THE RISE, HEYDAY, AND DECLINE OF REPRODUC-TION COST AS THE RATE BASE IN PUBLIC UTILITY VALUATION

The technical procedure by which questions come before the courts for adjudication and the professional air which permeates judicial opinions have contributed to build up the tradition of the courts as institutions quite disassociated from the vicissitudes of political activity. Since the very beginning, however, "private litigation" has been supplemented by disputes which, while appearing in the form of ordinary lawsuits, have served to determine great social and economic issues for which precious little guidance can be found in the provisions of the Constitution. Nowhere is this self-assumed function of the courts more clearly shown than in the various and curious history of public utility rate regulation cases.

The courts, at first, adopted a hands-off policy in ratemaking, basing their inaction on the ground that fixing public utility rates was a legislative matter which should remain unhampered by judicial interference.¹ A short while later they decided to recognize that this power of the legislature was not without limit and that utility rates must yield a fair return upon a fair valuation of the property devoted to such a public service.² By 1890 judicial review was rendered definitely applicable in public utility rate cases, it being held that due process of law³ requires a reasonable rate and that the judiciary is the

^{1.} Munn v. Illinois, 94 U.S. 113, 24 L. Ed. 77 (1876).

^{2.} Stone v. Farmer's Loan & Trust Co., 116 U.S. 307, 331, 6 S. Ct. 334, 29 L. Ed. 636 (1886).

^{3. &}quot;Interpretations of 'due process of law', 'just compensation', 'deprivation of liberty and property' are susceptible of flexibility, to say the least. By these the Supreme Court can give in large measure its own definitions of social and economic relationship. What is there, for instance, in the phrase 'due process' ... that sheds light on whether utilities should be valued for rate-making purposes at original cost, or at reproduction cost new? ... Without enjoying ratemaking power as such, the courts have come to exercise power of tremendous

final judge of what is reasonable.⁴

Not until 1898, in the famous case of Smyth v. Ames,⁵ did the Supreme Court set forth its measure of reasonableness. In ascertaining value, said the Court, three theories of valuation should be "given such weight as may be just and right in each case"—(1) historical cost of tangible property plus the cost of permanent improvements; (2) capitalization and commercial valuation of the business as determined by current market prices; and (3) cost of reproduction new less depreciation.⁶

Undoubtedly the utility magnates breathed a sigh of relief, for the Ames Case was definitely a victory for them, because, during the years immediately prior to the Supreme Court's decision, there had been a tendency to hold that cost of reproduction constituted the measure of fair value. In 1896 a federal judge determined the reasonableness of gas rates upon the basis of the hypothetical cost of an equally efficient plant.⁷ In 1897 the Supreme Court of Minnesota, in the case of Steenerson v. Great Northern Railway Company,⁸ considered the reasonableness of a rate reduction made by the Minnesota Railroad Commission and held that the material question was "not what the railroad cost originally, but what it would now cost to repro-

- 5. 169 U.S. 466, 18 S. Ct. 418, 42 L. Ed. 819 (1898).
- 6. Ibid., 527-28. See Mason, Brandels and the Modern State (1933) 190.
- 7. Capital City Gaslight Co. v. City of Des Moines, 72 Fed. 829 (1896).

8. 69 Minn. 353, 72 N.W. 713 (1897). "Modern improvements and other causes have continued to reduce the cost of construction of all kinds of new plants, and to reduce the value of old plants, or render them wholly worthless, and the state did not guaranty that those causes should not in like manner affect the capital invested in railroads. Then the material question is not what the railroad cost originally, but what it would cost to reproduce it." *Ibid.*, 374. See also San Diego Water Co. v. City of San Diego, 118 Cal. 556, 568, 50 Pac. 633, 38 L.R.A. 460, 62 AM.ST.REP. 261 (1897).

importance in rate-making." MASON, BRANDEIS AND THE MODERN STATE (1933) 189. See also Frankfurter, Mr. Justice Holmes and the Supreme Court (1938) 6-7.

^{4.} Chicago, Milwaukee & St. Paul Ry Co. v. Minnesota, 134 U.S. 418, 10 S. Ct. 462, 33 L. Ed. 970 (1890).

duce it". In Smyth v. Ames⁹ William Jennings Bryan appeared and argued for reproduction cost as protection to the community against inflated claims based on previous high prices. He brought to light the fact that, under conditions existing in 1898, the lines of the Union Pacific could have been built across the State of Nebraska for about \$20,000 a mile, whereas, because of rascality on the part of those engaged in its construction and management, it was originally built at a cost to security holders of approximately \$100,000 a mile. The utility, accordingly, contended for a valuation based on the securities issued and bitterly opposed the argument of the state for a base measured by the cost of reproducing the properties.

In brief, reproduction cost was founded in the over-zealous efforts of attorneys for the state. It was forced upon the courts as a protest against "watered stock, reckless finance, and rack-eteering contracts"¹⁰ and in an effort to bring utility valuations into line with the low prices existing during the depression following the Panic of 1893.

At the very moment that Smyth v. Ames was decided prices were on an upward trend. As the graph lines approached each other, reducing the difference between the original cost of production and the cost of reproduction, there was little occasion to quibble. But the trend of prices continued so constantly upward that the utilities soon recognized in hypothetical cost an opportunity not only to press extravagant claims but also to bring in skilled advocates to testify as to intangible values.¹¹ Thus, cost of reproduction new became the lodestone of the utilities in all cases of valuation for rate-making.

The reproduction cost test of fair value of a public utility

^{9. 169} U.S. 466, 18 S. Ct. 418, 42 L. Ed. 819 (1898).

^{10.} See Mason, Brandeis and the 'Modern State (1933) 191.

^{11.} Smith, A Constitutional Rate Base, 6 UNIV. OF CHIC. L. REV. 170 (February 1939); Goddard, The Evolution of Cost of Reproduction as the Rate Base, 41 HARV. L. REV. 564 (March 1928).

reveals the amount of money that would be expended in the construction or acquisition new of its property at the time the valuation is made. This amount is usually determined by appraisals made by experts and based on an inventory of the various items of property. Since the test provides an estimate of present cost, accrued depreciation is usually deducted from the cost of reproduction new in order to reckon the cost of reproducing the property in its current condition.¹²

The proponents of the reproduction cost basis of valuation ground their theory upon the principle of justice that the owners of regulated enterprises should fare on the same plane as the investors in unregulated competitive industries. They urge that the value of a property at any given time tends to tally with the cost of reproducing it at that time. Thus, when the cost of reproducing a property in an unregulated industry rises, its owners receive an unearned increment, and when the cost goes down, they suffer an undeserved decrement. Justice, so it is said, requires that utility owners enjoy the same opportunities for gain and risk the same chances of loss as owners of other property.¹³

Certain fallacies in the use of cost of reproduction in determining fair value have been revealed. Economists¹⁴ point

13. SLICHTER, MODERN ECONOMIC SOCIETY (1931) 399-400; WILSON, HER-RING AND EUTSLER, PUBLIC UTILITY REGULATION (1938) 126.

14. BAUER AND GOLD, PUBLIC UTILITY VALUATION FOR PURPOSES OF RATE

^{12.} WILSON, HERRING AND EUTSLER, PUBLIC UTILITY REGULATION (1938) 125-26. As to methods of ascertaining cost of reproduction, see JONES AND BIG-HAM, PRINCIPLES OF PUBLIC UTILITIES (1931) 209-19. "From reproduction cost must be deducted observed depreciation, to arrive at the present fair value. Reproduction cost represents the present cost of the property in new and sound condition. In order to reconcile the new cost to the cost of the property in its existing condition, deterioration and other losses and depreciation found from actual observation to exist must be accounted for and deducted from the new cost. Observed depreciation is an indispensable factor in the accuracy of reproduction cost valuation." West Palm Beach Water Co. v. City of West Palm Beach, P.U.R. 1930A 177, 202 (Fed. 1929); Pacific Gas & Electric Co. v. City of San Francisco, 265 U.S. 403, 44 S. Ct. 537, 68 L. Ed. 1075, P.U.R. 1924D 817 (1924).

out that the true value of a plant is determined by the cost of producing the commodity in a new plant having the most modern equipment, and not by the cost of reproducing the identical plant, for no one would care to invest in an obsolete plant if a new one could be built for nearly the same cost and operated at greatly decreased unit costs. The identical plant assumption eliminates competition but results in a hybrid valuation which is neither bird nor mammal. It is not investment, because cost of reproduction of the identical plant imputes a value based upon changes in unit prices. It is not an estimated competitive cost, because a utility is not free to build a new going plant taking advantage of current improvements.¹⁵ In other words, it is the cost of constructing a modern plant of similar capacity that regulates the value of a plant in an unregulated competitive industry, rather than the cost of producing a similar plant. But this is true only if new property, purchased at current prices, is free to compete with the old property. The relation between income and the value of the property producing it is always primary and determinative; while the relation between the cost of reproducing the property and its value is secondary and dependent upon competitive conditions. When competition is eliminated, the relationship between reproduction costs and value is also eliminated. Further, because of technological developments, the value of the old plant probably would never exceed the cost of reproduction and no doubt would be considerably less.¹⁶ Consequently, reproduction cost, at best, is a measure of maximum value and tends to lessen the incentive to

CONTROL (1934) 23; WILSON, HERRING AND EUTSLER, PUBLIC UTILITY REGULA-TION (1938) 126-27; SLICHTER, MODERN ECONOMIC SOCIETY (1931) 400-01; Smith *A Constitutional Rate Base*, 6 UNIV. OF CHIC. L. REV. 170, 184-85 (February 1939); Bonbright, *The Economic Merits of Original Cost and Reproduction Cost*, 41 HARV. L. REV. 593 (March 1928).

GLAESER, OUTLINE OF PUBLIC UTILITY ECONOMICS (1927) 471.
Ibid., 470.

build new and more efficient plants which have higher first costs but lower unit producing costs.¹⁷

The cost of reproduction, too, appears to fluctuate more widely than any other suggested rate base. Its proponents claim that this fact makes it more equitable in that the fluctuations tend to coincide with the fluctuations in the general price level. This line of reasoning is partly fallacious. The general price level includes the prices of many items or services that are not included in reproduction estimates, and reproduction costs include a larger percentage of certain items than exists in the general price level. In a period of falling prices the earnings of a utility are likely to drop below its fixed costs in the form of interest and preferred stock dividends; in a period of rising prices the earnings of common stocks are apt to be unreasonably high.¹⁸ The owners of public utility properties, therefore, are often heard to argue strenuously for the reproduction cost theory when prices are high and to denounce it vigorously when prices are low.

In addition to the inherent dangers due to dependency on current costs of production, reproduction cost is extremely conjectural and hazy. Accordingly, it gives both utilities and consumers opportunities to press extravagant claims. The machinery in the plant may be obsolete, streets may have been paved since mains were laid, and numerous other factors may have contributed to change the conditions so as to make reproduction cost an arbitrary concept, because courts and commissions have set forth no general rule as to whether original or present conditions are to be assumed.¹⁹ Such problems make the

^{17.} SLICHTER, MODERN ECONOMIC SOCIETY (1931) 400.

^{18.} JONES AND BIGHAM, PRINCIPLES OF PUBLIC UTILITIES (1931) 219-25; SLICHTER, MODERN ECONOMIC SOCIETY (1931) 400; WILSON, HERRING AND EUT-SLER, PUBLIC UTILITY REGULATION (1938) 127-28; Smith, A Constitutional Rate Base, 6 UNIV. OF CHIC. L. REV. 170, 185-86 (February 1939).

^{19.} In determining a gas utility's rate base according to the reproduction new less depreciation method, cost of cutting and replacing pavement, which was

cost of reproduction theory exceedingly uncertain and create many opportunities for public utilities to obtain inflated valuations.²⁰

The courts and commissions, unfortunately, have not looked upon reproduction cost in the light of economic science. Judges and commissioners have tended to shut their eyes to the fallacies underlying the doctrine. Although they have seldom applied the theory as the measure of value, they have steadfastly considered it as a more or less important bit of evidence to be used in determining value. In the ensuing pages the opinions of the courts and commissions have been examined and classified with the objectives of determining the attitude of the courts toward the cost of reproduction rule, of indicating general trends, and of pointing out reasons for the various holdings.

As previously mentioned²¹ there was a marked lull in valuation following the case of *Smyth v. Ames.* When the reproduction theory reentered the valuation arena in 1909,²² it came full grown, not the illy defined infant suggested by Mr. Justice Harlan in 1898. Nevertheless, it was not then deemed a necessary element of value. It was said to be merely an element admissible as present value. During the same term, however, the Supreme Court found occasion to restate the test of reasonableness.²³

20. JONES AND BIGHAM, PRINCIPLES OF PUBLIC UTILITIES (1931) 228-39; Smith, *A Constitutional Rate Base*, 6 UNIV. of CHIC. L. REV. 170, 186 (February 1939); BAUER AND GOLD, PUBLIC UTILITY VALUATION FOR PURPOSES OF RATE CONTROL (1934) 171-72.

21. Supra, notes 3-4.

22. Knoxville v. Knoxville Water Co., 212 U.S. 1, 29 S. Ct. 149, 53 L. Ed. 371 (1909).

23. Willcox v. Consolidated Gas Co., 212 U.S. 19, 29 S. Ct. 192, 53 L. Ed. 382 (1909).

cut at the time of the original installation, was included. The court, however, refused to allow the cost of cutting and replacing all pavement which would be necessary to actual reproduction at the time of the appraisement. Columbus Gas & Fuel Co. v. City of Columbus, 17 Fed. (2d) 630 (1927). See SLICHTER, MODERN ECONOMIC SOCIETY (1931) 401; WILSON, HERRING AND EUTSLER, PUBLIC UTILITY REGULATION (1938) 128.

Fixing the fair present value as the criterion the Court said: "If the property which legally enters into the consideration of the question of rates has increased in value since it was acquired, the company is entitled to the benefit of such increase."²⁴ Accordingly, private property in regulated business was assured greater protection than it would have enjoyed in the absence of regulation, for it was guaranteed a return on productive elements of value.

In the years immediately prior to America's entrance into the World War rising prices made the utilities especially anxious to secure the adoption by the courts of reproduction cost as the rate base or as the dominant element therein. Some commissions were persuaded to espouse the theory as the measure of present value,²⁵ the California Commission holding that "the reproduction cost method of valuation may be adopted in a rate case where no complete or accurate record of either the original cost or actual investment in the property of a public service company exists".²⁶ The Idaho Commission, after stating its opinion that cost of reproduction less depreciation was the correct general rule to be applied, added that "in ascertaining values in this way the worth of a new plant of equal capacity, efficiency, and durability, with proper discount for defects in the old, and the actual depreciation for use should be the measure of value, rather than the cost of exact duplication".²⁷ Most commissions, however, maintained that reproduction cost less depreciation was not the sole test of fair value of utility properties,²⁸ but merely an evidence of value, its probity depending

^{24.} Ibid., 42.

^{25.} Murray v. Public Utilities Commission, 27 Ida. 603, 150 Pac. 47, P.U.R. 1915F 436 (1915); In re San José Water Co., P.U.R. 1915E 706 (Cal. 1915).

^{26.} In re San José Water Co., P.U.R. 1915E 706, 713 (Cal. 1915).

^{27.} Murray v. Public Utilities Commission, 27 Ida. 603, 150 Pac. 47, P.U.R. 1915F 436, 441 (1915).

^{28.} Commercial Club of Terre Haute v. Terra Haute Waterworks Co., P.U.R. 1916B 180 (Ind. 1915); Peck v. Indianapolis Light & Heat Co., P.U.R.

very largely upon the particular case in question.²⁹ "A price," said one commission.³⁰ "is to be held confiscatory, if at all, because it may fairly be expected in its effect upon future business to operate to deprive the company of the reasonable earning power of its property". While the Commission pointed out the folly of capitalizing "earning power as a test of value when the basis of earning power, the rate or price, was itself in question, it insisted that it was "equally fallacious to assert broadly that cost of reproduction is the sole controlling test of earning power, especially when the price yields all that the capital employed under the restrictions and limitations . . . has ever required". These commissions, however, insisted that "considerable weight" should be given to reproduction cost.⁸¹ It is interesting to note that the Illinois Commission was almost alone in its ruling that failure to recognize the appreciation of a utility's property in a rate valuation did not necessarily constitute confiscation³²---a position which the United States Supreme Court refused to adopt in a case coming before it in the early twenties.⁸³

The war and post-war period witnessed the widespread refusal of the commissions to give great weight to the cost of

Re Clarksburg Light & Heat Co., P.U.R. 1917A 577, 591 (W.Va. 1916).
30. In re Northampton Gas Petition, P.U.R 1915A 618, 627-28 (Mass. 1915).

33. Infra, note 44.

¹⁹¹⁶B 445 (Ind. 1915); In re Northampton Light Petition, P.U.R. 1915A 618 (Mass. 1915); Re Colorado Springs Light, Heat & Power Co., P.U.R. 1916C 464 (Colo. 1916); City of Springfield v. Springfield Gas & Electric Co., P.U.R. 1916C 281 (III. 1916); Re Grafton County Electric Light & Power Co., P.U.R. 1916E 879 (N.H. 1916).

^{31.} In re Janesville Water Co., P.U.R. 1915A 178 (Wis. 1915); Re Clarksburg Light & Heat Co., P.U.R. 1917A 577 (W.Va 1916); Re Mountain States Telephone & Telegraph Co., P.U.R. 1917B 198 (Colo. 1917); Grafton County Electric Light & Power Co. v. State, 78 N.H. 330, 100 Atl. 668, P.U.R. 1917E 345 (1917).

^{32.} City of Lincoln v. Lincoln Water & Light Co., 4 Ill. P.U.C.R. 113, P.U.R. 1917B 1 (Ill. 1916).

reproduction theory on the ground that it was too uncertain.³⁴ They did not deny it consideration in the rate base, but, because of inflated and abnormal prices, they refused to give it controlling weight.³⁵ Many, indeed, gave it lip-service by admitting the evidence in obedience to *Smyth v. Ames* but failed to pay heed to it in fixing the rate base. In 1921 the problem was well stated by the Illinois Supreme Court. The Court said:³⁶

It would be equally as unfair to the consumer to fix the rate at a figure which would produce a reasonable income on a value determined by the cost of reproduction new at a time when cost of construction was abnormally

^{34.} Re Laporte Gas & Electric Co., P.U.R. 1921A 824 (Ind. 1920).

^{35.} Re Moore Park Water, Light & Power Co., P.U.R. 1919B 679 (Cal. 1918); Re Guilford Water Co., P.U.R. 1918C 916 (Me. 1918); Re Omaha & Council Bluffs Street Ry. Co., P.U.R. 1919A 845 (Neb. 1918); Re Southern Illinois Light & Power Co., P.U.R. 1919D 489 (Ill. 1919); Re Illinois Northern Utilities Co., P.U.R. 1919E 932 (III. 1919); Re Garden Home Waterworks, P.U.R. 1919D 121 (Ore. 1919); Re Utah Gas & Coke Co., P.U.R. 1919D 645 (Utah 1919); Re Georgia Ry. & Power Co., P.U.R. 1921A 165 (Ga. 1920); Re Public Service Co. of Northern Illinois, P.U.R. 1921B 438 (Ill. 1920); New York Interurban Water Co. v. City of Mt. Vernon, 110 Misc. Rep. 281, 180 N.Y.S. 304, P.U.R. 1920D 515 (1920); Re West Virginia Water & Electric Co., P.U.R. 1920D 409 (W.Va. 1920); City of Winona v. Wisconsin-Minnesota Light & Power Co., 278 Fed. 996, P.U.R. 1922C 461 (1921); Re Southern California Telephone Co., P.U.R. 1922C 97 (Cal. 1921); Re Southern California Edison Co., P.U.R. 1921D 65 (Cal. 1921) (except in so far as it applied to those portions of the properties that were, of necessity, constructed during the period of high prices); City of Stamford v. Stamford Gas & Electric Co., PU.R. 1922A 303 (Conn. 1921): City of Danbury v. Danbury & Bethel Gas & Electric Light Co., P.U.R. 1921D 193 (Conn. 1921); Re City of Sault Ste. Marie, P.U.R. 1922B 149 (Mich. 1921); Re Concord Gas Light Co., P.U.R. 1921C 169 (N.H. 1921); Public Service Commission of Washington v. Spokane Falls Gas Light Co., P.U.R. 1921C 519 (Wash. 1921); Re Public Service Gas Co., P.U.R. 1922C 493 (N.J. 1922); Plymouth Electric Light Co. v. State, 81 N.H. 1, 120 Atl. 689; P.U.R. 1923E 83 (1923).

^{36.} State Public Utilities Commission ex rel. City of Springfield v. Springfield Gas & Electric Co., 291 Ill. 209, 222, 125 N.E. 891, P.U.R. 1920C 640 (1919). See Telluride Power Co., P.U.R. 1922B 168 (Utah 1921).

inflated, as it would be unfair to the public utility to compel it to serve the public for a rate that would produce a reasonable income on a value determined by cost reproduction new at a time when cost of construction was abnormally low . . .

The weight of authority is that every element having any bearing on the situation must be considered in the investigation, and then sound business judgment applied to the determination of a valuation that is fair and just to the consumer and the utility. Each case must be considered on its own merits, and such result of value arrived at as may be just and right in each case.

The New York Commission agreed that cost to reproduce at war figures should not be controlling, but qualified its agreement by admitting that there might be cases wherein it would appear that such property would be "planned and constructed at the present time under present circumstances and at present prices by a reasonably prudent investor".⁸⁷ Most commission considered cost of reproduction as to additions and betterments made during the period, resorting to the so-called "split-inventory" method which consisted in applying to the elements of property existing prior to the war a pre-war average cost and, to the elements installed or acquired later, an estimate of the actual cost.³⁸ A few commissions utilized the reproduction theory as the true fair value in spite of the extraordinary economic conditions.³⁹ Finally, in 1922, the Virginia Supreme

^{37.} Brooklyn Borough Gas Co. v. Public Service Commission, P.U.R. 1918F 335 (N.Y. 1918); *Re* Long Island Lighting Co., P.U.R. 1922B 1 (N.Y. 1921); *Re* Telluride Power Co., P.U.R. 1922B 168 (Utah 1921); Morris v. Northwestern Bell Telephone Co., P.U.R. 1922D 769 (S.D. 1922).

^{38.} City of La Crosse v. Wisconsin-Minnesota Light & Power Co., P.U.R. 1922B 113 (Wis. 1921).

^{39.} Re Baltimore County Water & Electric Co., P.U.R. 1918F 522 (Md. 1918); Mayor and City Council of Salisbury v. Salisbury Light, Heat & Power

Court pointed to the fundamental error in taking the pre-war unit of prices as practically the sole basis for ascertaining reproduction value and proclaimed that "three years have elapsed since the close of the war, and neither labor nor materials have declined to anything like prewar prices. When, if ever, they will, no one can foretell".⁴⁰ The court then proceeded to announce that "time enough had elapsed to furnish a basis for calculating reproduction costs".

With the return to "normalcy," the cost of reproduction theory came to be looked upon with considerable favor by the courts and commissions. Indeed, during the middle twenties it was frequently applied as the sole measure of value.⁴¹ Many cases, however, continued to hold that it was merely an important element entitled to be considered and accorded reasonable weight.⁴² In one of these instances the commission rejected

40. Petersburg Gas Co. v. City of Petersburg, 132 Va. 82, 110 S.E. 533, 538, P.U.R. 1922C 172 (1922).

41. Arkansas Water Co. v. City of Little Rock, P.U.R. 1924C 73 (Fed. 1923); *Re* Raymond Telephone Co., P.U.R. 1927E 588 (Cal. 1927); Follett v. Waterworks Co. of Seneca Falls, 123 Misc. Rep. 825, 206 N.Y.S. 464, P.U.R. 1927D 761 (1927); MacThwaite Oil & Gas Co. v. City of Ada, P.U.R. 1927D 833 (Okla. 1927).

42. Reno Power, Light & Water Co. v. Public Service Commission of Nevada, 298 Fed. 790, P.U.R. 1923E 485 (1923); *Re* Shreveport Ry. Co., P.U.R. 1923E 609 (La. 1923); *Re* City of Pontiac, P.U.R. 1923D 193 (Mich. 1923); *Re* Detroit United Ry. Co., P.U.R. 1923E 282 (Mich. 1923); *Re* Peoples Gas & Electric Co., P.U.R. 1923E 127 (Mo. 1923); *Re* United Ry. Co. of St. Louis, P.U.R. 1923D 759 (Mo. 1923); City of Philadelphia v. Philadelphia Rapid Transit Co., P.U.R. 1923E 190 (Penn. 1923); *Re* Duluth Street Ry. Co., P.U.R. 1923D 705 (Wis. 1923); Waukesha Gas & Electric Co. v. Wisconsin Railroad Commission, 181 Wis. 281, 194 N.W. 846, P.U.R. 1923E 634 (1923); *Re* Capital Water Co., P.U.R. 1924D 292 (Ida. 1924); City of Freeport v. Freeport Gas Co., P.U.R. 1924E 99 (III. 1924); *Re* City of Monroe, P.U.R. 1924C 808 (Mich. 1924); Public Service Commission v. Mountain States Telephone & Telegraph Co.,

Co., P.U.R. 1918E 331 (Md. 1918); *Re* New York Transfer Co., P.U.R. 1919B 590 (N.Y. 1918); *Re* Great Falls Gas Co., P.U.R. 1922D 385 (Mont. 1922); Petersburg Gas Co. v. City of Petersburg, 132 Va. 82, 110 S.E. 533, P.U.R. 1922C 172 (1922).

the contention that evidence of cost of reproduction should be given dominant weight and held that "the weight to be given the different elements that enter into the determination of fair value may vary widely in different cases, and each case must be decided on the basis of the facts as developed in that particular case".48 The three cases decided by the United State Supreme Court in 1923⁴⁴ were widely interpreted as requiring that cost of reproduction be considered as the "dominant element" in rate valuations. Doubtlessly the cases were only intended to stand for the fact that actual allowance for cost of reproduction at present prices had to be made in arriving at a final fair value of the utility's property, and that the failure of a commission to make such an allowance would violate the due process clause of the Fourteenth Amendment. Following the uncertain lead of the Supreme Court most commissions and lower courts during this period held that reproduction cost should be considered as the dominating or controlling element in fixing value.⁴⁵ Generally, however, it was held not to be con-

43. Public Service Commission v. Cheseapeake & Potomac Telephone Co., P.U.R. 1925 B 545, 550 (Md. 1924).

44. State of Missouri ex rel. Southwestern Bell Telephone Co. v. Public Service Commission of Missouri, 262 U.S. 276, 43 S. Ct. 544, 67 L. Ed. 981, P.U.R. 1923C 193 (1923); Georgia Ry. & Power Co. v. Railroad Commission of Georgia, 262 U.S. 625, 43 S. Ct. 680, 67 L. Ed. 1144, P.U.R. 1923D 1 (1923); Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia, 262 U.S. 679, 43 S. Ct. 679, 67 L. Ed. 1176, P.U.R. 1923D 11 (1923).

45. Monroe Gas Light & Fuel Co. v. Michigan Public Utilities Commission, 292 Fed. 139, P.U.R. 1923E 661 (1923); Okmulgee Gas Co. v. Corporation Com-

P.U.R. 1924C 545 (Mont. 1924); *Re* Carson Water Co., P.U.R. 1925A 340 (Nev. 1924); *Re* New York Telephone Co., P.U.R. 1925C 767 (N.J. 1924); *Re* Pacific Telephone & Telegraph Co., P.U.R. 1924D 39 (Ore. 1924); *Re* New England Telephone & Telegraph Co., P.U.R. 1926B 247 (Me 1925); Buck v. International Ry. Co., P.U.R. 1925D 782 (N.Y. 1925); *Re* Southern Pacific Co., P.U.R. 1926A 298 (Ore. 1925); *Re* Boise Water Co., P.U.R. 1926D 321 (Ida. 1926); *Re* New York Telephone Co., P.U.R. 1926E 1 (N.Y. 1926); *Re* Bluefield Water Works & Improvement Co., P.U.R. 1927B 275 (W.Va. 1926); *Re* City of Milwaukee, P.U.R. 1927B 229 (Wis. 1926).

clusive evidence of value.⁴⁶ Thus, where other elements of value totalled much less than submitted under the spot reproduction theory and where they were indisputably apparent as elements bearing upon the rates that the people should be forced to pay, the commissions were duty bound to give consideration to those elements of value.⁴⁷ One commission went so far as to refuse to apply the theory to an inefficient and uneconomical plant. In determining the relative efficiency of the plant the commission looked to other plants more or less similarly situated and

mission, 95 Okla. 213, 220 Pac. 28, P.U.R. 1924B 249 (1923); Georgia Ry. & Power Co. v. Railroad Commission of Georgia, 298 Fed. 242, P.U.R. 1925A 546 (1924); Westinghouse Electric & Mfg. Co. v. Denver Tramway Co., 3 Fed. (2d) 285, P.U.R. 1925B 156 (1924); Public Service Commission v. Cheseapeake & Potomac Telephone Co., P.U.R. 1925B 545 (Md. 1924); Consolidated Gas Co. v. Prendergast, 6 Fed. (2d) 243, P.U.R. 1925B 773 (1925); Ashland Water Co. v. Railroad Commission of Wisconsin, 7 Fed. (2d) 924, P.U.R. 1926B 293 (1925); New York & Richmond Gas Co. v. Prendergast, 10 Fed. (2d) 187, P.U.R. 1925E 19 (1925); Re Cheseapeake & Potomac Telephone Co., P.U.R. 1925D 282 (D.C. 1925); People ex rel. Pennsylvania Gas Co. v. New York Public Service Commission, 211 App. Div. 253, 207 N.Y.S. 599, P.U.R. 1925C 608 (1925); People ex rel. Peoples Gas & Electric Co. of Oswego v. Public Service Commission of New York, 214 App. Div. 108, 211 N.Y.S. 662, P.U.R. 1926A 229 (1925) (even when prices are abnormally high); Pacific Telephone & Telegraph Co. v. Whitcomb, 12 Fed. (2d) 279, P.U.R. 1926D 815 (1926); United Fuel Gas Co. v. Public Service Commission of West Virginia, 14 Fed. (2d) 209, P.U.R. 1927A 707 (1926); Monroe Gaslight & Fuel Co. v. Michigan Public Utilities Commission, 11 Fed. (2d) 619, P.U.R. 1926D 12 (1926); Public Service Commission of Montana v. Flathead Valley Electric Co., P.U.R. 1926C 822 (Mont. 1926); Mullendore Gas Co. v. City of Stillwater, 120 Okla. 140, 250 Pac. 895, P.U.R. 1927C 49 (1926); Re Big Spring Electric Co., P.U.R. 1927A 655 (Utah 1926); Columbus Gas & Fuel Co. v. City of Columbus, 17 Fed. (2d) 630, P.U.R. 1927C 639 (1927); Idaho Power Co. v. Thompson, 19 Fed. (2d) 547, P.U.R. 1927D 388 (1927); Re Hope Independent Telephone Co., P.U.R. 1927C 449 (Ind. 1927); Public Utilities Commission v. East Providence Water Co., 136 Atl. 447, P.U.R. 1927C 417 (R.I. 1927); Ex parte Lexington Telegraph Co., P.U.R. 1927C 730 (Va. 1927).

46. Hillsdale Light & Fuel Co. v. Public Utilities Commission, 220 Mich. 101, 189 N.W. 893, P.U.R. 1923A 632 (1922); Petersburg Gas Co. v. City of Petersburg, P.U.R. 1923B 259 (Va. 1922); *Re* Havre Natural Gas Co., P.U.R. 1927D 811 (Mont. 1927).

47. Re Hope Independent Telephone Co., P.U.R. 1927C 449, 451 (Ind. 1927).

ignored the utility's objections, saying that if the utility had conducted its operations in an efficient and economical manner, it should welcome comparisons with other plants where such a comparison could be fairly made.⁴⁸

Following Justice Brandeis's vigorous dissent in the Southwestern Bell Telephone Company Case,⁴⁹ in which he reviewed the history of reproduction cost, gave strong arguments in opposition to it, and urged the adoption of his theory of "prudent investment," there was considerable dissatisfaction among the commissions and lower courts over the application of reproduction cost in determining value. These bodies were obedient to the Supreme Court's will, but occasionally a sour note on reproduction cost crept into their opinions. Thus, the West Virginia Commission pointed out that, due to prevailing high prices, it constituted "about the highest possible measure of value".⁵⁰ The Nevada Commission deploted the necessity of applying the theory to a plant that was obviously inefficient and uneconomical.⁵¹ The California Commission found no joy in basing value on "assumptions of conditions which have not in practice occurred and probably never will occur?⁵² A New York court suggested that the rule gave the utility more than a reasonable return on its property and subjected the public to an excessive rate.⁵³

The reproduction cost theory began its actual decline during the Hoover Administration. In the first part of this period,

- 52. Re Southern California Telephone Co., P.U.R. 1925C 627, 640 (Cal. 1924).
- 53. City of Rochester v. New York State Ry., 127 Misc. Rep. 766, 217 N.Y.S. 452, P.U.R. 1927A 282 (1926).

^{48.} Jurich v. Ely Light & Power Co., P.U.R. 1925A 348, 350 (Mo. 1924).

^{49.} State of Missouri ex rel. Southwestern Bell Telepione Co. v. Public Service Commission of Missouri, 262 U.S. 276, 289, 43 S. Ct. 544, 67 L. Ed. 981, P.U.R. 1923C 193 (1923).

^{50.} Re Bluefield Water Works & Improvement Co., P.U.R. 1927B 275 (W.Va. 1926).

^{51.} Jurich v. Ely Light & Power Co., P.U.R. 1925A 348 (Nev. 1924).

courts still insisted that it should be considered the dominant element of fair value⁵⁴ In some quarters the janus-like O'Fallon Case⁵⁵ was interpreted to mean that the reproduction theory of valuation was the most reliable and accurate factor to be applied and followed.⁵⁶ Most courts and commissions, however, came around to the view that reproduction cost was merely an element to be considered together with all the other facts and circumstances which would have a bearing upon the value of the property.⁵⁷ This change in trend seems to have been promoted by the same O'Fallon Case which contained language to the effect that cost of reproduction was merely one of the elements of value to be considered, and that this expenditure should be determined in reasonable judgment, weighing all relevant facts. The Ohio Commission appears thus to have been

To accurately determine the theoretical cost of reconstructing the property as it now exists is difficult. The property after reconstruction would not be the same property. No one would actually reconstruct this particular

58. Re Cambridge Home Telephone Co., P.U.R. 1930E 65, 72 (Ohio 1930).

^{54.} Worcester Electric Light Co. v. Attwill, 23 Fed. (2d) 891, P.U.R. 1929B 1 (1929); West Palm Beach Water Co. v. City of West Palm Beach, P.U.R. 1930A 177 (Fed. 1929); *Re* Tri-City Telephone Co., 1930A 348 (Mich. 1929); State *ex rel*. City of St. Louis v. Public Service Commission, 326 Mo. 751, 34 S.W. (2d) 507, P.U.R. 1931B 448 (1930).

^{55.} St. Louis & O'Fallon R.R. Co. v. United States, 279 U.S. 461, 49 S. Ct. 384, 73 L. Ed. 798, P.U.R. 1929C 161 (1929).

^{56.} West Palm Beach Water Co. v. City of West Palm Beach, P.U.R. 1930A 177 (Fed. 1929).

^{57.} Re Guilford-Chester Water Co., P.U.R. 1928C 545 (Conn. 1928); Re United Ry. Co. of St. Louis, P.U.R. 1928E 419 (Mo. 1928); Hominy Light & Gas Co. v. State, 130 Okla. 258, 267 Pac. 235, P.U.R. 1928D 743 (1928); New York Telephone Co. v. Prendergast, 36 Fed. (2d) 54, P.U.R. 1930 B 33 (1929); Re Cambridge Home Telephone Co., P.U.R. 1930E 65 (Ohio 1930); City of Elko v. Elko Lamoille Power Co., P.U.R. 1931C 14 (Nev. 1931); City of Charleston v. Public Service Commission, 110 W.Va. 245, 159 S.E. 38, P.U.R. 1931E 74 (1931).

plant so as to have it present the same features or perform its functions as the same are performed by the present plant.

Engineers of equal skill and experience have arrived at totally different reconstruction costs and do so honestly.

It is the duty of the Commission to determine the true value in the light of all evidence.

Indeed, in 1932, some commissions began to ignore the reproduction theory altogether on the ground that utilities constructed late in the booming twenties should not be valued at the cost of reproduction new prevailing in the depressing thirties. The fair value, said one commission, should be "somewhat higher than the estimated cost of reproduction new as of 1932 in view of the lower price levels prevailing" during that year.⁵⁹

In the course of the first five years of the Roosevelt Administration the courts and commissions have tended to minimize the element of reproduction cost in arriving at fair value in public utility rate controversies. Some commissions, of course, took advantage of low reproduction cost and applied the theory as their judgment of fair value.⁶⁰ A few commissions still maintained that cost of reproduction should be considered as the "primary factor" in rate making.⁶¹ Others said that it was entitled to great weight but not to controlling weight.⁶²

62. Re Patrons of Clinton Electric Light & Power Co., P.U.R. 1933A 467

^{59.} *Re* Cheseapeake & Potomac Telephone Co., P.U.R. 1932E 195, 196 (D.C. 1932). See *Re* Western Light & Power Corp., P.U.R. 1932C 188 (Mo. 1931).

^{60.} Re Monhegan Water Co., P.U.R. 1933B 1 (Me. 1933); Re Home Gas & Electric Co., 5 P.U.R. (N.S.) 107 (Colo. 1934); Fredericton v. Maritime Electric Co., Ltd., 6 P.U.R. (N.S.) 157 (N.B. 1934); Himes v. Pennsylvania Power & Light Co., 16 P.U.R. (N.S.) 65 (Penn. 1936).

^{61.} Pacific Telephone & Telegraph Co. v. Thomas, 13 P.U.R. (N.S.) 337 (Ore. 1936); Florida Power & Light Co. v. City of Miami, 98 Fed. (2d) 180, 25 P.U.R. (N.S.) 321 (1938).

The great bulk of cases, however, followed the lead of the United States Supreme Court which, in Los Angeles Gas and Electric Corporation v. California Railroad Commission,⁶³ held that reproduction cost of utility property is a relevant but not an exclusive measure of fair value in determining the constitutional rights of a utility as affected by a rate-fixing order of a state commission.⁶⁴ This decision represents the apparent status of reproduction cost today. The refusal of a commission to give any consideration to evidence of cost of reproduction in determining the rate base is a denial of due process, and rates fixed in that manner are illegal and void as violative of the Fifth and Fourteenth Amendments to the United States Constitution⁶⁵

The period of the Roosevelt Administration has witnessed

63. 289 U.S. 287, 53 S. Ct. 637, 77 L. Ed. 1180, P.U.R. 1933C 229 (1933).

64. Elko Lamoille Power Co. v. Nevada Public Service Commission, 1 Fed. Supp. 790, P.U.R. 1933B 191 (1933); Re Potomac Edison Co., P.U.R. 1933B 6 (Md. 1933) (notwithstanding the Commission's own belief in the matter); Re Lone Star Gas Co., P.U.R. 1933C 1 (Okla, 1933): Davton Power & Light Co. v. Ohio Public Utilities Commission, 292 U.S. 290, 54 S. Ct. 647, 78 L. Ed. 1267, 3 P.U.R. (N.S.) 279 (1934); Cheseapeake & Potomac Telephone Co. v. West, 7 Fed. Supp. 214, 3 P.U.R. (N.S.) 241 (1934); Re Reedsburg Telephone Co., 7 P.U.R. (N.S.) 389 (Wis. 1934); Indianapolis Water Co. v. McCart, 13 Fed Supp. 110, 12 P.U.R. (N.S.) 478 (1935); City of San Diego v. San Diego Consolidated Gas & Electric Co., 7 P.U.R. (N.S.) 443 (Cal. 1935); City of Grand Forks v. Red River Power Co., 12 P.U.R. (N.S.) 353 (N.D. 1936); Pacific Telephone & Telegraph Co. v. Thomas, 13 P.U.R. (N.S.) 337 (Ore. 1936); Department of Public Service v. Grays Harbor Ry. & Light Co., 12 P.U.R. (N.S.) 178 (Wash. 1936); Presque Isle Water Co. v. Itself, 18 P.U.R. (N.S.) 385 (Me. 1937); Railroad Commission of California v. Pacific Gas & Electric Co., 302 U.S. 388, 58 S. Ct. 334, 82 L. Ed. 319, 21 P.U.R. (N.S.) 480 (1938).

65. Department of Public Service v. Puget Sound Power & Light Co., 11 P.U.R. (N.S.) 75 (Wash. 1935); Pacific Gas & Electric Co. v. California Railroad Commission, 13 Fed. Supp. 931, 13 P.U.R. (N.S.) 520 (1936); California Water & Telephone Co. v. California Railroad Commission, 19 Fed. Supp. 11, 18 P.U.R. (N.S.) 442 (1937).

⁽Conn. 1932); Re Peoples Gas Light & Coke Co., 19 P.U.R. (N.S.) 177 (III. 1937); Re Brooklyn Borough Gas Co., 21 P.U.R. (N.S.) 353 (N.Y. 1937); Public Utilities Commission of Utah v. Utah Power & Light Co., 22 P.U.R. (N.S.) 49 (Utah 1937).

considerable criticism of the reproduction theory. Some courts have been frank in their refusal to apply it.⁶⁶ Thus, where evidence of reproduction cost has not been presented by the utility, the court is not duty bound to consider it, even where it apparently would be in excess of original cost.⁶⁷ Likewise, it was decided that reproduction cost should not be considered in fixing the rates of municipally owned plants, for "municipal rates should be fixed on actual and not upon theoretical costs".⁶⁸ The Wisconsin commission refused outright to apply the rule in a case coming before it in 1934 "in view of the present confusion relative to governmental policy on monetary and credit inflation and artificial price fixing".⁶⁹ It refused to hazard a guess as to the course of prices in the future on the ground that such would require "too much conjecture," and then bitterly criticized the theory.

The record amply illustrates the difficulties of finding present value by matching the guesswork of various experts, each seeking to prove what it would cost hypothetically to reproduce the property. A reproduction cost is nothing but an estimate subject to the whims and caprices of the experts making the estimate. Furthermore, such an estimate of cost to reproduce is decidedly unreal because no one in his right mind would reproduce an identical property of this kind. To take but two illustrations: What

^{66.} Re Huachuca Water Co., 9 P.U.R. (N.S.) 317 (Ariz. 1934) (too high); Citizens of Bryson City v. Smoky Mountain Power Co., 18 P.U.R. (N.S.) 344 (N.C. 1937); (too high); Southern Bell Telephone & Telegraph Co. v. Louisiana Public Service Commission, 187 La. 137, 174 So. 180, 18 P.U.R. (N.S.) 1 (1937) (too low).

^{67.} Re Jamaica Water Supply Co., 13 P.U.R. (N.S.) 405 (N.Y. 1930).

^{68.} Certain Consumers of Electricity v. Village of Boonviille, 8 P.U.R. (N.S.) 493, 496 (N.Y. 1935).

^{69.} City of Marinette v. City Water Co., 9 P.U.R. (N.S.) 308, 312 (Wis-1934).

responsible engineer would recommend installing new in marrinette at the present time steam-power pumping equipment such as the 35-year old equipment now in place? Again, the filtration tubs included in the inventory are no longer manufactured as units and the estimate of cost to reproduce these units had to be built up by estimates of the cost of separate parts. The whole process reminds one of a group of engineers, each seeking what it would cost to reproduce a 1917 Ford automobile. The validity of these estimates is further impaired by the traditional method of adding overhead allowances as percentages of the estimates before overhead. When going value is also taken into calculation, the whole estimate accumulates like a snowball going down hill.⁷⁰

The Michigan Commission in 1935 substantially agreed with this point of view when it termed the doctrine "wrong in theory \dots impractical of accomplishment, and \dots not a legal requirement".⁷¹

More and more, commissions are tending to concur in the view that cost of reproduction is nothing but a remote estimate subject to the whims and caprices of the experts making it and that such estimates are decidedly unreal where no one in his right mind would reproduce an identicall plant of the kind being considered.⁷²

^{70.} Ibid., 316.

^{71.} Re Michigan Bell Telephone Co., 10 P.U.R. (N.S.) 149 (Mich. 1935). See Public Utility Commission v. Solar Electric Co., 24 P.U.R. (N.S.) 337 (Penn. 1938).

^{72.} City of Marinette v. City Water Co., 9 P.U.R. (N.S.) 308 (Wis. 1934); City of National City v. Sweet Water Corp., 3 P.U.R. (N.S.) 405 (Cal. 1933). However, it is not one of the functions of a commission to determine whether or not the property would be or would not be reproduced, its function being to determine whether the company is receiving a fair rate of return upon the property devoted to public use. Yonkers R.R. Co. v. Public Service Commis-

Beyond the mere investory, indeed, every step in the determination of reproduction cost involves assumptions as to which there may be great divarications of opinion between individual appraisers. Further, there is legal uncertainty as to what the real rights of the utility or the public are. The emergence of a conflict of interest between the utility and the public is inevitable and complicates the valuation procedure. Two sides are created, the one benefitted by a maximum valuation, and the other by a minimum. Because of this constant conflict of interest, experts are likely to be selected solely as their past performance qualifies them to fit the claims of the one side or the other. If they have proved to be capable witnesses in support of high valuations, they are sought by the utilities and become definitely company appraisers. Likewise, those who have supported low valuations become identified with the public side as municipal and consumer appraisers. This fact tends to produce and perpetuate conflict of interest in rate making and to lead to perversion of the valuation procedure. While it may be admitted that individual experts are competent and honest, they are nonetheless human. The final determination thus rests upon the testimony of experts who are biased in favor of their employers.

Mr. Justice Black, dissenting in the recent case of *McCart* v. *Indianapolis Water Company*,⁷⁴ aptly described the result of

74. 302 U.S. 419, 424, 58 S. Ct. 324, 82 L. Ed. 336, 21 P.U.R. (N.S.) 465

sion of New York, 242 App. Div. 319, 274 N.Y.S. 535, 6 P.U.R. (N.S.) 1 (1934); City of Torrington v. Torrington Electric Light Co., 13 P.U.R. (N.S.) 24 (Conn. 1936); City of Blytheville v. Blytheville Water Co., 15 P.U.R. (N.S.) 177 (Ark. 1936) (but the reproduction cost of brick and gunite lining of a reservoir was excluded where such lining was made necessary because of porous or improperly mixed concrete used in reservoir construction).

^{73.} For example, in Duluth Street Ry. Co. v. Railroad Commission of Wisconsin, 161 Wis. 245, 152 N.W. 887, P.U.R. 1915D 211 (1915), the valuations of two experts, both employed by the state, were \$600,000 and \$1,100,000. In City of Springfield v. Springfield Gas & Electric Co., P.U.R. 1916C 281 (III. 1916), the valuations of five experts were: \$547,488, \$588,262, \$806,404, \$898,785, and \$940,988.

this silly game. He said:⁷⁵

Wherever the question of utility valuation arises today it is exceedingly difficult to discern the truth through the maze of formulas and the jungle of metophysical concepts sometimes conceived, and often fostered by the ingenuity of those who seek inflated valuations to support excessive rates. Even the testimony of engineers, with wide experience in developing this theory and expounding it to courts, is not in agreement as to the meaning of the vague and uncertain terms created to add invisible and intangible values to actual physical property. Completely lost in the confusion of language—too frequently invented for the purpose of confusing—commissions and courts passing upon rates for public utilities are driven to listen to conjectures, speculations, estimates, and guesses, all under the name of "reproduction costs".

The day may not be far off when the courts will discard the element of reproduction cost in rate valuation cases as being "legally and economically unsound".⁷⁶ The theory is too uncertain ,too expensive, and too greatly subject to the frailties of human beings. Of course, before a more stable and more easily ascertainable basis of value can be adopted, the case of *Smyth* v. Ames must be overruled. That the Supreme Court may soon end its traditional floundering in the bog of metaphysics is a prophecy that may soon become a reality. The recent tendency of the courts and commissions to minimize the element of repro-

(1938).

^{75.} Ibid., 428-29.

^{76.} Mr. Justice Brandeis thus referred to the reproduction theory in his vigorous dissenting opinion in State of Missouri *ex rel*. Southwestern Bell Telephone Co. v. Public Service Commission of Missouri, 262 U.S. 276, 289 43 S. Ct. 544, 67 L. Ed. 981, P.U.R. 1923C 193 (1923).

duction cost, after having considered it for a time as dominant and the infusion of liberal justices on the Supreme Court bench who recognize the weaknesses of existing standards would seem to indicate that the much criticized *Ames Case* is on its way to the fate that befell *Swift v. Tyson.*⁷⁷ When the *Ames Case* is overruled, the popularly termed "trance method of public utility valuation"⁷⁸ will accompany it to the judicial scrap heap.

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^{77. 16} Pet. 1, 10 L. Ed. 865 (1842). This case and the doctrine for which it stood was overruled after nearly a century of continued application in Erie R.R. v. Tompkins, 304 U.S. 64, 58 S. Ct. 817, 82 L. Ed. 1188, 114 A.L.R. 1487 (1938). 78. Scientific Hash, 74 NEW REPUBLIC 298 (1933).