchange for convertible bonds. The amount of these bonds still outstanding at the time of this report is about $30,000,000.

Some of the Collateral 4s have been issued in the course of the year in connection with the program for rearranging the territory, referred to last year, and other similar purposes.

It will be necessary, towards the close of the year, to do some financing, and should conditions remain much as they now are this will probably be done by an issue of share capital to the stockholders. The time and amount of the issue will be determined later in order that any change in conditions may be taken advantage of.

Last year we stated that the premiums received over the par value of capital issues were over $14,000,000. The conversion of bonds into stock during the year has increased this premium account to nearly $17,000,000.

GENERAL.

The business of the American Telephone and Telegraph Company is largely, but by no means entirely that of a holding company. It is an operating company in that it exercises centralized administrative functions over the associated companies and owns and directly operates the long-distance lines, binding this company into one system.

It is a developing and manufacturing company by reason of its control over the manufacturing of the Western Electric Company through the Experimental and Engineering Departments and its contract relations with and stock ownership in that company.

To get a proper comprehension of the business of the company as a whole, the combined balance sheet and earnings statement on page 11 must be considered rather than the balance sheet and earnings statement of the American Telephone and Telegraph Company alone.

The interest of the American Telephone and Telegraph Company in its associated operating companies is over 80 per cent., in addition to which it has its own earnings. The American Telephone and Telegraph Company's share of the surplus earnings of the Bell System is approximately 90 per cent., so that the showing of real interest to the security holders of American Telephone and Telegraph Company lies in the figures of the Bell System as a whole.

The combined statements of the Bell System show that during the year the property of the whole system increased $84,000,000. This includes plant, real estate, supplies, tools, stocks and bonds.

The cash and other liquid assets were reduced by $28,000,000. The intangible assets, such as contracts, patents, franchises, etc., were reduced by $4,270,000, leaving less than $3,000,000 on the books of all the companies against these items.

The net increase in assets, about $52,000,000, was provided by an increase in outstanding obligations of less than $28,000,000.

LEGAL.

The Legal Department reports that throughout the country the relations of this company and its associated companies with the Public Service Commissions of the several states have, on the whole, been of a very satisfactory character. The Commissions have recognized the fundamental correctness of our methods of operating, the soundness of our principles of accounting and the fairness of our dealings with the public.

There has, consequently, been but little difficulty in working harmoniously with these Commissions in solving the problems which, in a growing business, constantly demand attention.

In Oklahoma, where our associated company felt compelled to disagree with the State Commission, the Supreme Court of the State in the so-called Enid case has fully sustained our claims. That Court in its opinion has made a very valuable contribution to the law, recognizing, as it does, that in the telephone business large expenditures must be made in the establishment and development of an efficient telephone service which do not appear in the plant, but which contribute to the value of the business when established. This "going value" must always be added to the value of the physical plant in determining the investment upon which the telephone company is entitled to an income. The Court also recognized the necessity in the telephone business of making a liberal provision for depreciation, not only to provide for the decay and destruction of plant, but also to make the changes required to meet rapidly growing demands and to furnish the public with the improved facilities which the great development of the art has made necessary.

Our associated companies have been quick to respond to the public needs with these improved facilities and advanced methods of operating. In consequence they have had very little litigation with their subscribers and have been uniformly successful in such as has arisen.

In the Western Union case the United States Circuit Court has affirmed the report of the Master and the case will be appealed. Nothing has developed in this case which changes our view that the earlier decisions in this case were correct and that we have fully accounted for all that was due the plaintiffs under the contract of November 10, 1879.

PENSIONS AND SAVINGS.

During the year a great deal of attention has been given to some scheme for Pensions and Savings which would be of the greatest possible benefit and assistance to the employees, and if possible a substantial improvement on any scheme now in force.

The problem is an intricate and complicated one and the solution not easy.

At a conference of all the associated companies it was agreed that any plan adopted by the American Telephone and Telegraph Company would also be adopted by them, making it comprehensive and covering the Bell System as a whole, so that all changes of employees between companies would not affect their Pensions or Savings benefits.

In the meantime all cases which would come under Pensions or Savings plans will be acted upon individually by the company, so that in effect so far as the employees are concerned the delay does not postpone any benefit to them.

INDEPENDENT AND OPPOSITION COMPANIES.

Our policy in respect to the opposition and independent telephone systems has been consistently followed through the year. Wherever it could be legally done, and done with the acquiescence of the public, opposition companies have been acquired and merged into the Bell System.

Independent companies have been added to the System through sub-license or connecting contracts.

There is no question but that the public are tired of dual telephone exchange systems, and that so fast as confidence in protection against the real or imaginary evils of monopoly increases, opposition against mergers will decrease.

This condition can only be brought about by putting before the public the fullest and most detailed information as to the company, its policy and purposes.

fighting competition for indies by acquiring or licensing

PUBLIC RELATIONS.

In all times, in all lands, public opinion has had control at the last word—public opinion is but the concert of individual opinion, and is as much subject to change or to education.

It is based on information and belief. If it is wrong it is wrong because of wrong information, and consequent erroneous belief.

It is not only the right but the obligation of all individuals, or aggregations of individuals, who come before the public, to see that the public have full and correct information.

The Bell System gained 740,027 subscribers last year. Of the total number of subscribers over 1,000,000 were new during the year.

The American Telephone and Telegraph Company gained 4,558 shareholders last year. Of the total number of shareholders many more were new last year.

The excuse for setting forth at great length the policy, facts, beliefs and desires of the Bell System and those administering it, even to the extent of repeating much that has already been said and explaining some things familiar to many, is to inform the new public, the new subscribers, and the new shareholders.

Every fact that is stated is correct.

Every argument or reason is believed to be well founded and based on facts and is intended to be impartial.

The position of the Bell System is well known.

It is believed that the telephone system should be universal, interdependent and intercommunicating, affording opportunity for any subscriber of any ex-

universality →

change to communicate with any other subscriber of any other exchange within the limits of speaking distance, giving to every subscriber every possible additional facility for *annihilating time or distance by use of electrical transmission of intelligence or personal communication.* It is believed that some sort of a connection with the telephone system should be within reach of all. It is believed further, that this idea of universality can be broadened and applied to a *universal wire system* for the *electrical transmission of intelligence* (*written or personal communication*), from every one in every place to every one in every other place, a system as universal and as extensive as the highway system of the country which extends from every man's door to every other man's door.

It is not believed that this can be accomplished by separately controlled or distinct systems nor that there can be competition in the accepted sense of competition.

It is believed that all this can be accomplished to the reasonable satisfaction of the public with its acquiescence, under such control and regulation as will afford the public much better service at less cost than any competition or government-owned monopoly could permanently afford and at the same time be self-sustaining.

The Bell System as at present constituted was evolved first through the local exchange.

In the beginning of the business it was impossible to get the necessary capital for development in any large amount. In the place of large capital, small capital and the optimism of individuals had to be utilized. Small capital, large hopes and individual effort brought about a development by limiting the size of the exchange territory given to each individual to his possibilities. In this way the country and smaller cities were largely developed before much

was done in the larger cities. The capital to develop New York was estimated at less than $100,000, yet it was a long time before even that could be raised. Even if it had been possible to raise capital to exploit the whole country through one company, it would have been impossible to use it properly. The business was new. Those who constructed and operated it had to be educated. The policy of small units and individual effort, with concentration, application and resourcefulness brought a more rapid development and education than could have been had in any other way.

In this formative period, when the business was new, before distant speaking possibilities were shown, all communication was local. No two exchanges were either equipped or operated on the same lines or under the same methods, nor did they need to be; service, judged by present standards, was poor, but satisfied the local use; better service was not known. Later development of the toll line, of lines connecting exchanges, and of long-distance service made the deficiencies of the service glaring and the necessity of improvement imperative.

It will be remembered by many when the long-distance service was first introduced special connections had to be built for the users; now every telephone station or line can be equally well used for long-distance speaking.

With the extension of the speaking limits of the telephone over connecting lines came also the necessity for the extension of the territorial limits of the exchange systems, the necessity of standardization, uniformity of apparatus and operating methods, and an effective common control over all. The necessity for system was the beginning of the Bell System. The combination of the separate exchanges and lines into larger aggregations or organizations followed. It was necessary to have more effective organization with more effective administration and management.

and with resources sufficient to make the changes which experiment and experience had found necessary.

It is impossible to define the territorial limitations of a telephone system because from every exchange center communication is wanted up to the talking limits in every direction.

This process of combination will continue until all telephone exchanges and lines will be merged either into one company owning and operating the whole system, or until a number of companies with territories determined by political, business or geographical conditions, each performing all functions pertaining to local management and operation, will be closely associated under the control of one central organization exercising all the functions of centralized general administration. But whatever may be the form of the operating organization, there is bound to be for legal purposes and the holding of franchises, some sort of subordinate state organization which will bring the business and property in each locality under the jurisdiction of the state in which it is situated and operated.

The American Telephone and Telegraph Company, which is the owner of all or part of each company forming the Bell System, is not simply a holding company. It is not a combination that has eliminated competition between the companies controlled by it. There can be no rivalry or competition between local exchanges in adjacent territory. Those desiring the service of exchanges in adjacent territory in addition to their own can get it much better and cheaper through their local exchange. To give direct individual wires from one exchange territory into another would be impractical from the multiplication of lines and prohibitive on account of cost. The American Telephone and Telegraph Company is a centralized general administration for all the

companies. It does the financing for the extension of the business. It furnishes the engineering, operating and other experts. It maintains a productive and protective organization so far as patents are concerned. It defends all the companies against all infringements. It undertakes to bring about improvements by working out the ideas and suggestions of others, both in and out of the business. Its agents keep each company fully informed of all that is going on in the field. It avoids all duplication of efforts, of experiments, of trial of new methods, apparatus, etc. It looks after the public relations of the companies. In other words, it performs all that service which is common to all, leaving to the local companies the local management. The organization is not unlike that of the United States, each local company occupying its own territory and performing all local functions, the American Telephone and Telegraph Company binding them all together with its long-distance lines and looking after all the relations between the local companies and between local companies and other companies. To have developed the telephone industry to its present state of efficiency would have been beyond the ability of any one of the local companies.

All independent systems which have been started have more or less followed the same lines, but within restricted areas, whether built by one company or interest, or by several. First, the local exchange, then the toll line to outlying points, and then the long-distance line connecting with other independent exchanges, tieing them together to form a system affording facilities for communication between the subscribers of one exchange and the subscribers of the other, but limited in scope, and without the community of interest necessary to a common system.

In other words we have the Bell System on the one side, developed on the lines of a universal, intercommunicating and interdependent service. We

Bell = universal v. Indies = ← inefficient

have the opposition on the other side, segregated exchanges or limited systems without universality, incomplete and inefficient, neither interdependent nor intercommunicating, except to a limited extent.

Corporate Organization and Combination.

There is nothing of greater common interest, nothing which is exciting more comment and discussion at the present moment, than the questions of state control of corporate organizations and of combinations, especially of those controlling public utilities.

Corporate organization and combination are the necessary and logical solution of the problem of caring for the wonderful development which has been going on all over the world, and particularly in this country, in the recent past.

Combination only can cope with that industrial development of the present time which is far beyond the scope of individual effort or capital. In those good old times, one man, with his own capital, could carry on even the largest operations. The margin of profits due to low wages and large selling prices enabled the owners of such individual establishments to live and enjoy the best to be had in those times, and amass fortunes—fortunes relatively as large as any of the present—from an amount of gross business, the profits from which today would not be sufficient to pay the wages of a shop superintendent.

The development of the arts, the necessity of extensive laboratories and experimental departments, with technical staffs competent to keep abreast of modern progress and find out how to *utilize all of everything*, the large gross production at small margin of profit, the large capital requirements necessary to conduct business on these lines; all these place modern industrial enterprises either beyond the financial ability of any one individual, or far beyond

the amount that any one individual wishes to have in any one venture.

Without attempting to discuss the history or evolution of "Company," "Corporation," or "Monopoly," and similar organizations or combinations of trade, it can be said that the first and oldest step towards corporate organization was partnership. Corporate combination is but a partnership wherein the partners are represented by shares held in various amounts by the various investors.

These corporate organizations and combinations have become a permanent part of our business machinery; the public would not, if it could, abolish them.

Who would ever consent, or would the requirements of business allow, that the railroads between the great sections of our country revert to the independent lines that once existed, with all the consequential delays, inconveniences and disadvantages to traffic and travel? Who would be content if the telegraph business should be carried on by the transfer of messages from one to another of the numerous companies, formerly independent, but now combined and giving direct transit over the whole country?

That there has been in large measure reason or cause for the existing unfavorable public opinion as to corporations, trusts and combinations, is beyond question, but it does not follow that there is reason or cause for the wholesale denunciation and condemnation of all corporations, trusts and combinations. Nor does it follow that all that is bad is centered in or confined to those prominent in the public eye.

Many of the practices most severely condemned are but the amplification or continuance of practices or customs common in the current affairs of business, practices or customs which were not wrong in themselves, but wrong in the abuse of them.

Public utility corporations and other combinations

public distaste for trusts / mergers

have too frequently assumed that new laws and regulations were disastrous and ruinous without first giving them a fair trial, and legislators too often have displayed an ignorance or disregard of existing laws, spreading the idea that new legislation was a cure-all for any undesirable condition, while it was often only a political play, and the enforcement of the existing laws was utterly neglected. The results have been bad. While business will adjust itself to any condition if given time and opportunity, sudden change of conditions will result in disaster to some interest, but not as a rule to those at which the change was aimed.

There is too little consideration given to the fact, based on all experience, that no one interest can permanently prosper unless all other interests are in a prosperous condition, and to the fact that any sudden change in existing conditions will always be taken advantage of by some one interest to the detriment of other interests in general.

The proper use of corporate organization or combination under proper regulation or control cannot be objected to.

What is and should be condemned, prevented and punished, is the abuse made of corporate machinery to the detriment of public welfare and such abuse as has been and is being practised so extensively for purely speculative and oftentimes swindling enterprises.

It is largely this abuse by professional speculative promoters and swindling security vendors, mostly on a comparatively small scale, not in any way associated or connected with the general business organizations or systems, that has been the cause of most of the popular odium surrounding this necessary machinery of business. It does not seem possible that the only way of reaching such offenders is through penalties for "misuse of the mails," but however or by whomever the remedy is applied, he who does it should re-

ceive the heartiest thanks and appreciation of the community.

The large corporate combinations which often in popular opinion are supposed to be owned or wholly controlled by some one man or some few men, are, in fact, made up of thousands and tens of thousands of silent partners, the shareholders, who are the real owners. The existence of these real owners, these shareholders, is often obscured in the shadow of some one or more individuals who dominate these companies, not by large ownership, as popularly believed, but by administrative and operating aggressiveness and successful management. The shareholding owners are in the aggregate very numerous and, in any other country than America, would be frequently in evidence and heard from, would always take an active participation in all meetings, annual or special, and would in that way protect themselves and their holdings by associating the corporation or combination in the minds of the public with the particular and separate individual ownerships, or interests in them. In this way that same protection, recognition or consideration, to which all interests, whether individual or corporate, are alike entitled, would be assured.

Public Utilities.

The "served" and the "servers."

Under the existing conditions the corporations or combinations represent the "servers." To the shareholders, dividends represent good management and desirable investment, but to many of the community, the community that is "served," profits which in individual enterprise would be considered reasonable are unreasonable and forced out of their pockets by unscrupulous management or illegal or dishonest practices.

The contest between the "served" and the

"servers," the "producer" and the "consumer," between "he-who-has" and "he-who-has-not," has been going on from the dawn of civilization, from the time when some one had more of some one thing than he wanted, while another had none, or less than he wanted.

From time immemorial efforts have been made in some way to control or restrict any accumulation, in the hands or in the uncontrolled possession of any individual or set of individuals, of those things which had become necessary to public wants, and to prevent necessities from in any way getting outside that control which natural competition, or the law of supply and demand under normal conditions exercises.

There has always been and will always be the laudable desire of the great public to be served rightly, and as cheaply as possible, which sometimes selfishly degenerates into a lack of consideration for the rights of those who are serving.

On the other hand there has always been the laudable desire of the "server," or the producer, to get a profit for his service or production, which sometimes degenerates into a selfish disregard or lack of consideration for those who are served.

This conflict, which originated with the first commercial transaction or exchange, has continued ever since and will continue to the end of time.

Until the state, or conditions under which society was organized, began to be complex there were very few things which were not and could not be regulated by the law of supply and demand, the law of substitution of one article for another in case of scarcity, or by the laws of competition. In the simple life, which was with the masses of the people until very recent years enforced, and is with all laudable, there were few articles which were in themselves necessities, and of these very few which did not have alternative articles of use, or substitutes, and, in fact, there was little that was not produced by the local

community or by the family. Those few things which, in the growth of civilization, and particularly by the increase of urban population, were of general use and necessity for all, those few things in which the masses of the public had an interest in receiving regularly and reasonably, soon became the object of control or regulation, and here was the beginning of and reason for state control and regulation or state ownership.

Public Control.

Public control or regulation of Public Service Corporations by permanent commissions, has come and come to stay. Control or regulation exercised through such a body has many advantages over that exercised through regular legislative bodies or committees. The permanent commission will be a quasi-judicial body. It should be made up of members whose duty it will be, and who will have the desire, the time and the opportunity, to familiarize themselves with the questions coming before them. It should act only after thorough investigation and be governed by the equities of each case. It would in time establish a course of practice and precedent for the guidance of all concerned.

Experience also has demonstrated that this "supervision" should stop at "control" and "regulation" and not "manage," "operate" nor dictate what the management or operation should be beyond the requirements of the greatest efficiency and economy.

Management or operation requires intimate knowledge and experience which can only be gained by continuous, active and practical participation in actual working, while control or regulation can be intelligently exercised, after judicial hearing, by those who have not the knowledge or experience to operate.

State control or regulation should be of such character as to encourage the highest possible standard in plant, the utmost extension of facilities, the highest

efficiency in service, rigid economy in operation, and to that end should allow rates that will warrant the highest wages for the best service, some reward for high efficiency in administration, and such certainty of return on investment as will induce investors not only to retain their securities, but to supply at all times all the capital needed to meet the demands of the public.

Such "control" and "regulation" can and should stop all abuses of capitalization, of extortion or of overcharges, of unreasonable division of profits.

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 (some part of whose service must necessarily be unprofitable), from aggressive competition which covers only that part which is profitable.

Governmental control should protect the investor as well as the public. It should ensure to the public good service and fair rates. It should also ensure fair returns to the investor.

A public utility giving good service at fair rates should not be subject to competition at unfair rates.

It is not that all competition should be suppressed, but that all competition should be regulated and controlled. That competition should be suppressed which arises out of the promotion of unnecessary duplication, which gives no additional facilities or service, which is in no sense either extension or improvement, which without initiative or enterprise tries to take advantage of the initiative and enterprise of others by sharing the profitable without assuming any of the burden of the unprofitable parts or which has only the selfishly speculative object of forcing a consolidation or purchase.

State control and regulation, to be effective at all, should be of such a character, that the results from the operation of any one enterprise would not warrant