Chapter 1

THE PASSING OF THE PUBLIC UTILITY CONCEPT: A REPRISE

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In an historic article, 42 years ago, Professor Horace M. Gray celebrated "The Passing of the Public Utility Concept."[1] The flavor of his negative eulogy is best conveyed by a few characteristically trenchant quotations:

> Although these laws differed in many respects . . . they had one feature in common. They all followed the delusion that private privilege can be reconciled with public interest by the alchemy of public regulation. Consequently, none of them disturbed in the slightest degree the underlying structure of special privilege; they merely reared

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> upon it a superstructure of restraint. Monopoly capitalism, secure in its privileges, shook off the petty irritations of regulation and continued its aggressions against the public welfare. (pp. 281-82)
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> Henceforth, the public utility status was to be the haven of refuge for all aspiring monopolists who found it too difficult, too costly, or too precarious to secure and maintain monopoly by private action alone. (p. 283)
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> . . . the fiction of "natural monopoly" was invented to explain the centripetal tendencies then observable. (p. 284)
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> . . . the final result was monopoly, exploitation, and political corruption. (p. 281)

Gray intended his title to be historically descriptive, and not merely hortatory.[2] The celebration was premature. While the Supreme Court's 1935 decision in the *Schechter* case, throwing out NRA, marked a recession from the high-water mark of cartelization under government auspices, the subsequent Motor Carrier and Civil Aeronautics Acts not only carried on the tradition but extended the public utility concept to industries that were obviously far from natural monopolies; we still had the Banking Acts of 1933 and 1935, the Federal Communications Act of 1934, Robinson-Patman and Miller-Tydings. As for public utility regulation proper, the *Hope Natural Gas* decision of 1944 was widely acclaimed as liberating the expert commissions charged with this responsibility from second-guessing by the courts as they proceeded to perfect their policies and procedures,[3] and few specialists in this subject would, during the three decades after the appearance of Gray's article, have agreed either that the institution was in the process of passing, or that it should have been.[4] Only the Marxists, on the one side, and the University of Chicago School, on the other, were evidently prepared to scrap the institution; the former, of course, advocated government ownership and operation, and the latter (in this instance abandoning its mentor, Henry Simons, who had condemned the institution of regulated public utility monopoly in much the same terms as Horace Gray and had concluded that government ownership and operation were its proper successors), simple laissez faire.[5]

There have of course been variations in the administration and interpretation of the governing statutes in the period between the 1930s and the 1970s. At one extreme, for example, we have the

complete five-year moratorium adopted by the CAB during the early 1970s (when it refused as a matter of policy to entertain a single request for altered route authority) and the progressive restrictions on cable television systems adopted by the FCC during the 1960s in order to limit the competition of that new medium with over-the-air broadcasters. On the other side, there was the FCC's liberalization of communications policy, under pressure of the new microwave technology, and its *Above 890*, *MCI*, and *Specialized Common Carrier* decisions of 1959, 1969, and 1971, respectively. Still, I am confident that Horace Gray would have been among the first to admit that the public utility concept continued to thrive, and that it retained essentially the characteristics that he had so criticized decades before.

In contrast, the last decade has witnessed such dramatic modifications and abandonments of the traditional institution that I suggest it *is* now possible to talk realistically about the passing of the public utility concept.

Acutely aware of the possibility that the only intriguing part of my article may be the title—and I borrowed that from someone else—I will eschew recitals of familiar facts and attempt instead to document the *generality* of this phenomenon, to examine the variety of its manifestations, and to consider its implications for the proper scope of economic regulation in the years ahead.

THE DEREGULATION MOVEMENT[6]

The dimensions of the economic deregulations of the last several years are familiar, and it will suffice, I am sure, for me merely to supply a partial list of the sectors of the economy in which the government has in this very short span of time surrendered much or almost all of its authority to decide who shall be permitted to supply what markets and at what prices: airlines, trucks, railroads, financial markets, communications (consider not only the relaxations of the FCC's limitations on entry into private and specialized communications carriage by microwave, but also its withdrawal of restrictions on cable television, on the supply of terminal equipment, and on the use of satellites not merely for private and common carriage but also for direct broadcasting, and, finally, its comprehensive *Second Computer Inquiry*) and, let it not be forgotten, crude oil.

The change in public attitudes reflected in this last example is in many ways even more striking than in the others. As little as five or ten years ago, most political leaders who call themselves liberals would probably have strongly advocated price controls on oil and natural gas, along with systems of allocation and rationing in case of shortage. Today, an impressive number of them seem either resigned to accept or actively to advocate leaving prices free to fluctuate even in the event of sudden cutoff of supplies, relying on heavy taxes or import duties to reduce our national exposure to such contingencies and to recover windfall profits, using the proceeds, at least in part, to help poor people meet their increased gasoline and heating oil bills.

Recently, crude oil and product pipelines as well have become candidates for deregulation. In contrast with what has for decades been the traditional view—namely, that ownership of pipelines by the major refiners has historically been an important if not critical buttress of monopoly power in the industry, and that this vertical integration became compatible with effective competition only when the pipeline operations came to be effectively regulated[7]—the argument is now being made that, despite the presence of very important economies of scale in pipeline transportation, most markets for crude oil and products have access to a variety of sources of supply sufficient to preclude serious monopolistic exploitation.[8] Since I was a proponent of the traditional position, and believe I have seen recent evidence of ways in which ownership of unregulated crude oil lines by major refiners has been a powerful instrument of monopolistic exploitation of producers,[9] I am not yet persuaded of this particular case for deregulation.

The deregulation movement has penetrated even closer to the heart of the traditional public utilities in the case of the electric companies, although, I must hasten to add, it consists at this stage primarily of aspirations and talk. In large part, the impetus in this case comes from a source that Horace Gray would have been hard pressed to predict: the electric companies themselves, along with others concerned about their financial welfare. After 10 years of inflation, earnings attrition, and equity dilution,[10] the suspicion is growing that the companies might do better by dissolving the historic bargain that gave them the sanctuary of franchise monopoly in exchange for accepting "reasonable" returns as determined by an

expert administrative commission that (it has been a liberal dogma for decades) they could keep securely in their deep pockets.

There is undoubtedly a good deal of intellectual faddism in this suggestion: it does not follow from the fact (at least, I would assert it truculently as a fact) that deregulation was exactly the right thing to do for the airlines and the motor carriers, that it makes equal sense for the electric utilities. The critical question is whether there is the possibility in this industry of providing the required protection of the consumer by some other device—the only one I can think of is competition—sufficiently effective to justify releasing the industry from the excessively tight regulatory grasp in which it now finds itself. I don't know the answer to that question; I expect that many people inside and outside the industry will be spending the next five years or so trying to find it.[11]

It is of considerable interest, however, that the deregulation movement has gathered some support also from both regulators and public interest groups, who are dissatisfied with cost-plus regulation and are eagerly seeking some way of installing a more competitive regime.[12] Others are advocating a looser system of regulation with major rate cases scheduled only once every three or five years, with automatic indexation of rates on the basis of some national cost or price index, in order to get away from cost-plus and thereby to provide companies with stronger incentives for improved performance.[13]

The record has not consisted merely of talk. As I will observe in a later section, PURPA—the Public Utility Regulatory Policies Act of 1978—represents an unequivocal effort to facilitate competitive entry by cogenerators, solar installations, and small-scale hydro facilities, by requiring the electric utilities to interconnect with them and pay them avoidable costs for their power.

I do not know enough about the state of cable television regulation in the country at large to provide a summary characterization of where it stands, but I suggest that deregulation is the direction in which we are moving. Since 1962, the FCC has prohibited regulation by local or state authorities of rates for pay or enhanced services.[14] In contrast, in 1972 it actually promulgated a requirement that local authorities regulate rates for basic service. It dropped that requirement in 1976, however,[15] and my understanding is that a large number of states and localities have abandoned the practice.

I have very little doubt that the overwhelming majority of economists—excepting perhaps only Mr. Galbraith—would endorse the FCC's prohibition of utility-type regulation of pay services. Indeed most, I suspect, would probably prefer to see regulation of even basic service rates abolished, despite the fact that cable seems to share with electric and gas distribution the central characteristic of natural monopoly: the preponderant cost of providing the service consists in the cost of stringing the cable itself and making the necessary attachments, in consequence of which the average cost of serving a household declines as more and more households sign up in the particular area served by the single facility.[16]

There are a number of interrelated reasons for this surmise. First of all, there is reason to doubt that even a single cable operator has the amount of monopoly power enjoyed by a local electric, gas, water, or telephone company. The services that this industry supplies are far more varied than those supplied by the traditional public utilities. Cable began as a retransmitter of broadcast television signals, providing clearer reception than subscribers could obtain over the air. Today, in contrast, subscribers may choose among a number of service packages, including numerous entertainment services for pay, specialty programming, news services, local information and public access programming, and, in some parts of the country, various two-way services. One of the safest predictions in the world is that the variety will increase in the years ahead.

Most of these services can hardly be characterized as necessities—necessity being the traditional justification on the demand side for imposing utility regulation.

Moreover, for many cable operators there are in most markets a variety of close though not perfect non-cable substitutes: over-the-air radio and television broadcasting, including Subscription Television (STV) and Multipoint Distribution Services (MDS), the availability of any of which may be enhanced by master antenna systems; theaters showing movies and live entertainment; videocassette and videodisc recorders; and fire, emergency, and burglar alarm systems provided by other entities, including telephone companies.[17] In a few years, many households will be able to receive direct broadcast signals (DBS) from satellites to low-cost receivers on their roofs.[18]

The final consideration is the dynamic character of the industry's technology and market. The more fluid an industry is, and the more

its technology and future course of development are subject to rapid, unpredictable change, the more unregulated competition recommends itself as the proper institution of social control. The virtue of competition is precisely that it is the system most open to dynamic change and to risk-taking innovation, with investors and entrepreneurs free to take whatever chances they wish, with the prospect of very large returns balanced against the possibility of large losses. In these circumstances, the intervention of a regulatory commission, presuming to determine who should be permitted to supply what, and limiting the prices that may be charged and the returns that may be earned, is most likely to inhibit the rapid and diversified exploration of the potential of a rapidly changing technology and the probing of the market opportunities to which it gives rise. It seems obvious that cable technology is precisely of this character at the present stage of its development.

Although these various considerations incline me to favor total deregulation of cable, I cannot contend that the case is unarguable so far as basic service—i.e., the mere importation of distant television signals—is concerned in regions that do not receive adequate signals off-the-air. I find it difficult to deny that in such situations subscribers regard the service as a kind of necessity and may well be subject to substantial exploitation by a single supplier.[19]

At the very least, these considerations suggest the wisdom of the action of the Massachusetts Cable Commission, in 1980, which deregulated all cable rates in areas with adequate competitive alternatives:

> Adequate competitive alternatives to regular television service exist in any cable television system which is located wholly within the predicted Grade B contour of three unduplicated network television signals. . . .[20]

The "deregulation revolution" is far from complete: consider, for example, the back-pedaling by the present chairman of the ICC.[21] Consider as well the capitulations of the Reagan Administration to the automobile industry on imports of Japanese automobiles; to the textile industry in tightening the import restrictions in the International Multifiber agreement; to the International Air Transport Association on setting "reasonable" bands of permissible fares; and to

various agricultural groups on sugar, dairy products, peanuts, and tobacco.

Nor *should* the deregulation revolution be complete. As the allusions I have already made to electricity generation, oil pipelines, and basic television, and the ones I will make presently to local telephone service and to railroad rates for captive shippers all suggest, the critical criterion for public policy is the feasibility of effective competition, or—to look at the other side of the coin—the likely dimensions and durability of monopoly power. These will inevitably differ from one market context to another.

It is equally clear, however, that there has been a dramatic change in the last decade or so in the comparative weight we attach to the values achieved by regulation, on the one side, and free entry and unregulated pricing on the other. One way of characterizing that change that I find particularly illuminating is to think of it as representing a renaissance of Schumpeterianism against the nineteenth- and twentieth-century liberals' distrust of monopoly power. Schumpeter was the most eloquent exponent of the view that the short-term exploitation of static monopoly power is a small price for society to pay for the dynamic innovation process of "creative destruction,"[22] in which short-term monopoly plays an inescapable role, as both stimulus and (ephemeral) consequence. Natural monopoly, too, is a purely static concept. At a time when our most pressing national economic problem seems to be a compound of stagflation, faltering productivity, and a threatened loss of international competitive position, it is not surprising that we incline increasingly to opt for the dynamic disorder introduced by competition, wasteful as it may be in static terms, in order to take advantage of the powerful pressures it exerts for innovation and the achievement of X-efficiencies, over the enforced orderliness that is the ideal of central planning.

From Entry To Diversification

Typically, the first essential step in economic deregulation has been the elimination of regulatory limitations on competitive challenges *to* the franchised, regulated companies: consider the case of the airlines, the motor carriers, communications terminal equipment and interexchange carriage, and the hoped-for effect of PURPA on

electric utility markets. Similarly, if the cable television companies are to have their rates deregulated, they will clearly have to surrender the exclusive franchise, although it is far less the potential competition of cable with cable in the same locality than the availability of non-cable alternatives that constitutes the case for deregulation there.

An inevitable consequence of the increasing tendency to admit competitors into previously closed franchises is an increasing restiveness on the part of the regulated companies with the limitations on the scope of their operations, that is, on their freedom to break out of the boundaries of their historical operations and either enter some unregulated markets or exit from some regulated ones. These two tendencies are the subject of the next two sections of this article.

In the case of electric and gas companies, the principal motivating force behind their mounting interest in diversified operations outside their public utility markets is their dismal financial condition, a product of inflation, soaring energy costs, the consequent dramatic slowdown in the growth of demand, the fading of the promise of nuclear power, and tight regulation: the very combination of forces that dropped their market-to-book ratios well below unity and led some of the electric companies to think wistfully about deregulation.[23]

There is ample reason to be skeptical of the diversification fad and to doubt that it will provide an escape from these financial difficulties. The notion that gas and electric companies, already forced to finance additional construction at the expense of diluting their stockholders' equity, have available large pools of capital, managerial talents, or other resources that can make major contributions to the health of the outside economy or to the profitability of the companies themselves is surely simplistic, to put it as kindly as possible.

On the other hand, the widespread negative attitude of the traditional regulator seems to me equally simple-minded.

This is not to say that the familiar dangers are fictitious: artificially high transfer prices to the regulated operation; cross-subsidization of the competitive by the regulated service; and the possibility that large, unsuccessful operations outside of the public utility domain will weaken the credit of the utility company, with a resultant

increase in the cost of capital imposed on captive customers or a deterioration in the quality of service.

At the same time, some of the expressed fears are clearly unworthy. For example, NARUC's (National Association of Regulatory Utility Commissioners) Ad Hoc Committee on Utility Diversification raises "the possibility that later the holding company management could choose to spin-off the utility if utility earnings are perceived to be inadequate."[24] The only circumstance in which the utility operation would be more valuable separated from its unregulated affiliates would be if it were, because of that affiliation, being held to a lower return than it would have to be allowed if it had to stand on its own feet. The concern expressed by the NARUC Committee seems therefore to reflect a desire to hold the utility's capital captive, to so limit its alternatives that its returns can safely be kept below the cost of capital. The desire is perhaps understandable, but it is also objectionable.

The same is true of the fear the NARUC Committee expresses elsewhere that the management of the utility part of the diversifying enterprise might be "demoralized" because "higher salaries in non-utility jobs as compared with similar positions in the utility, could undermine morale."[25] The notion that public utility managements can be insulated against demoralization by preventing their companies from undertaking new ventures, or that somehow a prevention of diversification will enable public utility companies to get a higher quality of management than they pay for, is absurd.

A third objection, seriously offered, seems even more reflective of the conservatism and compulsive tidiness of the regulatory mentality: hard-pressed regulatory commissions may lack the resources to exercise the necessary supervision over diversified companies to forestall the familiar dangers.[26] The consideration is theoretically relevant: it is indisputably logical to tote up the costs entailed by additional diversification against the benefits and to include the cost or opportunity cost of increased regulatory scrutiny among the former. The regulatory costs and the possible benefits seem so incommensurable, however, as to make the general attitude that I sense on the part of some regulators—"if we can't watch it, we won't let you do it"—an illustration of the regulatory mentality in its least inspiring aspect.

There are in fact compelling considerations that positively recom-

mend a more liberal attitude toward the efforts of utility companies to break out of their regulatory boundaries:

1. The poor financial condition of utility companies. While, as I have suggested, the principal reasons for this situation are largely external to the institutional structure within which the industry has been confined, it is impossible to doubt that, at the same time, tight regulatory restraints must bear some responsibility for their failure to adapt to these dramatically altered circumstances.

   The fear expressed by regulators that diversification threatens to deteriorate the credit ratings of utility companies seems oddly misplaced in view of what has actually happened to their credit ratings in recent years as a result of their *regulated* operations. It is a reasonable question whether the balance of regulatory concern should not have shifted from a worry that financially strong companies may dilute that strength by unsuccessful ventures outside the regulated domain, with resultant injury to their captive customers, to an expectation that financially weak utility companies might improve their credit ratings by diversification, to the indirect benefit of those customers.
2. Our vastly altered national energy situation. We are still dangerously dependent on imports for an excessively large portion of our energy supplies. It would be foolish in these circumstances to prevent electric and gas distributors from attempting to diversify by exploring or developing alternative means of satisfying customers' needs with new sources of energy supplies, joint cogeneration ventures, and conservation technologies.

   These considerations are especially urgent in the case of gas distribution companies, traditionally confined (in contrast with their electric counterparts) to the distribution function, operating in markets which—by virtue of their maturity and high degree of saturation, the uncertain future supply and sharply increasing prices of natural gas and the relatively limited diversity of its end uses—offer comparatively little prospect of long-term growth. These com-

panies have an unusually strong incentive to diversify at either end—into traditional and nonconventional sources of gas, on one side, and appliances and conservation installations on the other.

3. Our declining rate of national productivity growth and the chronic stagflation to which it has powerfully contributed. The solution to these problems continues to elude us. But it seems to me incontestable that two components of any solution are these: greater mobility of resources (that is, an increased ability of capital and labor to move out of unprofitable areas and into those with greater promise) and more competition. Utility diversification promises both of these benefits (albeit modestly): some redeployment of incremental resources from industries such as gas distribution, where demand is not growing rapidly; and greater competition between diversifying utilities and other, non-utility companies such as oil and gas producers, manufacturers and installers of solar and conservation devices, providers of billing and other computer-related services, and so on.

These converging changes have accentuated the importance of utility company managements being freed of restrictions on their incentives, and on their ability, to satisfy the ultimate needs of their customers—which are not gas or electricity as such, but such end-use services as space conditioning—by whatever combination of the various available alternative means (for which they believe they have the competence) appears to them most economical; to follow their perceptions of technological and market opportunities wherever they seem to lead, free of traditional conceptions of what is the proper function of a gas or electric utility company and what is improper; and to hold and attract imaginative, enterprising managers: in brief, to enter the broader market economy, wherever they see the opportunity, rather than being confined to traditional functions and patterns.

This does not mean that the best policy, in my judgment, is for regulators to give utilities carte blanche to diversify indiscriminately; even less does it mean that utility managements should be positively encouraged to do so in their own interests. There are no assured profits in diversification. But the dangers to captive ratepayers are

both manageable and containable by controlling the character and pace of diversification sufficiently to minimize the financial hazards, and by so structuring the diversifying enterprise and regulating the *utility entity* as to prevent the use of inflated transfer prices, and prevent cross-subsidization. Allocations of cost, scrutiny and the approval or disapproval of transactions among affiliates, and managerial and financial separation are in my judgment sufficient to minimize most of the risks.

Regulation can never provide a 100-percent guarantee against the possibility that failed diversification efforts may, by impairing the credit-worthiness of the combined venture, also increase the cost of capital to the regulated enterprise. If, however, whatever the separations, utility ratepayers cannot totally escape the risk of a deterioration in the credit-worthiness in the event that the diversification ventures are less successful than the utility operations—which are hardly models of credit-worthiness—I do not see how it can be argued, asymmetrically, that they will not benefit to the extent that those ventures are more successful. The statistical investigations I have seen, including some done by my colleagues at NERA (National Economic Research Associates),[27] so far suggest, at the minimum, that diversified companies are not rated as riskier than the utility ventures; on the contrary. The general belief on the part of regulators is a reflection of their curious lag in perception, going back to the time when it was probably true.[28]

The most striking manifestation of this particular aspect of the passing of the public utility concept is to be found, however, not in the electric and gas utilities—where it would be foolish to expect diversification to produce great changes for either the companies or the economy—but in communications. Observe, first, the close to universal approval that has greeted the provision of the proposed consent settlement of the government's antitrust suit, which would release AT&T from the constraints of the 1956 Consent Decree. However attractive that confinement was in terms of simplifying regulatory problems, avoiding all possibility of cross-subsidy and unfair competition, there is widespread recognition that those boundaries have become progressively outmoded technologically during the last 25 years, and that keeping AT&T from following its burgeoning technology and conception of market opportunities wherever they lead is and has been profoundly anticompetitive. I

should qualify my assertion about the universality of agreement about this to except the newspaper publishers and cable operators who for obvious reasons do not welcome additional competition and continue to oppose it.[29]

Equally striking, the principal objections to the settlement—and the most important alteration insisted on by Judge Greene—have to do with the transfer of those constraints from AT&T to the to-be-separated Bell Operating Companies (BOCs). The almost unanimous denunciation by the state regulators themselves of the decree's prohibition of telephone companies operating outside the scope of their regulated monopolies contrasts strikingly with their widespread hostility to diversification by electric and gas companies. In its comments filed with Judge Greene, NARUC argued forcefully that the BOCs should not be so restricted, but, like independent telephone companies, should be "free to enter lucrative unregulated communications markets in addition to providing local exchange service."[30] And in equally poignant contrast with his committee's continued expression of doubt about the ability of the state commissions to insulate regulated from non-regulated operations of electric and gas utilities, Stanley York, chairman of NARUC's Ad Hoc Committee on Utility Diversification, testified before Congressman Wirth on February 2, 1982: "I have been puzzled by the absolute insistence that the local operating company not be involved in competitive business, because of the danger of cross-subsidization and that sort of thing. . . ."[31] One is tempted, uncharitably, to explain this contradiction in terms of the difference not in the economic merits of the two cases but of the perceived effect of confining or releasing the BOCs on the size of the telephone rate increases that will be required in the years ahead.

In terms of the economic merits, it seems to me that the case for confinement is stronger in the case of the telephone companies than in that of the electrics. The view of the Antitrust Division—that the only way to reconcile freedom to compete for utility companies with the undesirability of continuing and pervasive regulatory supervision of their operations to prevent cross-subsidizations and unfair competition is to effect a clean structural separation of the two kinds of activities—would seem to apply equally to both. But, as I will observe presently, the power of the utility to frustrate competition by exercising control over access to its bottleneck facilities seems to me greater in the telephone than in the electric and gas cases.[32]

At the same time, excluding public utility companies (as AT&T was excluded under the 1956 Consent Decree) from these other non-traditional markets is anticompetitive, should be recognized as such, and should be countenanced only if it is very clear that alternative, less restrictive protections against abuse are not available. The rigid exclusion and tight drawing of boundaries between regulated and unregulated ventures advocated by the Justice Department, however neat, tidy, and logical they may be (by one chain of reasoning), involve a cost: a sacrifice of possibly genuine benefits of integration. And if the dangers of such integration are greater in the telephone than in the electric case, so are the possible benefits. Can anyone doubt that the Bell Operating Companies, and through them their customers, derived some advantages from their intimate link with the parent company, with Bell Labs, and with Western Electric? Or that if the Bell Operating Companies were indeed totally separated from the provision of terminal equipment and perhaps also inside wiring, there would be a substantial loss of the efficiencies inherent in having one company, with one set of repair and maintenance crews and trucks out in the field, in a position to make installations and to service equipment at the point of consumption? The BOCs are especially likely to be able to compete very effectively in the unregulated markets with their former parent, as well as with independent suppliers—for example, in radio telephony and in terminal equipment—and in so doing to enable new equipment manufacturers to challenge Western Electric. Just as competition will be invigorated by AT&T's new freedom to circumvent the local exchange facilities of its former subsidiaries via radio and satellite—which Congressman Wirth's HR 5158 would have forbidden it to do—so it would be if the BOCs were allowed to integrate in the opposite direction, i.e., if they were allowed to provide interexchange services in competition with AT&T and the other carriers through their much-disputed Class 4 switches.

The clean separations inevitably involve gross oversimplifications. One could point, for example, to the Decree's simple-minded distinction between regulated, natural monopoly local exchange services provided under tariff, and competitive services. What about inside wiring, which many states are permitting customers to provide for themselves, or various information or dial-it services? What of the increasing intrusion by cable systems and over-the-air services on the local exchange business? And what, on the other side,

of AT&T's continued, overwhelming predominance in the interexchange business? Markets in the real world cannot be classified neatly as monopolistic or competitive.

This means, of course, that there are no clean, perfect solutions available, but only pragmatic compromises based on an assessment in each instance of the comparative benefits and dangers of the alternative polar courses. My own pragmatic assessment, although I cannot be certain, is that so far as the confinement of the Bell Operating Companies is concerned, Judge Greene has struck a better balance than the consent settlement originally proposed.

In any event, if the opening of a breach in one direction in the wall surrounding regulated markets—by the Airline Deregulation Act, by the *Above-890* and *Execunet* decisions, and by PURPA—is one manifestation of the passing of the public utility concept, the increasingly pervasive movement to open it also in the opposite direction is a second manifestation. The view is surely becoming increasingly widespread among both regulated companies and impartial observers that it no longer makes sense to confine regulated companies to their traditional functions.

THE OBLIGATION TO SERVE

The foregoing dissolutions of the public utility concept have had interesting effects on the previously generally accepted obligation of utility companies to serve all customers within their franchised territories upon reasonable demand.

The obligation was always subject to significant qualification, more in some industries than in others. In the case of service by certificated motor carriers to small towns, which opponents argued strenuously would be severely jeopardized by deregulation, I was astounded to discover upon examination that there was no evidence whatever of its cross-subsidization. On the contrary, (a) the Interstate Commerce Commission had no record whatever of what carriers were serving which towns; (b) it had never, to anyone's recollection, refused a carrier's request to be permitted to drop such service; and (c), according to Department of Transportation studies that we commissioned during the deregulation effort, by far the most important service to small communities was provided by exempt carriers and by United Parcel Service, and the minor share by

specialist certificated carriers, who presumably did so because it was profitable. In short, the widely asserted benefits of regulation in ensuring service to small communities proved, upon examination, to be a complete fraud.

In the case of the airlines, they did have to have the permission of the CAB to drop unprofitable routes, and were, indeed, often constrained to continue flying them as the price for the more valuable portions of their operating rights. The fact remains that during the period from 1960 to 1975, certificated carriers were permitted by the CAB to drop service to 173 communities, no less than 30 percent of the total.[33] Moreover, the CAB's definition of minimum required service was extraordinarily permissive: Delta Airlines, for example, retained its Miami to Los Angeles authority with two flights per week; by an intriguing symmetry, National Airlines did the same on its Atlanta to Los Angeles route. And the Board received persistent complaints from small communities that the service they were getting was scheduled in the interest of the carrier's principal routes, with the minimum number of required flights coming at extremely inconvenient times of the day or night. Not surprisingly, unprofitable service was being grudgingly provided.

In any event, as the CAB proceeded in the course of 1977 and early 1978 to permit competitive entry into various markets, certificated carriers gave this understandable and increasingly urgent rejoinder: "If you are going to admit competitors into our markets, and remove our protections against price-cutting, you must permit us greater freedom to leave unprofitable markets." Freedom of entry necessarily required freedom of exit. One of the most important beneficial consequences of deregulation has been the restructuring of carriers' route systems and consequent improvement in use of equipment that it both necessitated and made possible.

On the other hand, the result has also been to expose a large number of communities to loss of service; this has in many instances been made up for by the entry of other carriers, but in many others it has resulted in a net deterioration.[34]

In the case of motor carrier service to small towns, in contrast and not surprisingly, the surveys that I have seen so far disclose a general agreement that if it has changed at all it has been for the better.[35]

In the case of the electric utilities, recognition of the desirability

of modifying the obligation to serve and the attempts to do so have been, understandably, a good deal slower in developing and have produced far less dramatic consequences.

Still, under the influence of severe financial stringency, bearing especially heavily on companies confronting major construction programs (and consequent dilution of stockholders' equity), company managements have engaged in increasingly intensive discussions of how they may best limit the growth of demand. Specifically, they have asked their lawyers to tell them how and under what circumstances they may legitimately discourage new customers from coming on the system, or whether they may even refuse to provide service at all.

To some extent, this financial stringency has led electric utilities to adopt policies that an economist can only applaud: enlightened utility company managements have become increasingly receptive to proposals for marginal cost pricing and load management in ways that achieve the same result. (There is a certain amount of tautology in that observation: I define "enlightenment" in terms of managements' recognition of the merits of economically efficient pricing.) Various companies have been experimenting with interruptible rates of one kind or another: Pacific Gas & Electric has adopted Group Load Curtailment and Auxiliary Power Sources programs, with corresponding attractive rates, and Southern California Edison is offering special lower rates for residential subscribers who are willing to put specified appliances on interruptible circuits.

Increasingly, electric companies have also been reexamining their traditional policies with respect to reserve margins, another way of trading off costs and rates for quality (i.e., reliability) of service.

In contrast, the $2,000 connection fee requested by San Diego Gas & Electric is clearly discriminatory between new and old customers and, I suspect, is unlikely to be sustained. The rationalization for the fee was that where marginal costs exceed average revenue requirements, it is the new customers or incremental demand that is causally responsible for their occurrence and therefore for raising average revenue requirements for all users. This rationalization is, of course, economic nonsense. So far as common, generation costs are concerned, *every* kilowatt-hour consumed at a particular time is equally responsible for the marginal cost of

providing it, and economic efficiency requires that every such unit of consumption be subjected to the test that its benefits exceed marginal cost.

The same observation applies to the flat refusals of some companies to hook up any new electric heating or industrial customers, and to the requirement by others that new industrial customers take service only on an interruptible basis. For the most part, these various proposed discriminations are bad economics, bad ethics, and probably illegal.[36]

In contrast, the decision by the California Public Utility Commission calling on electric companies in the state to eliminate promotional line extension policies[37] makes good economic sense: distribution costs are indeed specific to particular classes of customers, and whereas society would be spared them if new customers did not come on the line, it would enjoy no such savings if existing customers curtailed their consumption. So far as distribution costs are concerned, therefore, there is no reason why existing subscribers should be required to subsidize the difference between current and embedded costs of extending the network.

This is the economic justification, similarly, for the Federal Communications Commission's recent change in accounting practices to permit telephone companies to charge off the cost of moves and installations on a current basis, rather than being required to capitalize and recover them from all subscribers over time.[38]

Finally, the ICC itself at an early point in the process of deregulation recognized a striking inconsistency between the liberalization course upon which it was embarked and the traditional obligation to serve. The ultimate, liberal certification policy is the one developed at the Civil Aeronautics Board, termed "multiple permissive entry." At the extreme, that is precisely the situation under free competition: anyone who wishes to enter may, but none need do so. The Gaskins Commission recognized that it could not proceed to grant applicants broader operating authority than they were prepared in fact to exercise without subjecting them to suits for failure to fulfill the obligation to serve which has traditionally accompanied the grant of operating rights;[39] it therefore instituted a proceeding looking toward a relaxation of the obligation compatible with its liberalization of operating rights.[40]

INTENSIFIED CHALLENGES TO REGULATION

Paradoxically, the deregulation revolution has created intensified challenges to the regulatory process itself. Where the transformation has been close to total, as in the airline and trucking industries, the challenge has shifted to the antitrust laws—notably in responding to deregulation-induced mergers and possible outbreaks of predatory competition—and to the agencies responsible for traditional consumer protections: does the introduction of more intense competition mean that it is no longer necessary for the CAB to enforce its bumping rules or regulations setting minimum carrier liability for lost baggage?[41]

Where deregulation has been incomplete, in contrast, the reciprocal interpenetration of markets by regulated and unregulated companies has created new and difficult challenges to regulators to protect both the captive customers and the competitors of the regulated enterprises against cross-subsidization and other kinds of unfair competition.

It was, of course, to obviate this kind of scrutiny of industries that remain part-slave and part-free that the Department of Justice—and to a lesser degree the FCC, in its *Computer II* decisions—attempted to erect firm boundaries between these respective activities. To the extent that such efforts are blunted—because they may themselves be regarded as anticompetitive or inefficient, or because there is no clear-cut distinction in the real world between "monopolistic" and "competitive" entities[42]—the burden shifts back to regulators to administer the necessary protections.[43]

As I have suggested in discussing electric and gas utility diversification, I incline to the view that these dangers have typically been grossly exaggerated. The notion of basic residential telephone service—which appears to cover at most 60 percent of even its embedded costs, on average,[44] and a lesser percentage of marginal costs—subsidizing anything else, or of electric companies using their superior access to capital (because of their regulated operations) to overwhelm anybody strikes me as ludicrous. My impression is that regulatory commissions have proved more than adequately—so much more that the proper adverb, I suspect, would

be excessively—capable of preventing exploitation of monopoly ratepayers in this particular way.

In contrast, it seems to me that use by utility companies of their control over monopoly bottlenecks to obstruct competitors remains a great and undeniable threat. The danger is so great, indeed, that I would place upon the regulated companies themselves, and upon regulators, a heavier burden than they have in my judgment so far borne to prevent—or to demonstrate that they are capable of preventing—this exercise of monopolistic leverage.

This issue is squarely raised by the consent settlement of the AT&T Antitrust case: should the BOCs be permitted to operate in competitive areas such as terminal equipment? The discussion of this particular exclusionary tactic in Judge Greene's 1981 decision turning down AT&T's motion for dismissal of the case concentrates almost exclusively on the Bell System's insistence on a protective connecting device that was unnecessarily expensively engineered, and, in the last analysis, totally unnecessary. But since the BOCs continue to control access to the local exchange network, and are responsible for hook-ups and connection, it seems to me that the fears of the Antitrust Division about letting them also compete in the provision of terminal equipment, hooked onto that system, and indeed in the provision of various information services that use that system are, if only indirectly, given strong support by Judge Greene's findings. I remind you of his conclusions about the obstacles that AT&T placed before the competitive interexchange common carriers seeking interconnection with its system: "stringing [them] along for long periods with groundless technical objections, intermittent delays and occasional concessions and then inexplicably reverting to earlier positions, repudiating previously negotiated compromises. . . ."[45] And in his finding about the obstacles encountered by independent suppliers of terminal equipment in dealing with the Bell Operating Companies he cited their "difficulties in obtaining cooperation . . . with regard to deliveries, installations, and repair procedures."[46]

I do not quarrel with Judge Greene's later resolution of the issues, which would require revision of the original proposed settlement to let the BOCs continue to offer terminal equipment. It is indeed consistent with the argument I have been making. With the tie to West-

ern Electric dissolved, their incentive to block access to the market by other equipment manufacturers is presumably greatly attenuated. On the other hand, independent contractors, vendors, and installers of equipment would still have a legitimate fear of obstruction. It seems to me, therefore, that the state regulators who have inveighed against these limitations on the BOCs have an obligation to demonstrate how they would prevent abuses of this kind in the future.

Similarly, while I have argued for substantial deregulation of the rates charged by cable TV operators, I confess to some uneasiness about the effect of their ability to produce their own programs, coupled with their comparative freedom from common carriage obligations, on the access of independent program producers to the market. For example, Westinghouse Broadcasting Company, which recently acquired the Teleprompter Corporation, one of the country's largest cable systems operators, shortly thereafter joined the American Broadcasting Company in organizing Satellite News Channels; one cannot help wondering what this new joint venture portends for the ability of the Turner Broadcasting System's Cable News Network, the pioneer in the field, to reach Teleprompter's reported 2.6 million subscribers. The assurances from President William Bresnan of Teleprompter (since renamed Group W Cable) that "we haven't felt any pressure from Westinghouse to go to News Channel"[47] sound very much like the insistence of AT&T that its operating subsidiaries were under no special pressure to buy their equipment from Western Electric.

The rationale for deregulation, however, is the growing variety of alternatives available to viewers; and the case for integration of programming or program production, on the one side, and transmission, on the other, is the special incentive that a cable company has to develop an adequate flow of supply—adequate in quantity, reliability, quality, and diversity—to fill those burgeoning yawning gaps that it is its obligation to fill. In view, moreover, of the fact that the cable companies face intensifying competition from the networks, suppliers of pay TV programming like HBO and Showtime, direct satellite broadcasters, and the rest, it is difficult to see any danger that non-integrated producers will be foreclosed from a fair opportunity to market their wares.

The suggestion that cable companies become mere common carriers of programs supplied by others[48]—like the proposed confine-

ment of the Bell Operating Companies to the provision of local exchange service and the exclusion of AT&T, after divestiture, from the origination, control, or financial participation in the information transmitted over its Long Lines—has the attraction of tidiness and the benefit of maximizing the insurance against unfair competition. But it is also anticompetitive, because it excludes the cable operator from programming, and to that extent sacrifices the dynamic benefits of integration. In the cable context, the dangers of integration seem to me insufficient to justify its prohibition.

In contrast, this same concern about the exclusionary use of control over monopoly bottlenecks led, quite correctly in my judgment, to the provisions in PURPA requiring electric utility companies to take the surplus power of cogenerators, small hydro facilities, and the like, at avoidable costs, and to provide those operators with backup power supplies on nondiscriminatory terms. These provisions are intensely *regulatory* in nature; but, so long as the companies that control the transmission and distribution networks are also in the generating business, I see no other way of assuring these alternative sources of power a fair opportunity to compete.

Finally, it is my lack of conviction, so far, that the control of pipelines no longer gives oil companies this kind of monopolistic leverage that makes me skeptical about the merits of deregulating that business.

My emphasis on what I see as the greater danger of abuse of control over monopoly bottlenecks does not mean that I see no possibility of exploitation of captive customers, even in the industries that have already been very substantially deregulated. It is almost certainly happening in some thin airline markets, even though I consider it insufficient to justify reregulation.[49] I have myself contested the argument of the railroads that they ought to be totally free in the rates they set for captive shippers. Specifically, putting together the Interstate Commerce Commission's finding that they are far from earning their cost of capital, and the fact that unconstrained profit maximization would produce the (second-best) economically efficient prices—i.e., with mark-ups above marginal costs in inverse proportion to demand elasticities—(it is amazing how many lawyers have learned to refer to Mr. Ramsey as though he were a dear old friend), the railroads have elicited testimony from several eminent economists that they should be free to set rates for coal shipments

unconstrained by the ICC, subject only to a ceiling at the stand-alone costs of the particular shipments.[50]

In my testimony on that issue, I observed that, first, the economist witnesses had not given any consideration to the suitability of the aggregate net book investment by the railroads as a rate base against which to test the necessity for an aggregate revenue constraint, pointing out that it undoubtedly contains a large amount of obsolete and/or excessive capacity, the continued operation of which is economically unjustified, and, in particular, contributes nothing to the carriage of coal. Furthermore, many railroads are evidently earning the cost of capital on *incremental* investments, and are therefore apparently able to attract the additional capital they require. The expert witnesses had also failed to take into account differences in elasticity of shippers' demands attributable merely to the presence of intramodal competitive alternatives, which render Ramsey pricing by individual carriers of uncertain economic validity.[51]

The proper stand-alone test would be the cost of carrying coal by the most efficient means available, which in many instances appears to be not rail but coal slurry pipelines. In these circumstances, I contended, at the least the ICC should not permit coal rates—following the recommendations of the railroads' own economists—above the cost of carriage by that medium, the availability of which they were themselves obstructing by denying access to their rights of way and by opposing eminent domain legislation.[52]

CONCLUSION

I fear that this intended tribute to Horace Gray will be a disappointment to him.

I retain a skepticism of the universal efficiency of both the unregulated market, on the one side, and of government enterprise, on the other, sufficient to make it impossible for me simply to abandon the regulatory tool. Competition and regulation are both highly imperfect institutions. So is antitrust. It should not be surprising, therefore, that there is no single choice between them equally valid for all times and places; that most institutions in the real world involve combinations of them in varying proportions; or that moving

toward deregulation may, as I have contended, require varying kinds of regulatory interventions, transitional or permanent.

Why, it may be asked, have I expressed such concern about the possible presence of local instances of monopoly power in the case of railroads, sufficient to justify continued regulation, and not, let us say, in the case of local airline service for small communities and thin routes that are ordinarily sufficient to support only a single carrier?

There is no wholly satisfactory answer, I believe. Monopoly power is omnipresent in our economy, and the differences significant from the point of view of public policy are differences in degree only. I cannot therefore in principle reject outright the setting of maximum rates for air service in one-carrier communities, but can advert only to the necessity of comparing the inevitable imperfections of regulation with those of an unregulated market. My own conception is that the possibilities of competitive entry are sufficiently greater in the case of airline service on one-carrier routes than in providing alternative transportation service for bulk commodities now dependent exclusively on railroads.

In any event, observe that the kind of regulation contemplated here in either case is a far cry from the comprehensive schemes of cartelization and anticompetitive protectionism that went by the name of regulation in both these industries previously. Horace Gray might rejoin that there is no difference between the two, that all regulation is inescapably protectionist and monopolistic in its methods and consequences. I can only respond, yes, there is clearly that danger; but there is still a difference between preventing competition in industries that are potentially highly competitive and setting maximum rates in markets that retain a high degree of monopoly power even when entry is legally free.

That is not a very startling conclusion. I think a somewhat more radical one is justified. The institution of closely regulated, confined, franchised monopoly, which produced reasonably satisfactory results for all parties, including the public, until around 1970, has proved progressively unsuited to the drastically altered condition of the American economy since that time. I think history is on the way to proving Horace Gray something of a prophet—a premature one (if it is not excessively redundant to say so), and a simplistic one, but something of a prophet nonetheless.

FOOTNOTES

1. "The Passing of the Public Utility Concept," reprinted from *The Journal of Land and Public Utility Economics, XVI*, February 1940, in American Economic Association, *Readings in the Social Control of Industry*, Philadelphia: Blakiston, 1942, pp. 280-303.

2. "The fact . . . that the public utility concept is tending to be superseded should serve as a warning to those who propose to extend its application. Why should an obsolete institution, one that is a demonstrated failure, be extended to embrace additional economic activities? What reason is there to suppose that a system of public control which has proved ineffective in the case of transportation, power, and communications, will prove successful in the case of oil, coal, milk, housing, and other forms of enterprise?" (p. 302).

3. See, for example, Lewis, B.W., "State Regulation in Depression and War," *American Economic Review, Papers and Proceedings, XXXVI*, May 1946, pp. 384-404:

> "It will not be questioned that state regulation generally today is better informed, more expeditious, more accurately pointed and tighter in the seams than it was sixteen years ago . . .
>
> "The principal forces contributing to the extent and character of the upward trend . . . have been, in my judgment, the institution of the federal utility regulatory agencies (the Federal Power, the Securities and Exchange, and the Federal Communications Commissions) which have closed major gaps in the regulatory system, and the performance of which have served to inspire and set the pace for state commissions (at least those state commissions not wholly immobilized by a morbid fear of 'federal invasion'); the institution of major federal power projects, such as TVA and Bonneville; decisions by a reconstituted United States Supreme Court which seem finally to recognize the functional character of regulatory agencies and processes in the modern economic world; and, finally, intensified and more significantly directed activity on the part of the National Association of Railroad and Utilities Commissioners." (pp. 391-392).

4. This does not mean that there was not a general recognition of the limitations of what regulation could reasonably be expected to accomplish. On the contrary, see *ibid.*, especially pp. 400-404, and

also Lewis, B.W., "Emphases and Misemphases in Regulation Policy," in Shepherd, W.G., and Gies, T.G, *Utility Regulation: New Directions in Theory and Policy*, New York: Random House, 1966, pp. 212-248.

5. See, for example, Stigler, G.J., and Friedland, C., "What Can Regulators Regulate? The Case of Electricity," *Journal of Law and Economics, 5*, 1962, pp. 1-16, and Friedman, M., *Capitalism and Freedom*, Chicago: University of Chicago Press, 1962, pp. 28-30. Compare Simons, H.C., "A Positive Program for Laissez-Faire," reprinted in his *Economic Policy for a Free Society*, Chicago: University of Chicago Press, 1948, pp. 50-51.

6. I have attempted elsewhere to develop an explanation of this phenomenon, in terms of concomitant changes in (a) the condition of the economy (consider only the respective effects of the Great Depression, during which many of these anticompetitive regulatory regimes were imposed, and the climate of stagflation in the 1970s), (b) prevailing attitudes about the respective merits of centralized planning and a market economy, (c) configurations of interest groupings, and (d) technology—all of them, obviously, closely interrelated. See "The Political Feasibility of Regulatory Reform: How Did We Do It?" in Graymer, L., and Thompson, F., *Reforming Social Regulation: Alternative Public Policy Strategies*, Beverly Hills: Sage Publications, 1982, pp. 247-263.

7. See Cookenboo, L., *Crude Oil Pipelines and Competition in the Oil Industry*, Cambridge: Harvard University Press, 1955; Wolbert, G.S., Jr., *American Pipe Lines*, Norman: University of Oklahoma Press, 1952; and DeChazeau, M.G., and Kahn, A.E., *Integration and Competition in the Petroleum Industry*, New Haven: Yale University Press, 1959, pp. 76-77, 130-132, 332-341, 430-431, 512-515.

8. Mitchell, E.J., "A Study of Oil Pipeline Competition," unpublished paper, April 1982; and Mitchell, E.J., ed., *Oil Pipelines and Public Policy: Analysis of Proposals for Industry Reform and Reorganization*, papers presented at American Enterprise Institute Conference, 1979. For an opposite view, see Hansen, J.A., *Competitive Aspects of the U.S. Petroleum Pipeline Industry: Implications for Regulatory Policy*, Washington: Office of Regulatory Analysis, Federal Energy Regulatory Commission, December 1979.

See the Hearings on S. 1626 (the companion bill is HR 4488) before the Subcommittee on Energy Regulation, U.S. Senate Committee on Energy and Natural Resources, May 10 and 21, 1982.

9. See *City of Long Beach et al. v. Standard Oil Co. of California et al.*, MDL Docket No. 150, CV 75-2232-WPG, U.S. District Court, Central District of California, pending.

10. During the last eight years, from 1974 to 1981, the average market value of the stocks of Moody's 24 electric utility companies has ranged between 66 and 87 percent of book, with a median annual ratio of 72. I summarize some of this experience and consider some of its implications in my "Utility Regulation Revisited," a talk to the Annual Symposium of the New England Conference of Public Utilities Commissioners, June 15, 1981, published by National Economic Research Associates, New York, 1981.

11. For a balanced, skeptical appraisal, see Stelzer, I.M., "Electric Utilities—Next Stop for Deregulators?" *Regulation,* July-August 1982, pp. 29-35.

12. See the Chairman of the Federal Energy Regulatory Commission C.M. Butler III's statement before the Subcommittee on Energy Conservation and Power, Committee on Energy and Commerce, U.S. House of Representatives, April 23, 1982; and FERC Commissioner David Hughes' statement before the 21st Annual Iowa State Regulatory Conference, May 19, 1982; and Sant, R.W., et al., *Eight Great Energy Myths: The Least-Cost Energy Strategy, 1978-2000*, Arlington: Energy Productivity Center/Mellon Institute, 1982.

13. See, e.g., Bryson, J.E., "Adapting Utility Regulation to the Challenges of the 1980s," speech to the Iowa State Regulatory Conference, May 29, 1982, pp. 5-7.

14. The state of Connecticut, however, one of the minority of states imposing something like full-scale, rate base/rate of return regulation of cable rates, tests the reasonableness of rates proposed for *basic* service in terms of the returns enjoyed by the *entire* enterprise. This effective circumvention of the FCC prohibition has thus far gone unchallenged.

15. See *Report and Order* in Docket 20661, 60 FCC 2d.

16. See Noam, E.M., "Local Distribution Monopolies in Cable Television and Telephone Service: The Scope for Competition," in this volume.

17. For a more complete analysis of these alternatives for the

various services provides, see "Cable Television: The Monopoly Myth and Competitive Reality," a study prepared by Shooshan and Jackson, Inc., for the National Cable Television Association, Washington, 1982.

My colleague at National Economic Research Associates, William Shew, has made some tentative estimates of the elasticity of demand for various cable services that seem to support these observations. He found, for example, a very marked decrease in the elasticity of demand for basic service, at given prices, as one moves from areas with relatively plentiful, clear, off-the-air signals to areas with intermediate signal availability, and, finally, to areas with the fewest off-the-air signals. He found also that the level of community income appears to have a substantial, statistically significant influence on the demand for pay service, but not for basic, suggesting that families tend to regard the former as a luxury. I will return to the obvious exception: the demand for basic service in areas with poor off-the-air reception.

18. See FCC, *Report and Order* 82-285, June 23, 1982, Docket 80-603.

19. Observe my summary, in footnote 17, of Shew's finding to the effect that demand for basic service becomes progressively more price-inelastic as the availability of good quality off-the-air signals declines, and also his observation that community income levels have no statistically discernible influence on that demand. He found, finally, that the availability of clear broadcast television signals was the most important determinant of whether households actually subscribe to basic service when it is available to them.

20. *Competitive Standard Rulemaking Report and Order,* before the Commonwealth of Massachusetts, Community Antenna Television Commission, July 25, 1980, 207 CMR 6.53. The remainder of that criterion consists of the following: "which has a subscriber saturation level of 70 percent or less." This additional prerequisite of deregulation reflects the assumption that any system serving more than 70 percent of the possible subscribers would be a monopoly by virtue of that fact alone. The Massachusetts law does create such a presumption, unless, however, it can be demonstrated by one-site tests that the available off-the-air signals do actually meet the intended Grade B contour quality standards. It is the latter criterion, therefore, that remains the dominant one.

21. See my testimony and that of Thomas Trantum, Marcus Alexis, and ICC Chairman Reese Taylor before the Joint Economic Committee, 97th Congress, 1st Session, November 17, 1981, U.S. Government Printing Office, Washington, 1982.

22. Schumpeter, J.A., *Capitalism, Socialism, and Democracy*, 3rd ed., New York: Harper, 1950, chapters 7-8.

23. See note 10, above. One manifestation of this interest is the various Administration-supported bills pending in Congress to repeal the Public Utility Holding Company Act of 1935. See *Public Utilities Fortnightly*, May 13, 1982, pp. 42-45 and, reporting on Senate committee hearings on the subject, July, 1982, p. 42.

24. *Revised Draft Report,* National Association of Regulatory Utility Commissioners, Washington, D.C., June 3, 1982, p. 14. This concern appears in somewhat altered form in the *Revised Preliminary Official Report*, September 15, 1982, p. 75.

25. *Ibid.* (9/15/72 version), p. 30.

26. *Ibid,* p. 56.

27. See Greenman, J.H., "Diversification and Deregulation: Complements or Substitutes?" presented before the Annual Conference of the Public Utility Research Center, College of Business Administration, University of Florida, Gainesville, February 3, 1982, pp. 3-8, and my statement before the NARUC Ad Hoc Committee on Utility Diversification, Madison, Wisconsin, May 6, 1982, pp. 5-7 and Appendix.

28. We economists have so often been wrong in our predictions that it is pleasant to cite, as a pertinent entry in the clouded crystal ball derby, the following prediction, made in 1972, by an earlier NARUC committee looking into the same question:

> Considering trends in demand, costs, technology, and competition, it is safe to conclude that for the indefinite future the electric power industry, in substantially its present form, will continue to be a vital and growing industry, although unquestionably it faces a troubled future on a number of fronts. First, for large electric power companies and for the Bell System, diversification of risks is unnecessary. Both operations are integral to the successful functioning of our society and economy and both will survive as vital entities so long as our society and economy survives in anything like its present form. Neither is threatened by changes in demand, costs, competition, or technology. (NARUC, *Report of the Ad Hoc Committee on Non-Util-*

ity Investments, Washington, D.C., November 27-30, 1972, pp. 712-713, 723.

29. At the same time, the arguments of the publishers for the continued exclusion of a divested AT&T from electronic publishing are hardly frivolous. It can be argued, just as in the case for excluding telephone companies from the provision of cable TV in that industry's early years, that electronic publishing is an infant industry, of unproved potential; that it is probably a good idea to encourage exploration of that potential by the largest possible number of independent entrepreneurs; and that this is most likely to happen if AT&T, on whose communications facilities they are likely to be dependent, is confined to the role of patron-carrier and collaborator, rather than permitted also to compete directly with them. Citing AT&T's slowness in responding to the needs of others of its competitors, and reasoning that the communications giant would have the greater incentive to develop technology, facilities, and services adapted to the needs of the publishing industry at large if it were itself excluded from publishing, Judge Greene insisted that the decree require that exclusion for seven years. *U.S. v. AT&T et al.*, Civil Action No. 74-1698, 82-0192 and 82-0025, *Opinion*, filed August 11, 1982, mimeo., pp. 88-100.

30. *Comments* of the National Association of Regulatory Utility Commissioners in *U.S. v. AT&T*, Civil Action No. 74-1698, April 20, 1982, p. 27.

31. Stanley York, chairman of NARUC's Ad Hoc Committee on Utility Diversification, testimony before the U.S. House of Representatives Committee on Energy and Commerce, Telecommunications Act of 1982 (Part 1), Hearings on H.R. 5158, 97th Congress, Second Session. February 2, 1982, pp. 303-307.

32. For this reason, while insisting that the proposed settlement be modified to permit the BOCs to continue to provide terminal equipment, and to petition in the future to enter other fields on a showing that there would be no threat to competition, Judge Greene explicitly approved the prohibition of their providing interexchange services. *Loc. cit.*, note 29, above, pp. 104-105.

33. Graham, D.R., and Kaplan, D.P., "Developments in the Deregulated Airline Industry," Office of Economic Analysis, Civil Aeronautics Board, June 1981, p. 11.

34. See my survey and appraisal of the evidence in "The Airline Industry: Is It Time to Reregulate?," the Second William A. Patterson Transportation Lecture, Northwestern University Transportation Center, April 28, 1982, National Economic Research Associates.

35. Interstate Commerce Commission, Office of Policy and Analysis, "Interim Report: Small Community Service Study," June 1981, and "Initial Carrier and Shipper Responses to Intrastate Trucking Deregulation in Florida," June 1981, p. 11; Breen, D.A., *Regulatory Reform and the Trucking Industry: An Evaluation of the Motor Carrier Act of 1980*, Bureau of Economics, Federal Trade Commission, submitted to Motor Carrier Ratemaking Study Commission, March 1982; testimony of Hon. George H. Sheldon, Robert W. West, James W. Freeman, and Alice E. Kidder before the Motor Carrier Ratemaking Study Commission, April 2, 1982, Orlando, Florida; and Report on Harbridge House Survey of the Impact of Transportation Deregulation on Major U.S. Manufacturing Firms, June 1982, Harbridge House, Inc.

36. There is one possible economically legitimate basis for some of these discriminations—namely, that in situations in which prices based uniformly on marginal cost would cause revenues to exceed a budget constraint, both economic efficiency and, arguably, equity call for discrimination—specifically, markdowns from marginal cost inversely proportional to demand elasticity—and, it is a reasonable assumption, the elasticity of demand of people contemplating moving into a territory or building a new house, or locating or relocating a new business or plant is likely to be greater than that of existing subscribers. I raise this possible basis for discriminating between new and old customers in my *The Economics of Regulation: Principles and Institutions*, Vol. I., New York: John Wiley & Sons, 1970, pp. 148-149.

Consideration of whether the economic case for such discrimination is actually valid, when the differences in elasticity result from the fact that only the prospective new customers have the alternative of staying where they are and being served by other suppliers, would take us too far afield. There are circumstances in which it would be socially efficient—notably where there are large differences in the marginal cost of the alternative suppliers. I allude to this often-ignored qualification at note 51, below, in another context.

37. Decision 91328, February 13, 1980. Pacific Gas & Electric, PUC President John Bryson tells me, devotes 30 percent of its entire construction budget, or about $300 million per year, to hook up new customers.

38. In the Matter of Amendment of Part 31 (Uniform System of Accounts for Class A and Class B Telephone Companies), Docket No. 20188, Report and Order, December 1980.

39. This was one basis for the Circuit Court of Appeals decision in 1981 overturning an ICC decision of this kind: the Court reasoned that, far from conferring a favor on the carrier, the ICC was subjecting it to potential liability. *American Trucking Associations, Inc., et al., v. ICC,* 659 Fed. 2d 452-75.

40. Ex Parte No. MC-77 (Sub-No. 3), *Notice of Proposed Rulemaking, Elimination of Certificates as the Measure of "Holding Out,"* 49 C.F.R. Part 1310, 46 Fed. Register 8604, January 27, 1981.

41. See my raising of these various questions in my "The Airline Industry: Is It Time to Reregulate?," *op. cit.*

42. One *can* make the distinction between regulated and unregulated activities, however—and it is the combination of regulation and monopoly, by leaving a residue of unexploited monopoly power in the former markets, that gives rise to the possibility of systematic cross-subsidization. But, as in the case of AT&T's Long Lines, that clean separation may likewise be impossible, because the same facilities may serve both competitive and monopoly markets.

43. Ira Millstein has contrasted the decree's proclaimed purpose of avoiding the "utter complexity of the regulatory injunctive provisions—or legislation which would have had to be saddled onto an intact AT&T in order to restore or bring about competitive conditions" (Assistant Attorney General Baxter asserted that "without divestiture, this telecommunications industry is going to be the most heavily regulated industry in the world") with what he sees as its consequence: "the Division has embarked on the greatest continuing regulatory adventure in history." In support of that contention, he summarizes 16 different regulatory actions that the Decree confers upon the Department—involving the detailed scrutiny of various aspects of the reorganization plans, the transfer of assets, the termination of contractual relationships, the redefinition of exchange areas ("LATAs"), monitoring the provision of research, development,

manufacturing, and other support services to the operating companies in the transition period, executing the non-discriminatory requirements placed on the BOCs, and so on. Speech, (mimeo.), April 4, 1982, pp. 37-45.

Millstein's assertion strikes me as somewhat unfair. Unquestionably, accomplishing the necessary divestiture requires pervasive quasi-regulatory scrutiny and dictation. There is still a difference, however, between complicated interventions aimed at setting up a *structure* of more or less autonomously functioning competitive institutions, on the one hand, and administering a continuing, quasi-permanent scheme of regulatory supervision of *conduct* thereafter.

44. The purported demonstration by some economists that the basic monthly charge more than covers its embedded costs turns entirely (i.e., much more than entirely) on the assumption that some considerable portion of the non-traffic sensitive costs of access to the exchange network ought to be recovered in charges for *usage*—an assumption that is totally indefensible on economic grounds. See the testimony of William H. Melody in the antitrust case, *U.S. v. AT&T* (Case No. 74-1698, U.S. District Court, District of Columbia), June 8, 1981, and of John W. Wilson, *In the Matter of the Mountain States Telephone and Telegraph Co. (Mountain Bell)* before the Montana Public Service Commission, Docket No. 82.2.8, June 1982.

45. *U.S. v. AT&T et al.*, 524 F. Supp. 1336, at 1356, 1981.

46. *Ibid.*, p. 1357.

47. *The Wall Street Journal*, May 25, 1982, p. 12.

48. For an evaluation of this possibility, see, e.g., Kestenbaum, L., "Cable Television as a Common Carrier," Office of Telecommunications Policy, Conference on Communication Policy Research, November 17-18, 1972; and Noam, E.M., "Alternative Models of Cable Regulation," unpublished ms., Columbia University, December 1981. Mark S. Nadel has made an ingenious proposal that would treat cable operators as common carriers while also preserving the advantages of vertical integration; see his "COMCAR: A Marketplace Cable Television Franchise Structure," *Harvard Journal of Legislation 20*, forthcoming May 1983.

49. See my "The Airline Industry: Is It Time to Reregulate?" *op. cit.*

50. See the Verified Statements of William J. Baumol and Robert D. Willig, Kenneth J. Arrow, and Leon N. Moses and Ronald R. Braeutigam, before the Interstate Commerce Commission, Ex Parte No. 347 (Sub-no. 1), *Coal Rate Guidelines–Nationwide*, May 11, 1981.

51. This is a complicated issue, to which I cannot do justice here. The inverse elasticity rule reflects the fact that the loss of consumer plus producer surplus when some prices have to be set above marginal cost (because of a total net revenue constraint) is less in markets of inelastic than elastic demand. The pertinent demand, however, is for the *service* in question, not for the service as provided by an *individual firm*. Where, then, the differences in demand elasticity that determine where unregulated carriers set their rates are differences not in elasticity of demand for railroad transportation as a whole but only for the services of particular individual carriers, subject to differing degrees of competition in confronting different shippers, the outcome is not necessarily economically efficient at all. Rates may be set farther above marginal costs for shippers whose demand for transportation service is relatively elastic than for shippers whose corresponding demand is relatively inelastic but who have the possibility of being served by a number of competing transporters. It should be borne in mind that Ramsey was looking for efficient solutions to the need of a government to raise revenues by *taxation*. For a rigorous demonstration that the (second-best) Ramsey result can be reached only if profit-maximization is pursued on an industry basis (under either monopoly or profit-pooling) and that absent that condition the result will be only fourth-best—at best!—see Damus, S., "Optimal Pricing with Intermodal Competition and Cooperation," Economic Council of Canada, draft ms., 2nd version, May 1982.

52. See my Verified Statement in the *Coal Rate Guidelines* proceeding, note 50, above; also the responding *Statement of Fact and Argument of Western Railroads*, *ibid.*, April 13, 1982.