Social costs, neo-classical economics, environmental planning: A reply

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Professor Beckerman describes my book on *The social costs of private enterprise* (1950) as a pioneering work which was not duly appreciated at the time it was published “because this was before the concern with the environment became fashionable”; however, he takes issue with “the whole tone” of my recent paper “Environmental disruption and social costs: A challenge to economics”\(^1\).

He feels that my challenge carries the critique too far because in his words, I want to start “from scratch” and favor a new beginning, a “rethinking” of economic theory; moreover I am criticized for the lack of examples; my use of the concept of social costs is said to be “antiquated and misleading”; with respect to the complexity of the causal chain and effects of pollution Beckerman holds that economists have long been used to the treatment of conditions with numerous and interrelated variables; in addition, he states that economics does recognize complex feedback effects and operates with changes of coefficients according to postulated time lags. Moreover, economists have developed new analytical tools; above all the logic of choice and optimization has reached such a level of generality (and by implication of general validity) that it can be applied to the new problems arising in connection with the environmental crisis and can form the basis for evaluations in monetary terms and decisions required for its abatement or control. Thus, according to Beckerman, economists have been able to handle the admittedly difficult problems of aggregating numerous disparate items in terms of the common denominator of money and we would do well to apply the principles of welfare economics to the treatment of the new environmental problems which are upon us.

I would regret it if it was the tone of my paper rather than the content and scope of my criticism which provoked Beckerman’s objections. Nothing is further from my mind than to disrupt a rational dialogue by the tone of my observations. For I know only too well that there is no other way of advancing our knowledge than dispassionate analysis and rational criticism. For this reason I shall refrain from taking notice of Beckerman’s remarks *ad hominem*.

Due to limitations of time and space I shall not be able to deal explicitly with all the points raised by Beckerman, but I hope that my reply will cover at least implicitly most of his specific objections. The major emphasis of my reply will be on what I consider to be the central issue raised: namely the question of the adequacy of evaluating environmental goals and values in terms of the individual’s willingness to pay or accept compensation.

Beckerman believes that my book was not duly appreciated because it was written before the discussion of the disruption of the environment by economic activities became popular\(^2\). I believe rather that what was not appreciated was the association of social costs and business enterprise and the

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\(^2\) Incidentally, *The social costs of private enterprise*, Cambridge, Mass., 1950, was widely reviewed and discussed also in the United States, and was translated into five foreign languages; a second enlarged and revised edition appeared under the title *Social costs of business enterprise*, London 1963.
The confrontation of economic theory with my empirical data and observations - i.e., the great variety of losses borne by third persons and society as a whole. The main thrust of my conclusions was a critique of the practices of business enterprise and of the scope of our inherited economic theory with its concepts of market rationality and optimality. My central thesis was and has remained that the maximization of net income by micro-economic units is likely to reduce the income (or utility) of other economic units and of society at large and that the conventional measurements of the performance of the economy are unsatisfactory and indeed misleading. To my mind, traditional theoretical inquiry was neither guided nor supported by empirical observations and available data. I tried to show that micro-economic analysis ignored important relationships between the economy (wrongly viewed as a closed system) and the physical and social environment and that these intrinsic relationships gave rise to negative consequences of the economic process. It was and is my contention that the nature and scope of economic theory is too narrow. This restriction has affected economic theory at its foundation: i.e., at the stage of concept formation (e.g., costs and returns), in the choice of criteria of valuation and aggregation (in terms of money and exchange values) and hence in the delimitation of the scope of the inquiry. Not only the dynamic interconnection of the economy with the physical and social environment and the impact which the disruption of the environment has upon the producer (worker) and consumer but also the relationship between human wants and needs and their actual satisfaction have remained outside the scope and preoccupation of economic theory. Human wants and preferences (all subjective concepts), are treated as “given” and the analytical apparatus is designed to develop an instrumental logic of choice and allocation under these given conditions within a closed system.

This traditional restriction of economic analysis is not only contrary to the empirical facts of the interdependence of the economy with the environment but also protects the analysis and its conclusions against its critics who present evidence of the negative impact of economic activities on human health and human development. In fact, the whole procedure “alienates” economic analysis from what I consider to be one of its most important objectives, namely the appraisal of the substantive rationality (Max Weber) of the use of society’s scarce resources. Critics of the traditional approach from Marx and Veblen to Myrdal and more recently H. Albert and W.A. Weisskopf have pointed out that the restriction of the analysis is the result of specific analytical preconceptions as well as hidden value premises. In short, the critics have argued that the restriction of economic analysis reflects a subtle dogmatism on the part of its practitioners.

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3 I shall not pursue these lines of thought here which could be extended to show that what has happened is nothing less than that economic analysis and welfare economics in particular have permitted their value premises to determine not only their hypotheses but their notions of the nature and essential characteristics of the economic process. Their perspective of what constitutes rational choice under given conditions in a closed system has formed their ontology. Cf. H. Albert, "Die Problematik der ökonomischen Perspektive", Zeitschrift für die gesamte Staatswissenschaft 117, 1961, p. 438 sq. On the problem of "alienation" and economics in the sense of a dehumanization of economic analysis, see the important analysis by W.A. Weisskopf, Aliation and economics, New York, 1971 and my observations in "Zum Problem der Enthumanisierung der ‘reinen Theorie’ und der gesellschaftlichen Realität", Kyklos 20 (1), 1967, pp. 307-330.
In the light of this critical analysis it would appear that the formal logic of choice and optimization in terms of market costs and market returns is somewhat less generally accepted and more vulnerable than Beckerman seems to assume. In fact, the formal logic of choice reveals its limitations in the light of a substantive concept of rationality which considers the actual degree of satisfaction of human needs and human requirements. As to Beckerman’s suggestion that I want to start from scratch, it seems to me that Beckerman fails to see that my critique is not quite as novel as he implies and that in fact both my book and my article must be seen within the context of a body of critical analysis which has been advanced over the last decades. I shall deal with this point by outlining a whole pattern of reaction of an entrenched community of scholars against its critics. One reaction is to ignore them by a conspiracy of silence by all those who have "invested" in the established body of doctrine and thus may be said to have a "vested interest" in it, to use a favorite term of Veblen. This period can last quite a long time.

However, when the accumulation of new empirical observations and data contradicting the conventional body of knowledge can no longer be passed over in silence, the relevance of the new evidence is likely to be questioned. After all, it comes from outside the realm of the traditional discourse; thus it may be said to be "non-economic" or "meta-economic" in character. The critics are considered as outsiders - sociologists or political scientists perhaps - who are not sufficiently familiar with what are admissible and relevant criteria with which to confront the conclusions derived from the closed model. At a later stage old concepts and assumptions will be refined in order to cope with the disturbing evidence within the traditional framework. This phase may be illustrated by the reaction of traditional astronomy prior to and during the Copernican revolution; the Ptolemaic astronomy accounted for discrepancies between its predictions and empirical observations by manipulating an ever increasing number of epicycles within its explanatory system. In short, it is the method of scholasticism - another of the devices of dogmatism.

Closely related to this phase are efforts to force the new evidence and data into old concepts despite the fact that the latter were originally designed to take account of different phenomena than those referred to by the critics. In other words, older concepts and new phenomena are reinterpreted in such a manner as to convince the community of scholars that no new approach is required and that in fact new data and facts can be and indeed have always been taken care of. The current discussion of the environmental issue has reached this stage and Beckerman is certainly not alone in this endeavor to show that the conventional wisdom is quite capable of dealing with the phenomena of environmental disruption in its own fashion. Environmental problems are being forced today into the conceptual box of externalities first developed by Alfred Marshal. In my estimation this concept was not designed for and is not adequate to deal with the full range and pervasive character of the environmental and social repercussions set in motion by economic activities of producers or the goods produced and sold by them to consumers. I agree with those who have criticized the use of the concept of externalities as empty and incompatible with the logical structure of the static equilibrium theory.

At the same time the linguistics of the critics will be rejected and found wanting in precision and determinateness. Their terms and concepts will be found to be "too wide", "confusing", "and misleading" and after a while even "antiquated". Since Beckerman has raised objections of this sort
against the use of the term social costs and feels that I "may have missed something", I shall deal with
the problem of concept formation in order to elucidate a few fundamental points. Of course, conceptual
precision is desirable and terms and concepts should not be misleading. Objections raised against terms
and concepts should be met. However, let us not overlook that new ideas and concepts do not emerge
immediately with the intellectual precision which may be desirable. In fact at an early stage of analysis
some degree of openness of concepts may be actually useful. Ideas and concepts need to be elaborated
and become more precise only as the analysis of substantive problems proceeds4.

However, it is a logical error to make concepts more precise and determinate than warranted by
the empirical data to which they refer. Myrdal has reminded us that statistical convenience and
measurement must not be permitted to set limits to concept formations and thus to exclude relevant
elements. This has happened in the case of many economic concepts such as capital and investment.
Furthermore, an element of inescapable indeterminacy may remain either due to the lack of
homogeneity of the facts or of people's valuations or due to a lack of accurate knowledge about causal
interrelationships. This applies to social costs as well as to such concepts as unemployment,
underdevelopment, monopoly, etc. In short "to define the concept more precisely than is justifiable is
logically faulty"5. Finally, concepts in the social sciences are not the product of measurement as in
physics where concepts are, as a rule, the by-product of observations and actual measurements. Social
concepts are, as a rule, constructs, or abstractions or deliberate accentuations. As such they should
define the empirical instances to which they refer. Our concepts are chosen and constructed for specifc
purposes; their relevance and usefulness are to be judged in terms of their effectiveness as instruments
designed to grasp social facts even if some of these facts lie outside the scope of the traditional
boundaries erected arbitrarily by the discipline. They reflect our perspective and thus help us to
perceive novel and hitherto neglected aspects of reality. In this sense they may and indeed will reflect
our value premises; the important thing is that these value premises be stated openly and are not
hidden as in many endeavors to define concepts in an alleged, "value free" manner, which conceal the
hidden value premises of the investigator. The concept of social costs does not leave the reader in any
doubt in this respect6.

In conclusion let me say that it is quite understandable that many economists defend the
traditional perspective, assumptions, concepts and the narrow scope of micro-economic analysis. But

6 Beckerman's summary judgment that the term social costs is misleading and antiquated
may be evidence of the fact that he holds different views about concept formation or
he may have misread the article he quoted, which is directed against Pigou's use of
the term "social costs", this article points out correctly that my use of the term is
identical to what the authors call "uncompensated social costs", a term not quite
unsimilar to my own suggestion to speak of "unpaid costs". The predilection to render
the term social costs innocuous by using it to designate the total costs reminds one
of an earlier episode in the history of economic analysis when some neo-classical
economists tended to identify market prices as "social value" in the sense of value to
society. Schumpeter set an end to this apologetic reinterpretation of terms and
concepts. Cf. J.A. Schumpeter, "On the concept of social value", Quarterly journal of
this cannot last indefinitely, particularly if we remain committed to the notion that scientific inquiry has to do with a confrontation of theories and empirical observations. When empirical data and new facts become incompatible with, or can no longer be accounted for by established theories, the time has come for the formulation of new concepts, new modes of thought and procedures. This is the time of "scientific revolutions". In the history of science and in the history of the social sciences there have been radical reformulations of concepts as well as new modes of thought and new procedures. However, they did not start from the beginning. Who would want to assert that Copernicus, Newton, Einstein or for that matter Marx, Walras, Veblen or Keynes started from a tabula rasa. But they faced the crisis of their disciplines by doing more than merely refining old concepts or forcing new data into old molds. I believe that economics faces such a crisis today largely as a result of the environmental disruption but also because of its inability to come to terms with the development problem in less developed countries and because of the failure of Keynesian and monetary methods to maintain economic stability and prevent inflation.

Beckerman complains that I cite no examples. In the following I shall show that his own propositions which reflect the procedures and normative conclusions of welfare economics provide examples and illustrations of what I am criticizing. For Beckerman, together with others, assumes that no fundamental revision of economics is required in order to come to terms with the environmental crisis. While he admits that there are still numerous unsolved theoretical and practical problems raised by pollution and its abatement, he is convinced that welfare economics is equipped for dealing with the problem of pollution policy. In fact he feels that there is nothing to take its place as if this - if it were true - proved the adequacy of what we are offered. According to Beckerman, the disposal of pollutants imposes external costs in the form of water treatment downstream and "the economist will come to the conclusion, on the basis of elementary economics, that there is too much polluting effluent flowing into the stream [...]". The economist will then consider what is the best means of reducing the pollution to a level that, in terms of welfare theory, would represent the optimum. Beckerman and others are convinced that the standard tools and procedures of economics and the logic and criteria of choice including the aggregation of numerous (environmental) disparate items in terms of money and willingness to pay can be used as criteria "for evaluating things according to their equivalence at the margin - i.e., how much money one would accept in order to be indifferent between having the previous number of units of some 'good' and one less unit". In short it is believed that economists are on solid grounds and have the basic approach to a solution, if not the final answer, to the determination and evaluation of environmental values (including goals and preferences) and the formulation of the appropriate instruments of control and environmental planning.

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8 Beckerman oversimplifies the problem when he suggests that economists can arrive at the conclusion that there is "too much" pollution. Elementary economics teaches nothing about pollution or about the negative effects of pollution or benefits of abatement.
Beckerman’s open acceptance of the compensation principle (willingness to pay or accept money) as a criteria of evaluation has at least the merit of leaving no doubt about the common denominator to be used for the evaluation of environmental costs and benefits in contrast to statements which speak of “balancing” advantages of each activity and the physical and aesthetic discomfort created thereby or suggest, in general terms, that the improvement (of the quality of the environment) must be worth the costs of abatement specifying how the “worth” of the improvement is to be valuated\(^9\).

It is my contention that this treatment of the pollution problem within the conceptual framework of the formal theory of choice is logically defective and operationally ineffective. While it may be possible to express the costs of abatement and anti-pollution measures in monetary terms, I fail to see how the “worth” of the improvement can be evaluated adequately in monetary terms by the willingness of an individual or a group of individuals to pay for environmental amenities or to accept compensation for tolerating environmental disamenities such as polluted air or water. There are, as far as I can see, three distinct reasons which speak against the use of the compensation principle (apart from the practical difficulties of establishing the willingness to pay).

First, what a person or firm is willing to pay for clean air or recreation facilities or to accept as compensation for tolerating injuries to his health caused by pollution depends upon their income or their ability to pay. If incomes are unequally distributed (as they are), and if this inequality of distribution results among other things from unequal exchanges between unequal economic units in dominating and dominated positions (as it does), the resulting ability and willingness to pay are as arbitrary as the price and wage structure of which they are the outcome\(^10\). The problematical character of such attempts to evaluate environmental goals becomes evident when it is suggested to determine the losses caused by the pollution of a lake in terms of the additional transportation costs of people seeking recreation facilities to reach the nearest lake not yet polluted, or to measure the value of improved environmental facilities (such as recreational facilities, parks, a marina for pleasure boats or a public park in a poor section of a large city) in terms of the willingness and hence ability to pay as reflected in money spent for admission or for the purchase of fishing and recreation equipment\(^11\), or in terms of the hypothetical hourly income of those seeking recreation. In all these cases, the use of


\(^10\) Beckerman himself admits that it makes no sense to evaluate the life of a person by asking him “how much money he would accept, if he died, in order to be as well off as if he was still alive” (sic). To my mind methods of individual self-evaluation of life and health (e.g., discounting future earnings, legal compensation claimed or received in liability cases, willingness to pay for insurances, etc.) make not much more sense. See C. Senior, A model for quantifying risk: A cost effectiveness study of industrial safety, Nuffield, 1971, pp. 8-9 (mimeo).

\(^11\) On the ground that “a logical basis for determining the probable recreation benefits to be derived from the proposed improvement is the concept that the value of these benefits bears a reasonable percentage relationship to the amount of money voluntarily invested by boat owners to obtain them”, cf. US Secretary of the Army, 89th Congress, Second Session IIB, Cross Village Harbour, Mich. – Washington, DC, 1966, p. 31, quoted from D. Weiss, Infrastrukturplanung, Berlin, Deutsches Institut für Entwicklungspolitik, Jan. 1971.
willingness to pay as the criterion of quantifying and evaluating the quality of the environment has the insidious effect of reinterpreting original human needs and requirements into a desire for money and of evaluating the relative importance of such needs in terms of criteria which reflect the existing inequalities and distortions in the price, wage and income structure. “The basically questionable point of departure consists in the fact that original physical needs for rest, clean air, non-polluted water and health as well as the inviolability of the individual are being reinterpreted in an untenable way as desires or preferences for money income [...]. These fundamental human requirements must not be articulated, nor are they to be satisfied through the market mechanism. Their reinterpretation and (evaluation) in terms of a desire for money within the context of the price system falsifies the original need and at the same time the core of the problem of decision-making. Health, opportunities for recreation in parks, clean water or aesthetically satisfying environmental conditions are objectives which today are not pursued primarily with regard to their actual contributions to GNP. In many instances, it will be possible to realize these goals only by actually foregoing a short and medium term increase of GNP in its present statistical computation.”

The logical and practical result of using willingness to pay as a criterion would be that public parks or clean air in the ghetto sections of a large city would yield a lower benefit-cost-ratio than the marina for top management personnel. A mode of reasoning which leads to or indirectly supports such an outcome reveals its hidden, basically unequalitarian value judgments inherent in the compensation principle as a criterion of evaluating the “worth” of environmental goals.

Second, apart from income inequalities which undermine the validity of the compensation principle there is the individual’s inability to ascertain the full range of short and long run benefits of environmental improvements or, for that matter, of the full impact of environmental disruption upon his health and his well-being. It is today generally recognized that environmental pollution and the disruption of the environment are the results of a complex interaction of the economic system with physical and biological systems which have their own specific regularities. Moreover, pollutants from different sources act upon one another and what counts are not only the effects of particular effluents

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12 Ibid., pp. 68-70.

13 Actually, welfare economists would probably shy away from the logic of their procedures by falling back upon their own personal value judgments, in which case society may again be poorly served in so far as these personal valuations may diverge from those which society may place upon environmental values through the political process. For in this case we would be faced with personal idiosyncrasies and potentially arbitrary judgments which would enter through the back door into the evaluation process. For economists and technocrats would then prepare environmental projects and policies which reflect market valuations “corrected” by their own views and values. Such projects and policies prepared by experts would still have to be ratified by political decision-makers. Some of the latter would like nothing better than this procedure which would enable them to present their decisions as being based upon the advice of “experts”. In fact this is exactly the model of policy making by experts which J. Habermas has criticised, see his Technik und Wissenschaft als Ideologie, Frankfurt, 1968, p. 125 (cf. also H.P. Widmaier and O. Roloff, “Zur Kritik der quantitativen Wirtschaftspolitik”, in: E. Dürr, Neue Ansätze der Wirtschaftspolitik, Berlin, 1971).
and toxic materials but the total toxological situation. The causation and the effects of pollution are far from being transparent to the individual. Those who have studied these complex causal relationships know that environmental disruption can easily become cumulative with pervasive and disproportionate effects per unit of additional pollutants. To ask the individual what he is willing to pay for the improvement of the quality of the environment or what amount of compensation he is willing to accept to tolerate current or even higher levels of pollution constitutes therefore an inadequate and ineffective and indeed a highly problematical basis for evaluating judgments concerning the “amount” of value of alternative environmental goals. The practical consequences of making the content and extent of the control of environmental quality dependent upon individual willingness to pay could at best lead to piecemeal measures and an ineffective formal sub-optimization if it does not become the pretext for endless delays or a policy of doing too little too late.

The third reason which speaks against the compensation principle is to be found in the fact that it does not lead to the systematic search (by R and D expenditures) for alternative none or less polluting technologies. To suggest that environmental improvements are economically worthwhile only if the “worth” of the improvement (as measured by the compensation principle) exceeds or equals the cost of the improvement says nothing about the techniques to be employed or to be developed. It sidetracks this important issue and leaves it to the polluter to develop anti-pollution techniques only in accordance with his private cost benefit calculations. This has not been adequate in the past and may turn out to have disastrous consequences with disproportionately increasing environmental disruption.

In conclusion, let me make explicit the basic elements of the approach I have used in dealing with the admittedly difficult problem of evaluation. Negatively speaking I feel the environmental issue forces us to abandon the traditional assertion that values and value judgments are beyond scientific inquiry and have to be accepted as given. In economic discourse this has meant that we have accepted individual valuations, prices and income as given. Instead I suggest that it is possible and necessary to follow an empirical or pragmatic approach to the study of value. Such an approach is based upon a critical analysis of the consequences of accepting criteria such as market values and an examination of the question of whether monetary values are appropriate for the evaluation of the characteristics of the environment. In the case under consideration the evaluative judgment must correspond to these characteristics as they affect human health and human life without arbitrarily excluding anybody (whether due to the fact that he is unaware of the consequences of pollution or is unable to pay or even prefers a polluted environment to the maintenance of minimum environmental standards). I have endeavored to show that monetary criteria (willingness to pay, compensation principle, etc.) are in this sense not appropriate because they do not evaluate the characteristics which define the quality of the

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14 It is hardly convincing to argue, as Beckerman does, that economics is capable of dealing with these complex causal interrelationships and interdependencies because it has long dealt with economic systems with numerous and interrelated variables. Nor is the more recent recognition of feedback effects and time lags, or for that matter of multipliers and accelerators in traditional macro-economics of any help. Economists who do not study the causal chain which gives rise to pollution and its impact on human health are ill-equipped to deal with the elaboration of environmental plans and projects and to judge their effectiveness and relative worth.

15 This is not to say that the pollution problem will be solved simply by the introduction of different technologies.
environment and its potentially negative impact on human health, human well-being and human survival. This has nothing to do with Hegelian essences (as Beckerman seems to fear) but with the nature and quality of the environment, i.e., its characteristics. Therefore the “amount” of its value needs to be quantified and evaluated in terms of criteria that express or measure its effects on human health. These can only be environmental standards for all concerned without exclusion. Such standards are not beyond reach; in fact they are available or could be developed. They will have to be objective or objectified criteria reflecting our current knowledge and are subject, at the same time, to change in the light of new knowledge and new experiences.

To repeat, the basic issue under discussion is not whether evaluations, i.e., judgments as to the presence and “amount” of environmental values can be made in terms of willingness to pay but whether these criteria are cognitively responsible. I have tried to show that monetary criteria are not; cognitively responsible. The use of monetary criteria would have the effect of making environmental planning ineffective and would give rise at best to a piecemeal approach which will not overcome the sub-optimization which has characterized the outcome of the market system in the past. Today and with respect to the current debate of environmental policies they seem to be rather an expression of an attempt to force the not so new facts of environmental disruption once more into existing theoretical frameworks and conceptual boxes which have served our discipline as instruments to play down the significance of the phenomena of unpaid social costs by making them appear more harmless than they are.

This is not the place to set forth an alternative approach to the evaluation of environmental goals and environmental planning. Nevertheless, since Beckerman insists that the critic must show that there is a better instrument than that which he criticizes - a view which I do not share - I shall formulate a few generalizations in the hope that these sketchy observations may suffice to indicate at least the general direction in which a more effective approach to evaluating environmental values and environmental planning may lead us. Above all it would be necessary to recognize the systems character of the environmental problem and to admit that environmental relations differ radically and in kind from market relationships. Furthermore, the elaboration and acceptance of environmental goals call for a collective or sodal choice with a direct participation and expression of preferences by all members of society, even those outside the market and without reference to effective demand. Lastly, we need systematic cost effectiveness studies for alternative goals and projects together with the appropriate implementation, rules and procedures. This is merely another way of saying that economic theory will have to draw the consequences from the fact that formal rationality concept leave out of account a whole series of fundamental human needs, of which environmental requirements have been recognized rather late. In order to satisfy these human needs and to arrive at a substantive rationality in the utilization of society’s scarce resources, these requirements will have been defined as objectively as our

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16 Pepper speaks of evaluative criteria in discourse as becoming “responsible” by their attachment to the evaluative criteria which operate outside of discourse. Where this attachment does not hold or cannot be made out the evaluative criterion is cognitively irresponsible, i.e., it is not true to the empirical fact of the matter. Quantitative standards must be correlated in an appropriate way with the defining characteristics of the (qualitative) definitions. C. Pepper, *The sources of value*, Berkeley, Calif., 1958, pp, 277-279.
present knowledge permits and evaluated by means of a deliberate collective, i.e., political decision in comparison to other public goals to be pursued. This means that we shall have to face the task of introducing to an increasing degree politically formulated norms into the socio-economic process. In short we face the task of operating with objective substantive and socially acceptable criteria which have been politically sanctioned. This formulation of goals will be appropriate and necessary in all those instances in which the market fails to generate an effective demand and does not maintain environmental standards but actually contributes to their degradation.