

THE QUANTIFICATION OF CULTURAL VALUES
AND THE REGULATION OF CAPITALIST ENTERPRISE

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INTRODUCTION

In The Theory of Social and Economic Organization, Max Weber writes about the efficiency of bureaucratic organization in glowing terms:

Experience tends universally to show that the purely bureaucratic type of administrative organization--that is, the monocratic variety of bureaucracy--is, from a purely technical point of view, capable of attaining the highest degree of efficiency and is in this sense formally the most rational known means of carrying out imperative control over human beings. It is superior to any other form in precision, in stability, in the stringency of its discipline, and in its reliability. (1947, 337)

Indeed, the considerable evidence which Weber offers in support of this ideal-typical characterization of bureaucracy gives one strong reasons to believe that such is generally true of all bureaucracies. His contention seems to be supported by relatively efficient applications of bureaucratic organization to business and military uses. However, popular views of governmental administrations, the one area to which the term bureaucracy is most commonly applied, and of regulatory organizations in particular, contrast radically with the optimistic picture painted by Weber. Rather than being respected models of efficient action, regulatory bureaucracies have become comic figures in the current view. Seemingly deficient in precision, discipline, and reliability, they have failed to fully achieve the qualities which are ideally possible, according to Weber. They have exhibited stability, but to the degree of entrenchment.

The common explanation for the deficiencies of regulatory agencies, or at least the most popular one, is that the source of such problems lies with bureaucrats. Either they are just plain inefficient or they spend their time building complex structures which appear to be impenetrable, or at best incomprehensible. My purpose here is not to wholly reject this view, for I do not find it lacking entirely in accuracy. However, I do feel that inherent in the process of regulating capitalism are certain unique structural problems and barriers which exist independently of the administrative personnel who face them, and contribute to the latter's inefficiencies and indecisiveness. Such difficulties limit regulatory bureaucracies from attaining the degree of efficiency which Weber envisioned. In this essay, I focus on one key structural barrier, a problem which I label the quantification of cultural values.

My thesis can be stated briefly: Regulatory agencies are increasingly being required to quantify into monetary measures the cultural values, particularly the value of human life, which motivate their actions. This requirement is imposed by the structure of the capitalist system, which is itself the object of regulation.¹ Attempting to avoid the requirement leads regulators to ignore the context-sensitive nature of cultural values; yet attempting to meet it draws them in to a difficult structural contradiction. Although regulators are in increasingly overcoming the contradiction by simply ignoring it, this structural problem has contributed to the complexity as well as the slow pace of government regulation.

I present this argument by examining briefly the mechanism whereby cultural values are quantified in market exchange and then by exploring the implications of this process for attempts to regulate environmental pollution.

THE QUANTIFICATION OF VALUES IN MARKET EXCHANGE

One of the most remarkable achievements of the capitalist system of market exchange is the conversion of qualitative differences into quantitative measures. To put it in Marx's terms, qualitatively distinct use-values are transformed into quantitatively commensurable exchange-values.² According to Marx, the use-value of some object is its utility, utility being its usefulness, or in the simplest form, what the object can be used for. The differences among use-values cannot be reckoned numerically, for they are differences in quality. For example, the use-values of corn and iron cannot be compared on a uniform quantitative scale; they must be described in different terms. But despite the qualitative nature of the property of use-value, it does not render distinct objects incommensurable as commodities, for the commensurability of commodities is achieved by the second property--exchange-value. Exchange-value is a quantitative measure which is realized only when objects become commodities by entering into a process of exchange. Thus it is the social process of exchange whereby objects with qualitatively distinct use-values are compared and transformed into commodities with comparable exchange-values. And just as important, the medium which becomes the measure of exchange-value is money. The transformation of qualitative difference into quantitative differences which takes place in market exchange is a transformation into monetary units.

But this view does not strictly follow Marx's analysis. For although he described in detail the transformation of objects into commodities, he did not argue that use-value bears any necessary relation to exchange-value. According to Marx, use-values are universal, natural, human "needs," which are an external condition of the exchange process and should not be included in the domain of political economy. Yet as Marshall Sahlins demonstrates in Culture and Practical Reason, this view of use-values as human needs contradicts Marx's own observation that "[o]ur wants and pleasures have their origin in society; we therefore measure them in relation to society; we do not measure them in relation to the objects which serve for their gratification. Since they are of a social nature, they are of a relative nature" (1973 [1849]: 33).

Sahlins explores in a detailed examination this contradiction in Marx's analysis and resolves it by arguing that use-values are not universal, biological needs, but are very definitely culture-specific, culturally-organized values (1976: 126-165). He contends that symbolic meaning systems provide the qualitative distinction which are reflected in the difference in use-values of commodities. In support of this viewpoint, Sahlins examines the symbolic valuation of classes of items which on the surface seem to simply satisfy human needs; one of these is food.³ The existence of a cultural meaning system in the relative values attributed to food items is suggested even by the initial question: Why don't we eat dogs? Dog meat is certainly satisfactory nutritionally and its mass production could be readily achieved. But as members of a cultural category, dogs are part of a series including horses, pigs and cattle, according to Sahlins, in which edibility is proportional to relative distance from humans. Dogs and horses, but especially dogs, are close enough that their consumption approaches cannibalism -- like eating one of the family -- while pigs and cattle are at a safer distance. Furthermore, within the latter categories, the varying monetary values of different meats reflects a prior cultural valuation, which often but not always violates the strictures of supply and demand. Steak, a positive masculine symbol of strength and vitality, is normally the highest-priced meat, in contrast to tongue for example, even though the absolute supply of the former exceeds that of the latter.

Sahlins thus forges the link between use-value and exchange-value which is lacking in Marx's analysis. The symbolic valuations which constitute the use-values can be calculated when the commodities are compared in exchange processes.⁴ Consequently, one can argue that in the social process of exchange not only are objects transformed into commodities, but qualitative use-values are transformed into quantitative exchange-values; or to put it in other terms, the capitalist values are routinely converted to quantitative monetary measures. This process is a structural property of the system and exists independently of those who participate in it. It is also a condition with which the regulatory system must contend.

THE QUANTIFICATION OF VALUES IN REGULATING ENVIRONMENTAL POLLUTION

The type of economic system about which Marx and Sahlins constructed their analyses is no longer the system in place. The small-scale market capitalism of the 19th century has developed into a large-scale, corporate-dominated capitalist system. The balance of competing interests which theoretically takes place in a relatively pure market system has been replaced by the concentration of interest, power, and wealth in the hands of a relative minority. Parallel to this development has been the increase in governmental involvement in economic activity since the turn of the century. The expansion of the regulatory system has been particularly rapid since World War II. The statute does not appear to require that such values be quantified in monetary terms, although there have been conflicting court decisions on this point.⁵ And while many attempts have been made to act on these values without explicitly quantifying them, I would contend that the goal of incorporating these values into routine decisionmaking ultimately requires that such a

process be effected. The only alternative is the unlikely possibility of a fundamental change in the capitalist system. Let us consider some examples of how this statutory authority has been implemented.

Regulation without Quantification

Most federal regulatory standards to this point have been similar in character to the Environmental Protection Agency's general approach to regulating air pollutants in an important sense: they compel action on the basis of certain values without explicitly assigning monetary values to them. The setting of emissions standards to ameliorate health effects provides a useful example.

The principal problem to overcome in implementing the value of health is to define the public health. What are significant health effects? What number of people must experience disease symptoms and what sorts of symptoms must they experience for their occurrence to be significant? Clearly, the answers to these questions vary with the pollutant under consideration, since different pollutants affect different body functions, so regulators must rely upon measurable indices. In the case of the recently fixed ozone standards, the EPA decided to define as the minimum significant health effect of ozone consumption the level at which joggers experience breathing difficulties.⁶ In effect, their decision defines this level as an official quantitative index of the threshold of health itself. This level is but one of a range of possible points which the EPA could have selected, and much of the delay in arriving at a standard can be traced to their uncertainty about how much data were sufficient to draw a line. The regulatory importance of this decision is that it provides that interpretive grounds for an air quality standard, which specifies the maximum concentration of ozone which will be permitted in the atmosphere. The EPA then develops emission standards from air quality standards by determining the levels at which the emissions of each and every source must be controlled in order to achieve the health-maintaining air quality levels previously set.⁷

The whole process is designed to take place with safeguarding the public health as the sole consideration. The regulators normally make no attempt to quantify this value in monetary terms for the purpose of balancing the benefits of pollution abatement against the cost of its implementation. An exception to this fact would seem to exist in "new source performance standards," standards for new, as opposed to existing, sources, which are designed in consideration of the cost of new facilities.⁸ Yet it is a false exception because such standards also require application of the best available control technology, and as such are far more stringent than standards for existing facilities. Costs are considered only to prevent such standards from putting industry out of business, for the technologies to completely eliminate pollution emissions are available, if one is willing to accept exponentially increasing marginal costs. No attempt is made to balance costs and benefits in a systematic way.

This approach to setting standards has generated a tremendous amount of dispute and controversy. The controversy centers on the inflexibility of this

method, and indeed it is somewhat rigid. The critics, who are usually voices from industry, normally phrase their arguments in terms of costs and benefits, the reasons for which should be clear. They point out that this "end of pipe" approach to regulation does not balance the health benefits from implementing the regulations against the economic benefits (i.e. benefits from other quantified values) of continuing to emit pollutants. The critics are arguing in effect that the values of health and life are being artificially assigned the top positions in the public value hierarchy.

In this respect, I would suggest that the critics may be correct, however suspicious I am of their motives.⁹ Contrary to much received social science wisdom, the priorities among cultural values in directing social action are highly context-sensitive. Fixing cultural values at any level is artificial because values are not organized in fixed hierarchies. For example, the value of human life is commonly thought to reign supreme at the apex of every hierarchy, yet the simple examples of euthanasia, war, and abortion indicate that many contexts exist in which other valued factors mitigate and compromise the value of human life. Values are, in short, negotiable, meaning not that they can be bargained for but that the weight each carries in guiding action vis-a-vis other values varies from situation to situation and is not determined by position along some uniform scale.¹⁰ Setting fixed standards is thus artificial in that it does not permit context-related flexibility in comparing the values of life and health to other significant values, standard of living for example, in production decisions. Industry usually interprets the lack of flexibility as insensitivity toward valid extenuating circumstances, and it responds with charges of unfair practices by bullying regulatory agencies. As legislatively-defined defenders of the public interest, with Public writ large, regulatory agencies are necessarily sensitive to the accusation of unfairness, not to mention intensive lobbying pressure, and they give such arguments much consideration.

Regulation with Cost-Benefit Analysis

But what is the alternative? Clearly, it appears to be cost-benefit analysis. Reputable writers have expounded at length about the virtues of quantifying in monetary terms the benefits of regulation. All seem to agree with Lester Lave and Eugene Seskin that "[s]ince the natural metric for the cost side is dollars, there is good reason for using this metric to characterize benefits" (1977, 7). Amitai Etzioni, for example, has convincingly argued for the intrinsic rationality of putting a "price on life," for not doing so leads us to concentrate regulatory attention on low-risk areas at the expense of more important high-risk areas (1978). Murray Weidenbaum has argued that an "economic impact statement" is necessary, along with "a law limiting new regulations to those instances where the total benefits to society exceed the costs" (1979). And Lave and Sesking have attempted themselves to quantify the benefits of controlling air pollution, arguing that such is necessary so that we may "rank our desire for air pollution abatement in relation to other programs that we would like to have" (p. 209).

But one must remember why the dollar is viewed as the "natural" metric,

realizing with caution that "natural" usually means "cultural." And in suggesting that the source of this pressure lies within the structure of capitalism itself, I would argue that the regulatory system is being held ransom by the system it regulates, with the ransom payable only in dollars.

Yet there is strong resistance to institutionalizing cost-benefit analysis from various sectors of the public as well as considerable ambivalence within the regulatory agencies themselves. For quantifying certain benefits forces those agencies into a difficult contradiction. The issue centers on the problem of calculating the cash equivalents of such values as that of life. There are no clear-cut methodologies for conducting such a calculation. Lave and Seskin locate the origin of this problem in the difference between human lives and commodities:

The chief difficulty in valuing lives (or health) stems from the fact that neither life nor health is traded directly in the marketplace; that is, consumers cannot directly purchase better health or increased life expectancy. Under nearly all circumstances, no sum of money is sufficient to compensate a person for the loss of life; lives cannot be bartered and are obviously qualitatively different from commodities produced and normally traded. (p. 218) [emphasis added]

What is the nature of this qualitative difference? Why is no sum of money sufficient to compensate a person for his life? No sum of money is sufficient to compensate someone for his life because by trading it away as a commodity he loses the ability to spend the money and enjoy its benefits. Put in other terms, placing a monetary value on human life is equivalent to trading possessions for the very ability to possess. The distinction between the two is a qualitative one which cannot be overcome in market exchange; one's life is not a commodity.¹¹ The marketplace, the locus of exchange where the conversion of qualitative use-values into monetary exchange-values takes place, is therefore structurally incapable of quantifying the value of human life. The goal of quantifying values cannot be achieved if the values cannot be objectified in commodity form, which is the case with the aesthetic value of clean air just as much as with the health value of clean air. The result is a contradiction seemingly without rational solution; cost-benefit analysis is demanded but the demand must remain unfulfilled.

Regulatory ventures into the economy are motivated in part by a set of important cultural values, particularly the values of life and health, which the present productive system often violates by not giving them adequate consideration in decision-making processes. Yet many complications arise because regulators find themselves increasingly compelled to quantify these values in selecting regulatory strategies. One area in which such problems have become particularly acute is in the regulation of environmental pollution.

The Justification for Regulating Pollution

An important element in the rapid expansion of large-scale industrial production has been the assumption of a rigid separation between man and

nature. A man/nature separation has always been a fundamental categorial distinction in the Western cultural tradition (Glacken 1967), yet applying it to social life usually carries the dual implications of situating man apart from nature while at the same time including him as a part of nature. This duality permeates our kinship system, for example, for we see kin relationships as both natural and man-made (Schneider 1968, 23-39). We define blood relationships as given to us as an objective fact of nature while marriage relationships are constituted by a man-made code. A relationship with one's mother's sister's husband, one's uncle, combines both aspects. However, in the handling of waste products from industrial processes, our productive system has built solely upon a rigid man/nature separation. The result has been the institutionalized perception of nature as "sink" and an endorsement of spewing all industrial wastes into the environment. Simply emitting waste products cleansing processes of nature to reduce the concentrations of pollutants to imperceptible, hence nonexistent, levels.

Yet improved methods of detecting pollutants in the environment and determining their health effects have increasingly demonstrated that this approach to waste disposal has measurable implications for human health. At the same time, the development of a politically active environmental movement has forced the issue of environmental pollution into the public arena. Since the scope of health effects far exceeds the domain of producers, the job of rectifying the problem by regulating the producers has fallen to governmental agencies. The government has acted by attempting to induce the consideration of such values as life and health into production decisions which affect environmental quality. The National Environmental Policy Act of 1969, for example, which is best known for introducing the environmental impact statement, contains in a lesser known section the requirement that:

All agencies of the Federal government shall: . . . identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by Title II of the Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations. (U.S. Congress 1977: 553)

And yet we find that regulators are pushing ahead with cost-benefit analysis anyway. For example, in 1975 the Nuclear Regulatory Commission issued a design criterion for radiation emission control systems in nuclear power plants, called radwaste systems, which its designers advanced as a progressive new concept (Novick 1976: 96). The problem the NRC faced was the increasingly apparent fact that there is no threshold beneath which exposure to radioactivity has no health effects, combined with the realization that at very high marginal costs virtually all radiation emissions can be abated. Furthermore, the Commission was compelled by statute to reduce emissions to a level "as low as practicable." Its approach was to say that "as low as practicable" means a level which achieves a favorable cost-benefit ratio, which in turn introduced the problem of quantifying values. The NRC's solution was not to assign a value to human life, calculate the probability of death from various exposure levels, and then require the construction of control systems until marginal costs exceed marginal benefits. Rather it set a value of \$1,000/man-rem as the marginal benefit accruing to radiation control and

hence the maximum marginal cost which must be incurred in constructing radwaste systems. (p. 284). That is, utilities may stop adding on radwaste systems when the cost of reducing another man-rem of radiation exceeds \$1,000. The beauty of this solution lies in its deceptiveness; it facilitates the cost-benefit approach without setting out for public display an explicit monetary value of human life. It does not overcome the contradiction of setting a value on human life; it merely avoids explicit confrontation.

The reason behind this strategy emerged in an interview which I conducted with an official of the EPA, an agency which adopts this approach to regulation in its new comprehensive carcinogen policy. When I asked him why the EPA did not develop its policy by setting a value on human life and then working forward to cost-benefit criteria, he replied, "Who is going to stand up before the public and say that his regulation is going to let X number of people die each year?" This official was telling me that by explicitly setting a monetary equivalent for human life, the agency would in effect be announcing that the cost-benefit approach necessarily allows a certain number of lives to be lost. This is politically unacceptable, for it violates the formal doctrine that government agency should act to protect the public as a whole. This doctrine is impossible to follow strictly, yet any agency must give the appearance of adhering to it in a public context.

CONCLUSION

My principal conclusion from this investigation is that the capitalist system imposes a severe structural constraint upon the bureaucratic system which regulates it. Market exchange is the mechanism which converts cultural values into monetary values, but its structure makes it incapable of explicitly quantifying values which cannot be objectified in commodity form. Yet this is precisely what is being demanded of the regulatory system. It is of little wonder why regulatory agencies are so sluggish in fulfilling their statutory requirements and why their regulations when proposed are so complex. The contradictory requirements placed upon regulatory bureaucracies serve to limit them from attaining the level of efficient action which Weber judged to be characteristic of the ideal form.

Of course, it can be justifiably argued that the absence of regulations places an implicit dollar value on human life and health, for example, which is far lower than any value which a regulatory agency would set. The market is not directly effecting this quantification because such costs are normally considered as part of the "externalities" of market calculations. The absence of a regulatory solution means that such externalities will be kept external by the invisible hands of corporate decisionmakers. Finding a regulatory solution thus seems desirable, but it forces the bureaucrats to weather the public controversy over a problem which is in fact generated by the system being regulated.

NOTES

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¹I take the structure of capitalism to refer to all the sets of social and cultural relationships which are inherent in the capitalist modes of production and exchange. These include relationships among relevant cultural values and other symbols just as much as relationships among actors, objects, and institutions.

²Marx's discussion of the relationships between use-value and exchange-value can be found in Part I, Chapter 1 of Capital, Volume I.

³Sahlins also examines in considerable detail the symbolic organization of clothing, pp. 179-93.

⁴This is not to say that the actual price of a commodity at any particular time can be predicted by discovering its use-value, for a variety of factors, including production costs and management decisions, affect the final prices of commodities. Rather, this analysis attempts to explain why certain commodities are demanded at all and suggests that cultural significance may influence price independent of supply schedules.

⁵For a summary of relevant court decisions, see U.S. Congress, 1977, Note 91, p. 595.

⁶See "EPA Smog Standard Attacked by Industry, Science Advisers," in "News and Comment," Science, Volume 202, pp. 949-950, December 1, 1979.

⁷In many cases, this task is assigned to the states. The EPA compels the states to design State Implementation Plans (SIP's) which must be submitted to the EPA for approval (Ruckelshaus 1972: 6).

⁸The EPA draws a distinction between regulations affecting existing sources of air pollution and those pertaining to new sources (Ruckelshaus, p. 7). The reason for this is that it is much more difficult to backfit abatement equipment on old sources than it is to incorporate such equipment in the design of new sources.

⁹Lave and Seskin (p. 210) point out that one of the dangers of cost-benefit analysis is that "it is easy to bias the analysis so that a 'bad' project can be made to look 'good,' or vice versa."

¹⁰An alternative view is presented by Don A. Dillman and James A. Christensen in "The Public Value for Pollution Control," in Burch et al, 1972.

¹¹Slavery does not constitute a counter-example for two reasons: Slaves were not considered to have full status as persons, and trading slaves was not trading money for lives, but for control over the productive activity of those lives.

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