SNAPPING CORDS

COMMENTS ON THE CHANGING ATTITUDE OF AMERICAN CITIES TOWARD THE UTILITY PROBLEM

BY

MORRIS LLEWELLYN COOKE

DIRECTOR OF PUBLIC WORKS, CITY OF PHILADELPHIA

SUMMARY

The unity of policy and action among private interests in the utility field—gas, water, electric and others—is almost complete. This solidarity is practically world-wide in scope and is of a type not reached by existing laws.

A small group of financiers and promoters—and their banking agents—provide for the public almost ready made, not only securities but public opinion, laws, machinery and even the technical experts.

Publicity—incessant and relentless—is the only remedy. This must provide open and fair bookkeeping, with inventories made on a basis comparable with those used in private business and a uniform system of cost accounting, tying in with the general books and including the smallest details of the enterprise.

Inter-city and nation-wide coöperation, through the Utilities Bureau, must provide for each individual city the support which each private company receives from the league of private interests.

Two lectures given at various eastern universities during the early part of 1915.

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LECTURE I

THE basic fact underlying any discussion of municipal utilities is the essential solidarity of the private interests which control them. Of this oneness in method and mutuality of purpose some may be legitimate and may lead to efficiency. Much of it, however, is short-sighted, non-dividend producing and anti-social. Not a little of it is clearly against existing statutes. In all this planning the security floater is in supreme authority. The engineer, the scientist and the administrator all take their orders from the investment bankers.

This alliance of those that control — even if they do not own — these properties is brought about through a widespread, unwritten and sometimes unrecognized system of exchange of "courtesies" rather than through definite business associations of types either warranted or prohibited by law. Many of the agencies through which this control is made effective do not see in themselves cogs in a well-nigh invincible system. What we shall call "courtesy" for the lack of a better name has become such a preponderant factor in the utility situation that if it could be brought about that all the laws were scrupulously obeyed the present status would remain practically unaltered.

The utility problem through its bearing on crooked politics and bad government has become almost the crux of the municipal situation and as such its solution is, in one sense, the key to national prosperity. These lectures are intended as a statement of conditions as we who represent the cities see them, together with certain suggestions as to the lines along which I believe progress can and will be made. Undoubtedly the foundations on which this great utility structure rests are slipping and the cords which have bound us as a people to inefficiency and venality are snapping.

During the past three years, while Director of Public Works of the City of Philadelphia, it has been my duty to study the ramifications of these interests and the destinations toward which they are steering. During this time my position has brought

definite business relations with over a score of public service companies. With each of at least a half dozen of these companies the Administration has negotiated contracts running into the millions. In two of these contracts the expenditure of a great many million dollars is involved.

Whenever the argument will be assisted by so doing, I will mention companies and individuals by name. I want at the beginning, however, to disclaim any intent to charge individuals or corporations with conscious wrong-doing or intentional law breaking. It is my observation that individually and collectively — and so far as is consistent with their individual and collective pasts — the men who control these properties are trying to conform to the letter of the law as they interpret the laws and as they expect to get them interpreted.

Every manager of a utility in this country today recognizes that he is engaged in a titanic struggle. I sometimes think that the utilities really over-estimate the fighting qualities of the opposition and under-estimate their own. In the discussions of these matters carried on by those representing the cities terms such as "fight," "battle," "warfare" are on every page. For my own part I like to feel that we are entered upon a vitally important educational campaign, for the issues are for the most part far too inaccessible and involved to yield to brute force. Here and there we find marauding companies and individuals who must be beaten into line or crushed. But generally we find utility companies marching shoulder to shoulder in one army and under one banner — guided and actuated by the same set of principles. This is too big an army to crush.

But to some it is too hopelessly slow to act on the theory of an educational campaign rather than a deadly encounter in which each side is trying to wipe out the other. It has recently been well said that "it seems impossible extensively to combine fairness and action. Occasionally we find decisive activity harmonized with universal justness. As a rule, the leader in deeds tends to be narrow, partisan, unfair. It is because we cease to be the exponent of causes and become the exponent of opposition that we lose in power. Man's strength is shown when he expresses his faith, not when he elaborates his dislikes."

If we have good reason for speaking without venom and by the facts, we have equally strong incentive for speaking fearlessly.

Such opportunities as this to speak not only under distinguished auspices but without trammels come only too rarely. If, as I believe, we are confronted with the gravest dangers in this utility field, the more we know of utility corporations the less likely are they to become malignant.

It is because anywhere near a complete victory for either side in this matter means to the one side destruction in great quantities of certain kinds of paper value by public ownership and heavy and new public duties to the other, that I want to urge on both sides the utmost of consideration for the rights and even the views of the other. The present day managers and owners of a property actually worth less than $25,000,000 but with outstanding securities of over $50,000,000 are in an exceedingly embarrassing position. They want more than sympathy — they want help. Again a group of men, who in the late nineties pridefully referred to themselves as "robber barons" [1] and acted the part, are only to be pitied as they are forced to submit their every act to the decrees of public service commissions. And again most men having once learned the technique of bribery would find it less trouble to keep on buying their way than to deal fairly with honest city officials. Then I suppose, on the theory that one swallow does not make a summer, the utility man argues that one honest official or even one honest administration does not materially alter human probabilities.

It does those of us who are looking at it from the cities' side no harm to see the problem through the utility man's difficulties. And let me tell you that he has them.

We should understand the way in which the so-called "water" has been introduced into the securities of these companies.

At the beginning of the process stands a banker who, having purchased all or practically all of the stock of a locally owned property, proceeds to introduce better methods of management and to improve and extend the equipment, accepting for the money advanced for such purposes whatever security the company is able to issue.[2]

[1] The group of capitalists among whom this cognomen was playfully used in familiar discourse is still operating.

[2] A case which comes to my mind is that of a large eastern gas company. Some local parties got a large majority of this stock together in a pot. A firm of lawyers undertook to dispose of this stock at an advance in price because of its representing so nearly the full ownership of the

As soon as the earnings of the company reflect these improved conditions or results are sufficiently assured to warrant an adequate engineering report, a plan of reorganization is devised.

A company is formed to take over one or more smaller companies. This company usually authorizes enough bonds to provide for the refunding of all the mortgage indebtedness of the companies consolidated and to pay back to the banker the money expended by him, in the purchase of the stock of these companies and also the improvements made and sometimes a cash profit besides, but this is not usual. Very often they do not get back all of the money put out. But you will recognize when they do get back all of the money put out, the stock of the company becomes theirs for services without any actual cost.

Preferred and common stocks are issued in amounts according to the particular plan. The preferred stock is generally sold as soon as the earnings make this possible for cash, which is either profit or to a considerable extent profit and the common stock representing the control of the company and its prospects has a material immediate value on account of this. Very often, a considerable part of the preferred has to be used for greasing the wheels. Up to this point, with slight variations, the process is as old as the modern corporation.

It is the next step — the formation of the holding company — which has caused so much criticism. As a device for the injection of water the efficiency of the holding company compares with the high finance which proceeded it as a high pressure fire main does to a garden hose. Thus, a banker having the stock of several companies, the aggregate of which produces a considerable sum in dividends, forms what is known as a holding company and he turns the stock which he holds into this company for what is known as collateral trust bonds, and preferred and common stock.

company as to make it susceptible of manipulation. The sale was negotiated to a firm of investment bankers in New York at a price considerably over what it had been bought at in small lots on the open market. The lawyers received $25,000 for their services. The new owners then sold it bag and baggage just as they got it to a prominent Wall St. banking house for $500,000 more than the purchase price. The new owners gave the company a pat and a smack, reorganized it and sold enough bonds to pay them back all they had put into it and something besides. How many more stories have been added to the house since then I do not happen to know.

He sells the bonds, thereby getting cash for his stock which he turned into the company, without losing control of the individual company. There are a number of instances where several small holding companies have been turned into one large holding company. The end is not yet.

The only serious defence I have ever heard made of this method of financing is based upon a belief in the *absolutism of private property*, for certain it is that the capitalization of a company under this method of financing has no relation whatever to values.

Of the $8,000,000,000 or more of capital, employed in electric, gas, street and interurban railway companies, nearly five and a half billion dollars are controlled by holding companies and their subsidiary companies. Holding companies control 76 per cent. of the two billion dollars of capital invested in electric light and power companies; two-thirds of the one and one-third billion dollars in artificial gas companies, and two-thirds of the five billion dollars of capital in street and interurban railway companies.[1]

The *N. E. L. A. Bulletin* states that "of the 6129 towns and cities with a population of 46,000,000 receiving electric service 2691 with a population of 36,400,000 are served by 140 holding companies."

A serious obstacle in the way of a settlement fair to both sides is the deep conviction entertained by the most powerful bankers that a widespread program of municipal ownership and municipal operation is more or less imminent in this country. They spend much energy and revenue to prove that such a policy would be ill-advised and that the drift is in the opposite direction. But actually and secretly policies are based upon an expectation that most of these properties will be taken over by the people during the coming generation. The present high rates would not be "good business" if these properties were to be continued in private ownership. I have been told by those high in the banking world that the intention is to make these plants yield every possible penny in revenue against this day when the ownership will change.

Perhaps it is with purchase by the public in view that such strenuous efforts are being made to secure from public service commissions the validation of inventories and appraisals based

[1] Brief submitted on behalf of Public Utility Holding Companies to the Interstate Commerce Committee of the U. S. Senate.

on procedures and principles considered unsound in other business fields.

The value of the property engaged in the so-called "public service" in any large city is usually in excess of that used for all other public purposes. In other words, the utility end is the big end. It is impossible to make any exact statement in this matter on account of the desperately obscure and complicated financial organization and statements of the companies controlling the various utilities. Holding companies list their property as the value of stocks and bonds held. These in turn come from other companies, whose property is largely other stocks and bonds. Sometimes the principal holding company does not list among its liabilities some of the obligations of the underlying companies. The whole effect is to prevent any one not on the inside from finding out the real state of affairs, either as to total securities issued, total liabilities or even the book value of actual property held.

Even so the following table listing the value of (1) the several utility properties and (2) all other public property in Philadelphia gives some picture of their relative financial importance and a rough idea of the place occupied by the utilities in the whole scheme of a city. No claims are made for the individual figures used. In some instances they are little more than guesses.[1] To even explain why these figures and not some others were used would have required more than my allotted time. No reference is made to steam railroads.

[1] References indicate some of the sources used for information.

Philadelphia Utilities:	Paper value or value measured by securities	An estimate of actual value of property
Street Railways	$200,000,000	$100,000,000
Electric Company[1]	50,000,000	25,000,000
Bell Telephone[2]	20,000,000	10,000.000
Keystone Telephone[3]	9,000,000	6,000,000
City Water Works[4]	65,000,000	65,000,000
Northern Liberties Gas Works	750,000	500,000
Philadelphia Gas Works (U. G. I. lessee)[5]	45,000,000	35,000,000
Gasoline Street Lighting	250,000	200,000
Miscellaneous: Burglar Alarm, Message Telegrams, etc., Garbage	1,000,000	500,000
	$391,000,000	$242,200,000

All Other Public Property in Philadelphia as of December 31, 1913

Land	$32,771,878.62
Buildings	57,444,526.95
Piers, Wharves, etc	2,330,742.70
School Property	25,600,000.00
Miscellaneous Structures, Grade Crossing Removals, etc.	12,395,775.54
Streets, Boulevards, etc.	56,500,000.00
Bridges	17,200,000.00
Sewers	35,401,247.06
Equipment	7,224,837.57
	$246,869,008.44

A somewhat similar table has been prepared by Ray Palmer, Commissioner of Gas and Electricity, Chicago, giving the "value" of the utilities of Chicago:

[1] Testimony before Penn. Public Service Commission in Cooke *et al* against Phila. Electric Co.

[2] Testimony before P. S. C. of Pa. and exhibits incident thereto.

[3] Statement furnished by Company.

[4] Estimate made by officials Bureau of Water.

[5] Annual Report Chief Bureau of Gas, 1914.

	Securities	Property	Gross Earnings	Net Earnings
Gas	$90,000,000	$50,000,000	$17,000,000	$6,000,000
Electric	80,000,000	65,000,000	16,000,000	5,000,000
Telephone	50,000,000	35,000,000	14,000,000	3,000,000
Elevated Railroad	95,000,000	40,000,000	8,000,000	3,500,000
Street Railways	150,000,000	100,000,000	32,000,000	10,500,000
Water Works	50,000,000	50,000,000	6,000,000	2,500,000
City Electric System	7,000,000	4,000,000	1,000,000	0
Chicago Tunnel	66,000,000	20,000,000	500,000	0
Miscellaneous: Burglar Alarm, Message Telegrams, etc.	1,000,000	500,000	250,000	0
	589,000,000	264,500,000	94,500,000	30,500,000

Generally speaking only those municipal undertakings which can be operated at a profit come under the head of public services or are known as utilities. There is a grim sort of humor in the fact that they are the only activities of a city about the ownership and operation of which there is any discussion.

There are two billions in the securities of electric light and power companies; over one and one-third billions in artificial gas companies, and approximately five billions in street and interurban railway companies; one and one-quarter billions in telephones, — approximately eight billions in above-mentioned privately owned utilities. Cities of the United States of over 30,000 in population, alone, own over one and one-quarter billion dollars of lands, buildings and equipment used in public service enterprises. The total was $1,326,158,240, of which $909,591,279 was for water supply systems, and $416,566,961 for "other public service enterprises." Cities with a population of from 8,000 to 25,000 owned, over a decade ago (1903), approximately $75,000,000; in water works ($67,446,783) and electric light plants ($5,439,747). Since this report appeared, these cities have added quite extensively to their municipally owned and operated public services, so that, including other small cities, it is safe to say that cities under 30,000 have invested in municipally owned and operated public utilities approximately one hundred and fifty million

dollars. Here then is a known total of $10,650,000 invested in public utilities.[1]

Fortunately it is too big an amount for any financier of the present generation to comprehend. It is perhaps an anomaly to state that one of our greatest safeguards in the present crisis in utility affairs is the inability of those who happen to be at posts of great tactical advantage to understand and utilize their opportunities. The game is one for giants and the reins for the most part are in the hands of those who do not understand the times. It requires some broad comprehension of human currents to make effective such concepts as the holding company and nation-wide control. When the world is talking publicity and efficiency, to continue to lean on bribery, undue influence, intimidation, monopoly, and the secret agreement, is suicidal.

No statement of present conditions would be fair which does not pay a high tribute to the electrical interests for the business acumen shown in the co-operative efforts expended on the development of the efficiency of generating units and lamps. This experiment is remarkable as well for the breadth of the co-operation as for the significant success achieved. While this joint action on the part of many interests has fostered monopolisitc control in this field, the exchange of patents, as between the two big manufacturing electric companies and the founding of research laboratories practically the common property of an industry, are in themselves inspiring examples of business efficiency.

Let us see how this "courtesy" about which I spoke a moment ago works in actual practice. Some years ago the Keystone Telephone Company — a competitor of the Bell — secured a franchise to lay conduits under the streets of Philadelphia. While laying the conduits needed to accommodate its telephone wires, the management laid hundreds of miles of extra ducts for the purpose of selling or renting them at some future time either to the Philadelphia Electric Company or some competing electric company. The value of these unused conduits has been variously estimated at from four to six millions. They are still lying idle.[2] For six or eight years past every banker and financier in

[1] For further details see King,—"Lower Living Costs in Cities," pp. 305 ff.

[2] Since writing the above and because of activities mentioned elsewhere these conduits have been rented by the Philadelphia Electric Co. for thirty-five years at a minimum annual rental of $100,000, with option to purchase at the end of the lease.

Philadelphia has known about the availability of these ducts. It has been understood by utility men that a company acquiring their use and getting current either by purchase or by building a plant of its own could sell electric current in Philadelphia both for public and private use at rates not only below — but far below — those charged by the P. E. Co. Such rates would permit dividends above those which any self-respecting Public Service Commission would allow. Owing to the mismanagement of the Philadelphia Electric Company, its excessive rates and especially owing to the small number of customers it serves in proportion to the population, this competition proposition was a peculiarly attractive one. Notwithstanding the assured and generally admitted success of any scheme to utilize these ducts and simply out of "courtesy" to the Philadelphia Electric Company, no one in responsible position has made a move to bring them into use. The potent leaders in the utility camp have declared in favor of one electric company, or one gas company, or one telephone company to a city and woe betide the individual or concern who moves for a competing plant or the invasion of territory.

Such dicta as these are made effective in various ways. Among the agencies which force compliance with standards and business practices imposed from the top are the national organizations provided for each type of utility, such as the National Electric Light Association, the National Commercial Gas Association, the American Electric Railway Association and others. Practically every worker in these lines who is in good standing with the powers that be is forced to join these organizations and those who do not enjoy the favor of those at the top are practically barred from membership.

A typical organization of this type is the National Electric Light Association which has headquarters in the Engineering Societies Building in New York. To the uninformed it undoubtedly has the standing of a scientific and technical society. While it does a considerable amount of scientific work it is essentially a trade body and one not always operating quite as openly as would appear to be for the best interests of the community. In order to build up a position as a technical society this association formerly gave out technical information as do other national engineering and scientific societies. This has been prohibited because

the members do not want this information to fall into the hands of possible business rivals, and more especially into the hands of public service commissions and others investigating their methods.

Notwithstanding a membership of many thousands, no one can join the N. E. L. A. who does not work for a company which already belongs to it. Since they do not usually allow competing companies to join no individual employee of a competing electric company can be a member. Hence, for instance, all employés of the Commonwealth Power Company of Milwaukee — a company doing a business of $400,000 annually — are barred from membership in what is supposed to be the representative organization of the industry, because this company competes with the Milwaukee Electric Railway and Light Company. The significance of such social and professional pressure can hardly be overestimated

The N. E. L. A. also works in close harmony with and supports such sexless public-opinion-forming agencies as the Bureau of Public Service Economics, the Director of which appeared as a speaker at a public meeting in the City Hall, Philadelphia, devoted to electric light and power and two weeks later was in Washington, D.C., choosing the "citizens" who later appeared before a Congressional Committee in opposition to the purchase by the Government of the street railways of the District of Columbia. There are quite a number of individuals employed by these interests whose principal duty seems to be to go about addressing public gatherings and thus influencing public opinion. Thus F. C. Henderschott of the New York Edison Company spoke at the electric meeting at the Mayor's office just referred to and at the Mayor's conference. In neither instance did he state his business. In fact at the last meeting he introduced himself as "a private citizen" — presumably without interest.

These associations hold annual meetings in different parts of the country and spend large sums in printing, entertainments, newspaper and other advertisements. Among the distinguished speakers at the National Electric Light Association meeting in Philadelphia was Elbert Hubbard, Editor and Publisher of the "Fra." A month or two later Philadelphia was flooded with the "electrical number" of that publication containing a very satisfactory picture of Mr. Joseph B. McCall, president of the Philadelphia Electric Co., on the front cover and a laudatory article

on the inside in which he was described as "the second big man born in New York City," and "the central sun of the convention around whom the lesser planets revolved." Among the latter were Steinmetz, Edison and Insull. In view of the recent testimony as to the part taken by the "Fra" in the Colorado strike this instance is interesting.

The constituent companies are liberal in the matter of defraying traveling expenses, so that at the Philadelphia meeting over five thousand members of the N. E. L. A. were in attendance. The expenses of the meeting were about $35,000.

The gatherings always secure a tremendous amount of newspaper advertising and are made the occasions for securing wide publicity for any new business policy with which those at the top hope to bulwark their position. Two recent instances are worthy of consideration here.

In 1913 the Rate Research Committee of the N. E. L. A. announced its theory of rates based on the "value of the service" which of course is nothing more than a new rendition of "all the traffic will bear." Notwithstanding a vociferous beating of the tom-toms, there were no large number of converts to the doctrine, —outside the interested members. Cost plus a fair profit is as good a rule in this field as any other.

Again last year the American Electric Railway Association gave forth a "Code of Principles" which advocated, among other things, fair returns on capitalization no matter how extravagantly watered, exclusive state control of the local utilities and the holding company. The same report advocated the creation of a financed bureau of public relations which is to have among its various functions that of

> "Influencing *the sources* of public education particularly by (*a*) lectures on the Chatauqua circuit and (*b*) formation of a committee of prominent technical educators to promote the formulation and teaching of correct principles on public service questions in technical and economic departments at *American colleges*, through courses of lectures *and otherwise*."

(The italics are mine). The trend of reaction must have seemed very strong to have warranted such a pronunciamento.

On any such committee of "prominent technical educators" there might be Mortimer E. Cooley, Dean of the Department of

Engineering, University of Michigan, Alexander C. Humphreys, President of the Stevens Institute of Technology and George F. Swain, Professor of Civil Engineering, Harvard University.

A short while ago I received this bit of advice from Professor Cooley, which is as good for you as it is for me:

> "I was particularly interested in your views on the relations of public service corporations to the public. If, on account of many years' experience I might venture a word of advice to all younger men having to deal with this subject, it would be not to destroy their usefulness by a too ardent attitude on either side. The people, and the corporations too, need advice sorely, and a sane man, or a man with sane ideas, sanely expressed can do vast good at this, a critical time in our country's welfare."

Professor Cooley gives up a good deal of his time now to making valuations for public service companies. In fact his teaching now consists in giving a course of lectures on the theory of valuations.

This matter of utilities in their relation to the public looms so large in Professor Cooley's mind that we find him making it the subject of a commencement day address June 11, 1914, at Worcester Polytechnic Institute under the seductive title of "Engineering in a Broader Aspect." In this address we are told that in 1911 there was an "average rate of return on all the capital (of all utility corporations) of but 2.3 per cent." and "the average rate of return on utility investments is less than can be had in our savings-banks."[1] Poor utility corporations! Then note the

[1] In a circular dated April 21, 1913, Henry L. Doherty & Co., investment bankers, New York City, give the following table of net earnings and receivership risks for $100 of outstanding securities in (1) utility corporations, (2) industrials, and (3) railroads, for the ten years from 1902 to 1912:

	Net Earnings	Receivership Risks
(1) Gas and Electric	8.45	0.37
(2) Industrials	7.79	2.07
(3) Railroads	4.25	1.84

In view of the fact that the securities of utility corporations are from 50 to 100 per cent. in excess of the invested capital, this 8½ per cent. return, taken with the comparative immunity from risk, as shown on above table, seems to suggest further explanation of Dean Cooley's reference to savings bank returns.

naïévete with which he discusses the testimony of experts appearing in behalf of utility corporations. "We must deplore the discounting of testimony of witnesses — the apparent necessity of having several engineers testify to the same facts. Notwithstanding the array of engineering talent the issue seems to remain in doubt. This is particularly true in hearings relating to public service properties. There is the feeling that engineers whose testimony is favorable to the corporation have been bought."

Alexander C. Humphreys, in addition to being president of Stevens Institute, is a past president of the American Society of Mechanical Engineers and president of the Buffalo Gas Company. He was the principal expert witness appearing for the Consolidated Gas Company in the famous 80 cent gas case. He uses practically every public address as the occasion for the laudation of big business and for correspondingly decrying the efforts of those who feel that this country has a destiny not wrapped up in that of holding companies. President Humphreys' favorite pastime is holding forth against municipal ownership. Any man who believes that there ever has been or ever will be conditions under which municipal ownership and operation might be tried — even timidly — is his natural enemy. An obviously irresponsible article in *Public Service*, a trade paper devoted almost exclusively to an undiscriminating campaign against public ownership, afforded President Humphreys a text for the principal address before a joint meeting of the engineering organizations of Philadelphia. He, too, is sensitive about the public attitude towards engineers. In New York City on February 17th of this year he asked his audience why engineers are almost invariably excluded from boards and commissions. He added "we are submitting too readily to the implication that we are dishonest," and "we must educate the public" and "engineering is the best qualified profession to bring back this country to a sane regulation of its affairs." He did not state the year to the practices of which we should return.

Prof. George F. Swain through his direction of the valuation work on the N. Y. Central railroad, and more especially in connection with the New Haven railroad, may be considered a high authority in this field. For capitalization and rate making purposes, he argues (1) for reproduction value without any depre-

ciation, (2) also for an allowance for "the appreciated value of real estate and any other elements which have appreciated without corresponding allowance for depreciation of elements which have depreciated," and (3) where states, counties or cities have contributed to grade crossing work the amount of such contribution — amounting in Massachusetts to 35% — should properly be included in the appraisal of a railroad property.[1]

Professor Swain's views on political economy and government are quite fully given in his presidential address before the Ottawa Convention of the A. S. C. E., June, 1913. In this paper Professor Swain expresses deep anxiety about the state of the nation and voices considerable distrust of democratic ideals, and says that "present day humanitarianism leads to race degeneracy."

That efforts are already being made "to influence the sources of public education" is shown by such courses of lectures as those given at the School of Commerce of Northwestern University by William D. Kerr until recently Director of the Bureau of Public Service Economics and more particularly those given under the auspices of the so-called Finance Forum of the West Side Y. M. C. A. in New York City where every speaker is the employee of a privately owned and privately operated utility or allied actively as shown by this schedule:

Magnitude of the Electric Light, Power and Transportation Business.

Address by T. Commerford Martin, of the New York Edison Company, and Secretary, N. E. L. A.

The Public, The Investor and The Holding Company.

Address by Francis T. Homer, Counsel, Bertron, Griscom & Co., investment bankers, New York City.

Municipal Ownership of Public Utilities.

Address by Arthur Williams[2] of the New York Edison Co. and Past President National Electric Light Association.

Progress of the Science of Lighting.

Address by Dr. Edward P. Hyde, Director of the Na-

[1] "Report of the Joint Commission on the N. Y., N. H. & H. R. R., 1911."

[2] Mr. Williams is another man used freely in the work of "molding public opinion."

tional Electric Light Association (Nela), Research Laboratory of the National Lamp Works of the General Electric Company.

Telephones at Home and Abroad.

Address by T. P. Sylvan, of the New York Telephone Company.

Future of Public Utilities.

Address by Thomas N. McCarter, President, Public Service, Co., of New Jersey.

Centralization of Power Supply.

Address by Samuel Insull, President of the Chicago, Edison Co.

Investments in Public Utilities and How Held.

Address by W. H. Gardiner, of Henry L. Doherty and Company, investment bankers of New York City.

Future Regulation of Public Utilities.

Address by William D. Kerr, of the Bureau of Public Service Economics.

Some Legal Aspects of Regulations of Public Service Corporations.

Address by Charles F. Mathewson, Associate of Elihu Root, of Counsel, Consolidated Gas Co.

That these lectures were considered wholly "safe" is shown by the fact that they were all published in pamphlet form and distributed free of charge by a Wall Street investment banking house of high reputation. If this had been a course of lectures on steel or cotton or printing, the majority of those given would have covered the technical side and most of the speakers would have represented the manufacturing end. In this course it will be noted that the whole emphasis is on relations to the public and the marketing of securities.

An up-to-date illustration of this unity of interest which I have called "courtesy" is afforded by an editorial in the February issue of *Aera*, the official organ of the American Electric Railway Association:

> "Another phase of this meeting at Washington, which is highly important as a prognostication of future strength and power in the battle which the industry is to wage, was the evidence manifested in many ways that the

manufacturing interests connected with the industry are prepared to cooperate with the railway men in the work that lies ahead.

"When Mr. Pierce, speaking for the Manufacturers' Association, pledged the support of its members, it was evident to those who had felt the pulse of the delegates, that he was giving utterance to no idle and complimentary rhetorical figure, but was voicing a sentiment manifested in many ways.

"Mr. Henry as well as Mr. Pierce pointed out the unity of interest that exists between the two branches of the art. The railways cannot suffer unless there is a reflex felt by the manufacturer. The interests of each are affected almost to an equal extent by adverse conditions forced upon the former. A glance at the personnel of those Association committees, which have directly to do with matters connected with the public, shows not only that the Railway Association recognizes how important it is that the manufacturers shall be enlisted in the cause, but shows as well that the leaders in the manufacturing industry have recognized the importance of their cooperation and have made the sacrifice of time and brains necessary for the work they are called upon to perform.

"The Washington meeting was an inspiration. It has sent back to their work some hundreds of men imbued with the idea that at last a concrete practical plan has been presented for improving public relations and resolved to do their share in this important task. *Unity, solidarity, enthusiasm,* these three things are the returns from this Mid-Year meeting and in addition the American public has been notified that this Association in the words of President Allen has at last 'found a voice.' "

If this factor of "courtesy" as between utility corporations has brought about virtually united action among the utility companies, please remember that it is international — even world-wide — in its scope. In each of the large European countries there are groups of bankers and financiers working in this same field. The entire civilized world has been parcelled out and "courtesy" now becomes international and prevents the invasion of the other fellow's territory. In New York you find the Electric Bond and

Share Company acting as the banking end of the General Electric Company with a relatively small capital as compared with the magnitude of its operations. In Berlin we find a similar $50,000,000 corporation for the construction and operation of electric properties. This company controlled by the same interests as control the Deutsche Bank have properties almost everywhere *except in this country.* If asked "Why?" the answer would probably be "Too deep in the business of owning and managing electrical properties for it to be wise for them to go into any undertaking involving opposition to the established interests in the same field," and "Do not wish to risk antagonizing similar interests to their own in America."

The dominant interests in each nation in each special line have become much of the same mind and have a large respect for each other. These large international companies or syndicates are more and more in finance and manufacturing making impossible competition such as we find in other lines. It is a fact generally recognized now that it is impossible to secure capital for a municipal or competitive utility proposition through regular channels. No matter how good such a utility proposition may be, it can't be financed in this country today if it must be done through bankers. No one will responsibly deny this because the statement is made on the authority of too many bankers.

The situation with regard to buying equipment especially in the electrical field while not so generally understood by the public is almost as tight. There are certain factors to any successful utility enterprise, such for instance as the franchise, the capital, the engineering plans, the charter, the certificate of public convenience. If any one of these items is missing it is impossible even to get a bid or serious attention from either the Westinghouse Company or the General Electric Company in the matter of an electric plant for either public or private central station service. If they can find such an excuse for not bidding they will take it. If there is no such excuse they will bid for one of two reasons — either because they see that the end has come and that somebody is going to get the business, or because somebody might go to jail if they did not bid. Mayor Baker of Cleveland, before he bought the equipment for the new Cleveland municipal electric plant, announced that if there were no bids from the responsible manufacturers he would at once take up the matter with Congress

by requesting that the tariff duty be thrown off foreign machinery for municipal enterprises. He got his machinery.

So much for the financial and manufacturing phases of work in the utility field. In my next lecture I will take up the difficulties connected with securing technical advice and expert services.

I am convinced that the private corporations have brought about a combination in this field which is too tight to be permanent. In order to perpetuate such absolute control it has been necessary to introduce into these companies a German military system of discipline which is more and more resented by the great majority of the employees. In our Philadelphia companies public discussion of utility policies and methods is confined usually to one executive head and information is never given out except through this one source. As a rule the real authority and responsibility in these companies is at the top and the top is usually located in far away New York. Young men of ability and promise are hesitating more and more to ally themselves with interests which almost necessarily place them in opposition to the trend of the times and the best interests of the State. I am not very sanguine about some of the older men seeing the light! But I am hopeful that the generation now coming into responsible charge is going to see to it that these great properties are operated in conformity with the highest ideals of our people. Happily this course seems to be the one which will in the long run conserve the interests of a large majority of the stockholders in these properties.

LECTURE II

THE drift towards municipal ownership and operation in all parts of the country is unmistakable. From present indications the change from private to public ownership in municipal utilities will come more rapidly than either the cities or the companies themselves, today, realize. Apparently the principle of state regulation, as it is at present understood and practiced, is doomed. The louder the companies shout for it the less of a panacea it seems. The rising tide of home rule must necessarily bring with it a larger and larger measure of local regulation of utilities. Through all the agitation for the three methods of state and local regulation and municipal operation runs an insistent demand for efficiency and the widest possible publicity both as to costs and principles of management.

Before the recent Conference of American Mayors in Philadelphia, Clarke M. Rosecrantz, general counsel of the Milwaukee Electric Light and Railway Company said:[1]

> "If the members of this conference really desire to save the public money, I think their attention should first be directed towards securing an efficient and economical management of the affairs which properly belong to the municipality. There is plenty of opportunity in that field and when it can be shown that those affairs are efficiently and economically conducted it will be time enough to consider taking on the burden of operating public utilities."

Personally I am opposed to municipal ownership — at least for the present — but I think Mr. Rosecrantz has put his finger on the only real argument that can be brought against it. And on principle I am opposed to our cities taking on anything more, simply because we have our hands full now in learning the possibilities of municipal government. The demands for the expenditure of money and talent in the other parts of the municipal field are so

[1] "Public Policies as to Municipal Utilities," The Annals of the American Academy of Political and Social Science, January, 1915, p. 270.

insistent and widespread that it would probably be for the best interests of our municipalities if municipal operation could be postponed for a while. But unless the attitude of the private companies very largely changes within the course of the next few years our cities will probably decide that the present and obvious disadvantages of municipal operation are inconsiderable as compared with the burden which the system of private ownership places upon us. If present tendencies are continued private companies will be taken over in about the following order: water first, then electric, gas and street railways.

I am not opposed to municipal ownership for the fool reason that it has been tried elsewhere and found a failure. This is not true and most of those who utter the statement know that it is not true. Nor am I opposed to it on the ground that an American city is unable to operate a utility efficiently and economically. We both own and operate our water works in Philadelphia. We manufacture as good water and as efficiently as any water works in the United States operating under similar conditions. On the other hand our electric company which is owned and operated privately does about as near nothing for our community as is humanly possible. It has the most inconsistent rate schedule in the United States, sells the smallest quantity of current compared to the total current manufactured in any large city and it charges the highest rates. Everything considered no city government could make a worse fist of any proposition than the Philadelphia company has of its opportunity. If a city can operate its police and its fire departments upon which it earns nothing and do it efficiently it can operate electric and gas properties which are almost the simplest manufacturing propositions in the world. But remember that it does not make any difference who owns or who operates these properties. The big question is how are they operated. If the private companies furnish good service and fair rates, give them protection, a free field and a square deal. If they fail in these essentials however any self-respecting city will call the bluff by insisting on public ownership and public operation.

While state regulation certainly has much to recommend it, especially as to accounting, issuance of securities, etc., it is in the matter of rate fixing based on an assumption that the operation of municipal utilities has reached a stage that permits of a more

scientific and exact treatment than really is possible. There are relatively few accepted standards in this field and almost nothing of cost keeping or a real equivalent. Thumb rule and personal opinion everywhere abound and what is even more regrettable the several industries are to a very large extent operated on false assumptions made necessary for the protection of fictitious values. The principle of price regulation in private industry at the present time is generally accepted as impossible on account of the lack of definite standards. The problem is almost as difficult in the utility field. The public is asked to look upon the deliberations of public service commissions as scientific and exact while insiders know that the method of state regulation carried on under the most favorable circumstances is a hit or miss method.

Then again we have been rushed into this era of state regulation with such rapidity that humanly speaking it is impossible for any commission to more than scratch the surface of the field that has been assigned to it. In order to get away from what the companies considered the rigors of local control and for other reasons they have not only helped the people to place all authority in such matters in the hands of the state commissions but have done almost nothing to assist these commissions in the proper co-ordination and performance of these new and extensive duties. In fact there are reasons for believing that in some instances the companies have been at some pains to overwhelm the commissions by placing before them relatively simple matters in tremendous detail. The rate case of the Pittsburg Chamber of Commerce against the Bell Telephone Company of Pennsylvania now being argued before the Pennsylvania State Service Commission is a case in point. The company in this instance is said to have spent upwards of $250,000 in laying before the Commission a mass of undigested material. In almost every rate case the effort seems to be to raise as many issues as possible without regard to whether they are pertinent or not.

Another important reason why confidence in state regulation seems to be on the wane is that many of the laws creating public service commissions have been drafted with a view to giving an unfair advantage to the private companies. The Pennsylvania law, for instance, was so amended during its passage that it satisfies no one except a small minority of the public utility companies who still believe in the methods of twenty years ago and

who continue to make their appeal to the god of might rather than to the god of right. The methods under which such legislation is sometimes ground out are pertinently illustrated by this very law. The original act was drawn by a committee of citizens representing different parts of the state. The committee was made up of those who had made a special study of the principles of state regulation as practiced in other parts of the country. The bill that was presented to the legislature seemed to include the best features of all the existing public service laws. As finally passed the act was thoroughly emasculated. A study of the texture of the paper upon which the several amendments were written and the style of typewriting used showed that every one of the amendments made in this bill was drawn by two very influential Pennsylvania public service companies.

The provisions of the national constitution forbidding the taking of property without "due process of law" gives the companies a great advantage over the cities in litigation before commissions because it properly prevents confiscation. If confiscation itself or litigation charging confiscation are to be avoided the commissions must necessarily leave an ample margin over and above cost plus a fair profit in the fixing of rates. This is an inherent disadvantage in the cities' side of any such discussion. While it has properly been easy for the companies to invoke the basic law to prevent the imposition of rates unfair to the company, the cities have had very little success in the last generation in invoking the common law in preventing the companies from charging rates unfair to the cities and otherwise imposing upon them.

The work that comes before public service commissions is very largely engineering and yet there are almost no engineers on the commissions. The profession of engineering is unanimously in favor of commissions made up very largely of men with engineering training. I discussed the probable reasons for this failure to appoint engineers in a paper called "Some Controlling Factors in Municipal Engineering" read recently before the American Society Mechanical Engineers. Some of my professional associates did not like the suggestion that the failure to appoint engineers to these positions was on account of their too close affiliations with the corporation side of the questions to be discussed. I regret as much as they do the conditions which apparently makes for the

wisdom of not appointing engineers — and especially electrical engineers — on these commissions, but I do not agree with them that if the condition is there that anything is to be gained by not facing it. If conditions have been such in this country during the last generation that, for instance, the organization representing an entire profession has been so diverted that the search after truth is no longer its guiding star, surely it is well to recognize the fact that other professions which may be subject to the same influences may take the necessary steps for their protection. At a time when a great majority of the appointees to these commissions are lawyers there is some underlying reason why engineers are almost never appointed to them. It does not seem to me that the public loves a lawyer any better than an engineer — perhaps not quite as much. But there is a feeling that even a lawyer can see two sides to a question and may be successful in maintaining either of them.

A large number of the appointments to these commissions are made for political considerations and without regard to technical fitness. A good example of this practice is seen in the first New York district where out of a commission of five men, Edward E. McCall, late Tammany candidate for Mayor of New York, is Chairman and J. Sergeant Cram, one of the leading sachems of Tammany Hall, is another member. Experience is proving that even where good men are developed they do not remain permanently on the commission. In this a public service commissionership seems to differ from a seat on the bench. A friend of mine who recently visited the home cities of a large number of commissions made the comment that almost invariably he found the efficient commissioners looking upon their work as stepping stones to higher political preferment. In other words to be a good public service commissioner does not appear to be an end in itself. As long as such service is only looked on as a stepping stone to something beyond or as merely a means of paying political debts by assuring non-interference with corporate contributors, the system will suffer. Again it appears to be the case that whenever a commissioner gets to the point where he knows enough to really deal justly with the companies, the latter make every effort to have him removed. Only on this ground can be explained the persistent fight, for instance, which is now being made against the reappointment of Milo R. Maltbie of the First New York

District, who has done as much to make state regulation workable as almost any other man in the country.

It is a safe statement that a governor hardly ever appoints a public service commissioner without at least consulting the leading men in the corporations which that same commissioner is to regulate. Corporations in approving or disapproving candidates use a type of sardonic wisdom which has grown out of their experience. For instance, I heard it stated the other day by a man in authority that the corporations never objected to the appointment of an honest and able young lawyer if he had little or no practice, because it had been their experience that men so situated could be depended upon not to be too rigorous in their decisions against utility companies. Again there are a great many instances where corporations have worked for the appointment of high-toned but weak-kneed advocates of the rights of the people. This practice makes the records appear all right but the results all wrong.

Another cause seriously operating against the principle of state regulation is the almost entire absence in practice of accepted theories of valuation. Among the economists there is about as reasonable an agreement as to the main questions affecting valuations as could be expected. There is, however, the greatest disparity between the accepted theories of economists and the preachments and practices of those who usually testify in such matters before public service commissions. In almost every important case some novel principle is advanced with apparent confidence and no matter how far it may be from previous practice or how bitterly it may clash with the tenets of ordinary business. In other words whatever theory of valuation may seem necessary to escape the omnipresent ghost of watered securities finds utterance through some individual or agency of high standing.

It seems apparent that those who are in control of the utility situation deprecate any effort to establish a generally accepted code of principles of valuation at this time. During the valuation of the railroads by the Interstate Commerce Commission and during the process of the absorption of the water in the utility stocks, such a code might easily be troublesome. Sometime ago a distinguished committee was appointed by the President of the American Society Civil Engineers "to promulgate principles and methods for the valuation of railroad properties and other public utilities." In due season a progress report of this committee was

printed and issued to the membership. But probably owing to certain heterodox theories which it contained every effort has been made not only to prevent its dissemination, but quite contrary to the very usual practice in such matters it is now impossible to obtain through the society copies of this progress report. Three vacancies in the committee that prepared the report have recently been filled by those closely associated with railroads and railroad affiliations.

Owing to the nation-wide control exerted by the private companies they can successfully insist on unfair or false standards. Practically all the present street lighting by gas and gasoline in the United States is in the control of one company or one interest. This makes it easy for this combination to advertise the ordinary gasoline street lamp as a 60-candle power lamp when it is usually not 40-candle power. This is one of the many tricks through which these interests have "beaten" up — and I use the word advisedly — every competitor. If the ability of the lamp to give 60-candle power is questioned it might be explained that this 60-candle power means a lamp which, if taken to a laboratory, re-equipped with a new mantle and filled with high grade gasoline, can be made to give 60-candle power in the laboratory. But there are probably several hundred thousands on the streets of the United States today that give an actual candle power little above or below 40-candle power, no matter what they call it.

Cost keeping in the utility industries should be a simple matter as compared, for instance, with cost keeping in almost any manufacturing enterprise. In fact, a utility compares with what are known as "tonnage" works in the manufacturing field where not only the product is uniform but where the raw materials are both uniform and few in number. In such industries cost keeping is a simple matter and one involving a minimum of expense. In view of this fact the attitude of the owners of public service corporations toward cost keeping is not only not easily understood but it is almost unbelievable. Before our own public service commission in Pennsylvania, the Philadelphia & Reading Railway recently officially stated that to secure the cost of carrying a ton of coal from their mines to the City of Philadelphia was a problem practically incapable of solution. In another rate case the legal representative of the Philadelphia Electric Company stated that it was impossible to segregate the plant used for the public lighting

from that used for private lighting. No railroad in the country can give the difference in cost between handling a ton of miscellaneous freight over a four track main line and that of handling a ton of hay over a single track branch far from the centers of population.[1]

Another principle in which the companies profess to believe and which acts as a great deterrent to the intelligent presentation of a rate case is that costs secured in one city have no appreciable relation to work of a similar character in another city. The companies have been so successful in pushing this theory that it is most unusual that cost factors secured in one locality can be used in a case affecting rates in another place. But it is true nevertheless that most of the factors that go to make up electric or gas costs, for instance, are essentially uniform throughout the country. Where they are not the same, they usually vary for well recognized reasons for most of which definite factors may be determined. In the generation of electric current there are only two cost factors of importance which vary materially — first, labor and second, coal. The variation in the price of coal can be definitely determined and the difference in the cost of labor as between two places can be fixed within a small factor of error. A third important point of variation and one not so readily determined affects only the cost of distribution, i.e., the extent of territory served. The factors which must be included in all localities make up by far the larger part of the cost. That part of the total cost which is represented by variations between cities while not negligible is of far less importance. As a matter of fact, the companies are a bit inconsistent as to this inter-city aspect of rates since they oppose the reduction of rates in some places for fear such reduction will make higher rates appear wrong elsewhere. Regulation of course means that in some instances a company is not allowed to reduce rates as much as it would like to. The attitude of all classes of

[1] Docmt. 950 Pa. P. S. C., page 427, H. E. Bellis, N. W. Business Men's Ass'n *et al. v.* P. & R. R. R. Co. *et al.*

Theodore Voorhees, President Phila. & Reading Railroad: "You cannot get at the cost of any item of railroad service. . . . It never has been done. I do not believe it ever will be done."

Robert H. Large, General Coal Freight Agent, P. R. R.: "You can't take into consideration the cost of the service for two reasons. In the first place you can't ascertain the cost. That is practically impossible, in freight traffic between commodities."

utilities toward this very important question of costs can only be characterized as being pitifully helpless.

The absence of even a beginning of a cost system is the only excuse that I have been able to find why men who dominate the business policy of the Philadelphia Electric Company can face a rate schedule which provides that one customer shall be charged 0.7 cents per unit of electric current and another customer charged 15 cents or over twenty times as much for the same commodity.

Perhaps if the gas industry had an adequate cost-keeping system the men at the head of it would understand the reasons why gas is sold so much lower in England than in America. In at least one English town it sells for 16 cents for power purposes. One dollar is the "classic" rate in the United States.

While there are undoubtedly over 10,000 utility companies operating in this country today I think I am safe in saying that there is only one that has determined its costs in such a way as to have them stand any fair test. Recently at a meeting of the Society to Promote the Science of Management at New Haven, Conn., I heard Mr. Charles Day of the firm of Day & Zimmerman, Consulting Engineers, describe the splendidly conceived and wonderfully efficient system used by the Penn. Central Company, operating in and to the east and west of Altoona, Pa. I know of no research in the industries of a higher order or work that carries with it greater possibilities for the future.

Any study of the principle of state regulation in practice must include some comment on the character of the expert testimony presented before the commissions. It is in this matter perhaps that the cities are at the greatest disadvantage. In railroading for instance there is the theory that a man cannot be an efficient railroad employee or have adequate understanding of the problems involved unless he has served the railroad all his life. Among those who hold the higher positions in the railroad world there are almost none who have not been continuously in the employ of the railroads. Men do not pass from another industry into railroading. There is another rule which I have been told is almost as universal — that a man who has once left the railroad service cannot go back into it, or rarely does do so. A railroad expert then is necessarily one who not only has all the prejudices

that come with lifelong association with a single industry but who, by no possible chance, can have had intimate association with the principles and practices of any other industry. It is in consequence of this that in any railroad rate case or in any other matter involving railroad operation the cities must depend, if they are to get real experts, on the services of men who have all the prejudices that come from long association with the railroad point of view and no other.

In municipal utility rate cases the cities must depend for their experts on the relatively few men of high standing and broad experience who work for publicly owned and operated companies, or those even rarer men who for one reason or another as for instance because they operate competing plants have broken away from the system which controls the viewpoints and activities of the great majority of men who serve the private companies especially in electricity, telephones, street railways and gas.[1] The private interests make every effort of course to keep in their employ the efficient men and especially those who in addition make good witnesses. There are of course many men who operate city plants who do not make good witnesses. So that in the choosing of witnesses for the city side in rate cases the field is extremely limited.

Let me repeat that most cities are at almost a total disadvantage in securing legal and engineering advice of an effective kind in any utility matter. Any city that does not start out with the fullest possible realization of this fact is likely to meet with disaster. In the paper previously referred to "Some Factors in Municipal Engineering" read before the American Society of Mechanical Engineers, I said that it was "practically impossible to secure the services of those with reputations already made in the electrical field." President Humphreys and four other employees of utility companies who discussed the paper took exception to this statement. For what reason they did so I cannot imagine for they not only know it is essentially true but I should

[1] In the electric rate case against the Philadelphia Electric Company we were fortunate in having as experts Ray Palmer, Commissioner of Gas and Electricity, City of Chicago, Frederic W. Ballard, Commissioner of Lighting, City of Cleveland; Clayton W. Pike, Chief of the Electrical Bureau, and Judson C. Dickerman, Chief of the Gas Bureau, both of the City of Philadelphia; and O. M. Rau, General Manager, Commonwealth Power Co., Milwaukee, Wis., and George H. Morse, Wheeling, West Va.

think they must know that I know it is so. The utility companies and I have been at such close quarters during the last three years that we understand each other pretty well.

To recount our experiences in this matter at this point would hardly convince anyone not now so convinced. It can be said however that we have been in direct personal touch with a sufficiently large number of the most representative engineering firms practicing in the electrical field to know beyond any possibility of doubt that to get service — service of any value — along these lines, the cities must build up their own group of experts. This is essentially true as to the engineering connected with all kinds of utilities. The cases in which our retainers have been accepted for work in this field have been unusual in some respect and do not in any way invalidate the rule. The broadening activities of public service commissions and especially the larger appropriations being made for their work is one cause operating to give the cities experts free from either corporate bias or entanglements.

The situation has certainly improved in some respects in the last ten years. In 1905 I remember making an altogether futile search for a gas engineer on whom we could lay a good sized retainer in return for advice in the matter of the 75-year lease of the Philadelphia Gas Works which it was proposed should be made to the United Gas Improvement Company. At the same time we found that the United Gas Improvement Company had retained such a large proportion of the competent lawyers in Philadelphia that the city had to go to New York for legal advice.

It is only fair to say that the reluctance of competent engineers to advise the cities or testity in their behalf is in very large measure due to a feeling that even in different cases it would be indiscreet for a man to represent both the public and the private interests.

With the management of the utility companies and the situation what it is today, I am not sure that it is humanly possible for the same man to be an expert on the public side in one case and on the private side in another and still adhere very closely to the highest professional standards. I am convinced that it is relatively easy for some men to take either end and uphold it ably and honestly. But I believe that the best of reputations would at least be dimmed if the efforts were made to defend both sides

to this discussion on the witness stand even in different cases as the contentions of each side are made today.

This is indeed an important question and one about which we cannot afford to be too dogmatic. To take an extreme view on either side seems to lead away from the truth and the public interest. I was shocked the other day to be told by an expert of the highest standing in public health matters that he would not think of accepting a retainer from a manufacturer of food-stuffs no matter what the issue. He regretted the conditions that forced this stand upon him. But in view of the present relative position of the manufacturers and of the public and his definite alliance with the public side he felt that he could not satisfy all the demands of a private client — most if not all of them perfectly legitimate — and still serve the public interest in the way he chose to serve it.

We are told that as an expert is only supposed to testify to the truth, for him to take either end is all right — even easy. But until our experts are witnesses for the court rather than for the litigants and especially until the practices of some of our utility companies are further clarified, truth is led in somewhat shackled and it is just as well for all men — especially young men — to be on notice.

When a man becomes successful on the cities' side, the utility corporations lose no time in attempting to ruin his reputation. Of this kind of treatment, Prof. Edward W. Bemis, whom Mayor Tom L. Johnson of Cleveland described "as an expert on the valuation of public service corporations and the only such expert on the people's side," is a good example. Fortunately for Mr. Bemis he is not only a man of exceptional ability and continuity of purpose but he has worked on the principle that he could not be an expert on both sides of the questions fundamental to the utility problem. Time and time again since I have been in office men high in the utility field have told me tales about this splendid man in an effort to discredit him. He is cordially hated by the big men in the utility industries principally because he is a resourceful and competent witness in rate cases and knows how to meet the experts put forward by the private companies as perhaps can no other man. Sometime since I was told by the president of a very large gas company that Professor Bemis was corrupt and that Mayor Hanna of Des Moines would confirm the statement. I wrote to Mayor Hanna and he replied that

"our experience with Mr. Bemis was most highly satisfactory; he is a man of remarkable information in his special line and of remarkable resourceful ability. As a witness in our gas contest he was of inestimable value." Some years ago the gas companies of the country hoped to make of the Des Moines case one that would be a classic in their long continued fight to prevent the regulation of prices, but the decisions in the case have been consistently such as to prevent realizing on this hope. This is doubtless one of the reasons why Mr. Bemis is so cordially disliked by the gas group.

The General Counsel of the American Telegraph and Telephone Company recently gave me the same kind of information about Mr. Bemis. Mr. Guernsay and Mr. Bemis I think were on opposite sides of a telephone case in Baltimore several years ago.[1] It invariably happens that when one knows how to successfully oppose the private interests he is subject to the most bitter attacks. No better example of this kind of unwarranted abuse can be found than in the case of Mr. Louis D. Brandeis of Boston, a man who has carried on a fight for the people that has brought down on him abuse such as few men are called upon to bear.

On the other hand we find in almost every rate case an array of so-called "talent" on the side of the private company which, in the eyes of the public service commission, must be well-nigh irresistible. When an expert in qualifying in a rate case states to the public service commissioners that he is the head professor of Electrical Engineering at a great university or two, or that he is Past President of the American Institute of Electrical Engigineers or Past President of the National Electric Light Association, or that he is consulting engineer to a half a dozen of the largest electric light and power companies in the country or that during his life he has been directly connected with the operation of big companies, it certainly must sound impressive. But when as in the case of the electrical industry honors such as these and experience such as this and more could be brought to a single

[1] President A. C. Humphreys of Stevens Institute has informed me even since those lectures were delivered that Professor Bemis is 'unreliable.' Dr. Humphreys and Professor Bemis were experts on opposite sides in the following celebrated gas cases: Passaic, N. J., Haverhill, Mass., New York, N. Y. In each case the view of Professor Bemis who represented the public interest prevailed. One wonders where President Humphreys learned that Professor Bemis is 'unreliable.'

individual on the say-so of somebody high in the councils of the General Electric interests, it should not mean much.

The effect on the public interest of the testimony given by men of the type put forward as experts by the private companies is perhaps fairly illustrated by the record of Dugald C. Jackson who, in qualifying recently as an expert in a rate case before the Pennsylvania Public Service Commission, introduced himself by the single statement that he was "professor of electrical engineering at the Massachusetts Institute of Technology and head of the Department of Electrical Engineering and professor of electrical engineering at Harvard University." [1]

Professor Jackson has never really been so much a University professor as a corporate employé giving courses in universities. While he probably receives $5000 from his present teaching post he must receive at least four times this amount from his corporate clients — charging as he does $100 a day for his own time and a percentage on the time of his assistants. Before going in 1891 to the University of Wisconsin, where Professor Jackson did his first teaching, he was "Vice President and engineer Western Engineering Co. Lincoln, Nebraska, until 1889; then *connected with Edison interests* as Assistant Chief Engineer of Sprague Electric Ry. and Motor Co. and later as Chief Engineer, central district of Edison General Electric Co." according to "Who's Who" for 1914.

Professor Jackson has done expert work on the public side but of course his principal activities have been on the corporation side. Of course the private companies want experts who are occasionally retained on the public side. In fact, an expert who had never been called on the public side might be of very little use to the corporations as a witness.

The list of municipalities for which Professor Jackson's firm has done work according to a letter to a prospective client is as follows: "Brookline, Mass., Traverse City, Mich., Plymouth, Ind., Barraboo, Wis. and three other small cites in Wisconsin." These seven cities have a combined population of little over 50,000 and hardly shows a large public clientele in view of the

[1] Professor Jackson is only an ex-officio professor at Harvard University by virtue of the recent consolidation of the engineering faculties of Harvard and "The Tech."

fact that the valuation work of Professor Jackson's firm has covered according to their own statement "some hundreds of millions of dollars of property in electric lighting and power plants, electric railway plants and telephone plants, etc." [1]

In addition to the rate case work done in Massachusetts, Professor Jackson has been a witness in celebrated cases in every part of the country. In 1909–1910 he was employed by the City of Chicago to appraise the Chicago Telephone Company. He secured as accountants Messrs. Young & Company, already accountants for the Chicago Telephone Company. On May 9, 1910, Messrs. Jackson and Young reported in detail showing that the company was running at a deficit of over $800,000 per year.[2] This report the Council rejected. Two years later, October 25, 1912, Prof. Edward W. Bemis made a report showing conclusively that the company could offer a reduction in rates of $700,000 per year. This was later enacted in an ordinance which the company has accepted without appeal to the Courts.

This is a difference between the two estimates of $1,500,000 net annual income. Mr. Jackson stated recently before the Pennsylvania Public Service Commission that this difference was due to the added number of telephones. A truly remarkable increase in business for two years!

Professor Jackson appeared as expert for Buffalo General Electric Company before the New York Public Service Commission, Second District, in case of Fuhrman 55. General Electric Company.[3] The Public Service Commission in its report (p. 750) refers to Mr. Jackson as "the principal witness." He gave a reproduction value new as $4,966,140 or 55 per cent. more than the fair value finally fixed by the Commission, which was $3,194,159.90.

In this same case Professor Jackson alleged that the unit cost of 3,000 municipal arc lamps was $21.70. With this unit cost he built up a final cost of lamps installed at an average cost of $29.29 as follows:

[1] Statement filed with the N. J. Public Service Commission.

[2] Original report from Journal of Proceedings of City Council, May 9, 1910, p. 102-139 inclusive.

[3] 3 P. S. C. R. S. C. and N. Y. 739-816.

3,000 Municipal Arc Lamps at $21.70		$65,100.00
Engineering and Supervision 5%	$3,255.00	
Organization of Business 6%	4,101.30	
Taxes and Interest during Construction 4%	2,898.25	
Piecemeal Construction 10%	7,535.45	
Promoter's Profit 5%	4,144.50	
Brokerage 1⅞%	1,453.46	23,387.96
Total		$88,487.96

This lamp matter is given here in some detail as affording an almost classic example as to how in these rate cases those well versed in the art can start with almost nothing and get any sort of imaginery values. In view of the fact that Professor Jackson is making an inventory in Philadelphia at the present time in which the valuation of our street lamps is a feature, this illustration of his resourcefulness has a painful interest.

In regard to this calculation of Professor Jackson, the New York Commission said:

> "As a matter of fact, the actual cost to the company for these lamps uninstalled was $13.53⅓. So far as has been disclosed by an examination of the books, the company never paid for a single enclosed arc the sum of $21.70, and the average cost of all the enclosed arc lamps which it has bought, exclusive of these 3,000 was $16.75 each. We are unable to understand and no explanation has been offered us, why a company which has been in existence for years should be entitled to charge a promoter's profit of 5% upon new arc lamps which it buys for its service. We are also unable to understand why a 10% charge, amounting in this case to $7,535.45, is proper for piecemeal construction in the case of buying 3,000 arc lamps at one time. (Pp. 750-751.)
>
> "This matter of arc lamps has been carefully looked into and as hereinbefore shown, the difference does not arise from the low price allowed for the old lamps exchanged. The transaction which the company evidently had in mind was one of the purchase of 3,000 arc lamps for street lighting in 1903, and as above stated, it values these lamps at $21.70 each. As a matter of fact, the manufacturer originally asked but $18.00 each for these lamps and the purchase was a matter of considerable

> negotiation. There was first deducted from the price 10% and then an arbitrary deduction of one dollar per lamp, so that the final price reached was $15.20 per lamp; and then for reasons which the company can easily ascertain from correspondence, there was a further deduction made which amounted to $5,000." (p. 757.)

This exhibition of rebates within rebates shows how little reliance can be placed on "purchase price," "book value," etc., in public service accounting. It also shows the necessity for having some one free from corporation bias to check up such figures. Manipulation of this kind in printing or any other industrial line could only be characterized by short and ugly words. But in the utility field when the "dear public" is the only victim, such practices seem to command the thought of able men.

The Commission then goes on to say:

"The following statement shows just how the cost of $13.53⅓ per lamp was arrived at:

3,000 Arc Lamps at Original Base Price	$18.00	
Less 10%	1.80	
	16.20	
Less Arbitrary Deduction	1.00	
	15.20	
Less Cash Rebate of $5,000 on 3,000 Lamps	1.67	
Cost per Lamp		$13.53⅓

Total Original Cash Payment	$42,000.00	
Plus Allowance of $1.20 each for 3,000 Old Open Arc Lamps Returned	3,600.00	
	45,600.00	
Less Cash Rebate	5,000.00	
3,000 Lamps for	40,600.00	
Price per Lamp		$13.53⅓"

Perhaps Professor Jackson's powers are seen to best advantage when, as principal witness for the company in the case of Mayor Fuhrman *vs.* Cataract Power & Conduit Company, his appraisal was 55 per cent. higher than the fair value finally allowed by the Commission.

The Commission says as to Jackson's overhead charges:

"(1) the overhead charges amount to 49% of the estimated cost of materials and labor; (2) the overhead charges on land constitute 61% of the actual cost (p. 678); (3) the overhead charges on buildings constitute 49% of the actual cost[1] (p. 689)."

The Commission examined the company's books and found that the books clearly revealed that no such overhead charges as these had ever been experienced by the company, but that on the basis of the company's own books for the period ranging from 1896 to December 31, 1900, overhead charges amounted to but 18.6 per cent. of the labor and material.

Owing largely in my opinion to the chair he holds in Massachusetts Institute of Technology and the one he says he holds in Harvard University and to his being a Past President of the American Institute of Electrical Engineers, Professor Jackson is reputed to be "one of the best-posted men with regard to the various elements which must be considered in rate cases *who is not now employed by some corporation.*" (Italics are mine.) This quotation is from a letter from Philander Betts, Chief Engineer of the Public Service Commissioner of New Jersey, which body has employed Professor Jackson to make an appraisal of the Public Service Electric Company.

What constitutes being employed by a corporation? Professor Jackson is to all intents and purposes consulting engineer in chief as to rates and valuations to the entire electrical industry in the United States. He has made inventories of the Boston Edison Company and the New York Edison Company. He is now engaged in doing similar work for the Philadelphia Electric Company. These three companies have a combined gross annual income of $35,000,000.

If state regulation fails in this country no other cause will, in my opinion, contribute more largely to such failure than the ability of the national organization of each utility industry to place on the witness stand in any part of the Union, as experts, men of Professor Jackson's type or shall we say their want of foresight and good judgment in so doing? His introduction is — as at Harrisburg — the prestige of two great institutions of learning; his record is one long line of important technical assignments given to him by the very interests which his testimony

[1] 3 P. S. C. R. Second N. Y. p. 675.

tends to protect; and his theories of valuation and rates are those the effect of which lend aid and comfort to watered stock and exorbitant charges.

I quote as follows from the above mentioned letter from the New Jersey Public Service Commission: [1]

> "Our reason for employing Dr. Jackson to supervise the appraisal of the Public Service Electric Company's property was due to the fact that his long experience in work of this character would give a special weight to his opinions when finally expressed at the time of the hearings which will commence some time next winter. Any opinions expressed with regard to the value of the property of the Public Service Electric Company will have to be backed up by very great weight of evidence and expert opinion — hence our employment of a man having an established reputation along these particular lines."

No matter where the company may be located it can call on those in national control for assistance of every kind. We find the experts in Minneapolis and Chicago, also the experts in Harrisburg and Boston.

The ultimate field of state regulation seems to be to provide in each state a central bureau of statistics and research and in addition to this perhaps to act as a court of appeal in utility matters. But that the cities and towns of any state are for any length of time going to turn over to a central state body every and all questions affecting their relations with public utilities is so out of harmony with the present drift of sentiment as to home rule that it is unthinkable.

Negotiation undoubtedly has its place in the control of the utility problem. One splendid instance of this kind of work is to be found in the record of Robert L. Brunet, who under the title of "Public Service Engineer," has, in Providence, R.I., it is said brought about remarkable improvements in the service rendered by the utilities of that community. A competent and aggressive official, especially if he is supported with liberal appropriations, can undoubtedly accomplish a great deal. I am not sure but that given the resources not only for technical investigation but for full publicity, that with the present utility situa-

[1] Addressed to M. L. Cooke, Director, Dept. of Public Works, City Hall, Philadelphia, dated Jan. 7, 1915.

tion quite as much can be obtained through this instrumentality as through state or local regulation or municipal operation. Personally I would be willing to take the contract at any time to force an unwilling utility corporation to perform a very large part of its public duty in the matter of rates and service if I were given sufficient appropriations to put me in a position to speak with authority as to the facts in the matters at issue and then to have the money to publish these facts in such a way that both the company and the community could understand them. There are very few instances in my own experience where, with the facts fully determined and understood by the community, those guiding the policies of the utility companies have not responded. Unfortunately it is almost the universal practice for cities to pay entirely too low salaries in the higher positions and even where the salaries are adequate to give their employés almost nothing in the way of funds for investigating the conduct of the private companies.

With the general cleaning up that is going on in the municipal field in this country and with the obvious improvements that are being made in the selection and training of men for the more important municipal positions, I believe that a certain amount of local regulation will come about. The companies fear local regulation and not without reason. During the last generation we have had of course local regulation in fact, but it has been the kind that could be controlled by the public utilities companies through the bribery of executive and legislative officials. The companies naturally fear that if local regulation is provided by legislation it will force a return to the essentials of the old system. And it will, unless a decent type of municipal government is provided. I for one believe that this is coming and coming rapidly in this country and that therefore we can look forward to local regulation such, for instance, as we find today in the District of Columbia as a part solution of this problem.

Out of inter-city co-operation will come perhaps the largest measure of relief from the unbearable conditions which exist in the utility field today. As long as the utilities are working on a national basis they can, over a greater part of the country, successfully beat down and altogether nullify the legitimate convictions of the cities. But if thorough co-operation between the cities, by means of the Utilities Bureau and other similar agencies

the cities can be organized on a national basis the companies will ultimately see that the present game of bluff and force is not good business.

After the water in these properties has been worked out through the adoption in each locality of some reasonably equitable scheme and after a reasonable rate of return for utility investments has been determined for each part of the country, and after the companies have adopted a genuine program of fact publicity, I can see no inherent reason why a municipality and its public service companies should not do business with each other to their mutual advantage and satisfaction. So long as we are asked to look upon inflated securities as having real value and so long as we are asked to pay rates based on the value of the service rather than on cost plus a fair profit and so long as the publicity basis is comparable only to European diplomacy, the feud will be on.

Whether it voices itself through state regulation, local regulation, municipal operation or negotiation, this struggle will be one that can bring good only to an almost insignificant number of capitalists, promoters and investment bankers.