

C O N T E N T S

9.	THE IMPAIRMENT OF THE HUMAN FACTOR OF PRODUCTION	155
	Human Costs and the Price System 155; The Impairment of the Human Factor: Evidence and Estimates of Social Costs 159; Occupational Diseases and Social Costs 171; The Social Losses of Woman and Child Labor 175; Summary and Conclusions 176	
10.	TECHNOLOGICAL CHANGE, UNEMPLOYMENT AND SOCIAL COSTS	179
	Technological Change and Social Costs 180; The Earlier Controversy 181; The Contemporary Situation 187; The Social Costs of Unemployment 195; The Social Costs of Depressions 200; Summary and Conclusions 202	
11.	DUPLICATION, EXCESS CAPACITY AND SOCIAL COSTS	205
	Duplication and Excess Capacity in Transportation 207; Duplication and Excess Capacity in Retailing 214; Duplication in Industrial Research and the Patent System 218	
12.	THE SOCIAL COSTS OF CUT-THROAT COMPETITION, PLANNED OBSOLESCENCE AND SALES PROMOTION	224
	Cut-throat Competition and Administered Prices 224; Planned Obsolescence and Social Costs 229; Sales Promotion and High Pressure Sales Publicity 233; The Psycho-Cultural Impact of Sales Promotion 237	
13.	THE RETARDATION OF SCIENCE AND THE SOCIAL COSTS RESULTING FROM "MISLOCATION" AND OVERCONCENTRATION	248
	The Retardation of Science 248; Small Business and Scientific Research 255; The Impact of Innovations on Existing Capital Investments 256; Depressions and Research 257; "Mislocation" and Overconcentration in Urban Centers 258	
14.	SUMMARY AND IMPLICATIONS	264
	Summary 264; Social Costs and Equilibrium Analysis 269	
15.	TOWARD A NEW SCIENCE OF POLITICAL ECONOMY	281
	Return to Philosophy 281; The Broadening of the Scope of Economic Investigation 284; The Reformulation of Basic Concepts 289; Social Value and Social Choice 292	
	APPENDICES	
I	SOCIAL COSTS, NEO-CLASSICAL ECONOMICS AND ENVIRONMENTAL PLANNING	305
II	RECYCLING IN CONTEMPORARY CHINA	319
	INDEX	335
	LIST OF PUBLICATIONS BY K. WILLIAM KAPP	344

EDITOR'S PREFACE TO THE NEW ENGLISH EDITION

The Environmental Crisis

The social costs of two centuries of largely untrammelled business enterprise are with us with a vengeance. All those living in the urban areas of Britain or Japan, North America or Northern Europe, Australia or South Africa have long known what these costs were in pollution of air, land and water, destruction of environment, squandering of resources, unemployment and degradation of labour. Those who have been more recently drawn into the urban centres of Russia, India, South East Asia, South America or Africa have now in their turn learnt the costs of economic progress. There is no longer any escape either for those who could afford to move out into the suburbs and coastal resorts. Clear blue skies, lakes to fish in, beaches to swim on, woods to walk through become ever rarer. Even sailorsplying small craft across the oceans find the garbage of New York City in mid-Atlantic.

We are all environmentalists now. The Confederation of British Industries has published a pamphlet on the *Social Responsibilities of Business*. Trade Unions struggle to put teeth into legislation to promote Health and Safety at work. Conservation societies proliferate. Historic Departments of State are amalgamated into a Department of the Environment. A new book appears every week or so on Resources and the Environment and on the costs of economic growth. But our economic thinking — alike in systems of private or of state enterprise — still regards all this as an unfortunate side-effect that is important but marginal to the main drives of consumer societies.

K. William Kapp was a pioneer in challenging the authority of economic theories that regarded as marginal such ecological unbalance and profligate waste. His first book was written more than twenty five years ago when he was a Professor at Wesleyan University under the title of *The Social Costs of Private Enterprise* (Harvard University Press 1950) and was translated into six different

languages. In a second and revised edition published in India in 1963 he changed the title to *The Social Costs of Business Enterprise* and it is this edition which is reprinted below. He made the change in order to take account also of the same social costs where state enterprises in the Soviet Union and elsewhere were guided by similar principles of economic calculation. But K. William Kapp was much more than an early environmentalist. He specifically warned against too great a preoccupation with environmental disruption, while recognising that "The damages and costs resulting therefrom constitute one of the most fundamental, dangerous and long-run issues which mankind has ever faced".¹ Here is Kapp's warning:

"... invitations to 'wage war' on the disruption of nature... may be not much more than an attempt to restore a consensus evidently severely shaken by such issues as the undeclared war in Indochina, the unresolved consequences of slavery and racial discrimination, the pernicious effects of a secular inflation and the continued poverty in the midst of plenty. Indeed, the problem of environmental disruption may well be used as an issue designed to restore a failing political unity which threatens both the 'establishment' and society. The declaration of war on the disruption of the environment just as the earlier 'war on poverty' may turn out to be not much more than a diversion of attention and a fixation on a problem which seems to be less controversial and easily subject to manipulation without interfering all too radically with customary ways of thinking and established methods of conducting business, modified only by a few *ad hoc* controls. The current advocacy of *ex post* remedies by offering incentives and disincentives via subsidies and taxes may turn out to be just as ineffective as the Sherman Anti-Trust Act. This legislation too was passed to pacify a wide-spread populist dissatisfaction with policies and practices of big business oligopolies but was actually incapable of stopping the trend towards administered prices and the 'planning' of production and sales by large industrial concerns. It would not be surprising if the contemplated legislation against environmental disruption by underestimating its significance achieves not much more than the passing on to consumers or to society as a whole the costs of 'cleanliness', without really coming to terms with the serious problems raised by the current disruption of our environment."²

1. K.Wm. Kapp, "Environmental Disruption and Social Costs: A Challenge to Economics", *Kyklos*, Vol.23, 1970, Fasc. 4, p.833-848.
2. *Ibid.* p.835

The Critique of Economic Theory: Neglect of Social Costs

Kapp's critique of economic theory was fundamental. But he engages the neo-classical economists in particular in their own language and on their own terms. For non-economists the language may sometimes present difficulties. For this reason I shall attempt to summarise both the theory and Kapp's critique of it. For this reason also I have introduced after the main text of his book an article he wrote in 1971 as a direct reply to one who responded to his critique from the stance of current economic theory.³ In this article he defends his book and denounces his critics. To enter the argument of this article and to understand the first three chapters of the book we have to summarise the basic assumptions of neo-classical economic theory and especially its development in modern Welfare Economics. These may be stated very crudely as follows:

1. Economic elements can be isolated from the totality of social processes and regarded for purposes of analysis as self regulating;
2. Economic elements in social processes comprise those ends (satisfactions) and means (costs) which can be measured in terms of money (exchange values) in a market;
3. The choices of economic agents (producing firms and consumers) are rational and the market accurately reflects preferred satisfactions and opportunity costs of particular resource uses (i.e. the costs of things forgone by choosing any particular satisfaction);
4. Changes in demand preferences and in supply costs tend, because of competition in the market, to move towards an equilibrium where imbalances are corrected;
5. The possibilities of achieving economies external to individual firms are realised through integration inside large firms; and the threat of such firms with monopoly positions to the competitive market can be offset by reducing barriers to free competition between giant firms operating internationally;
6. Any social costs beyond the cost to the firm can be corrected by imposing taxes on the perpetrators and paying subsidies to the sufferers and by legal enforcement of individual claims to compensation, since welfare is only to be measured in terms of each individual's satisfactions and dissatisfactions.

3. K.Wm. Kapp, "Social Costs, Neo-Classical Economics, Environmental Planning: A Reply", *Social Science Information* 11, No.1, Feb. 1972, pp.17-28. Reprinted in *Environmental Policies and Development Planning in Contemporary China*, The Hague, Moulton, 1974, p.175, ff.

Apart from creating the legal and physical framework to make possible and to defend the free working of the competitive market, the state should keep out of economic affairs. Most problems will be solved by the resulting increase in the national income. Some of the social costs referred to above may nevertheless need to be corrected by more positive measures, e.g. to redistribute incomes in favour of very poor persons and to provide those services like public roads and parks which no individual will build for himself since others can use the service as soon as it is provided.

What Kapp shows in his book is that social costs are major, typical and regular occurrences, and much more significant even than those that the state has recognised. His definition of social cost is any cost incurred by business activity which falls upon third persons or the community at large and is not therefore accounted for by business decision-making based upon the principle of profit-making without regard to possible negative effects. Chapter by chapter in the book he details these costs: not only air and water pollution, soil erosion, the destruction of wild life and of ecological balance, the spoliation of non-renewable resources, but the impairment of human beings through occupational diseases, radiation and unemployment, the costs of duplication and excess capacity, of planned obsolescence and sales promotion, the retardation of science and its harnessing to instruments of destruction, society's over-concentration on urban centres and sacrifice of human well-being to the processes of production. Some of these costs may be measured in money terms in loss of earnings or the cost of correction after the event; but most are widely dispersed through any community and not such that an individual or groups of individuals can measure and claim compensation for, let alone anticipate and avoid.

In economic theory these costs are marginal. Costs of production are thought to be adequately represented by business outlays; prices are supposed to reflect opportunities forgone. Welfare economics allows only for marginal corrections by the principle of compensation. K. William Kapp makes his first criticism of such economic theorising by showing that the "political history of the last 150 years can be interpreted as a revolt of large masses of people (including small business) against social costs . . . an integral part of the gradual access to political power by groups formerly excluded from such power".⁴

4. *Social Costs of Business Enterprise*, pp. 15-16.

But he goes on to say:

"Despite this shift in the balance of power, the main body of neo-classical value theory has continued to regard social losses as accidental and exceptional cases or as minor disturbances . . . Close analysis of existing preventive regulation reveals that present restraints are still highly ineffective in minimising social losses. . . ."

In a telling phrase, which others, myself included, have used without being aware of the originator, Kapp speaks of the welfare economists' correction of social cost by means of compensating devices as being reminiscent of the cosmology of Ptolemy. In order to 'harmonise' the accepted theory (that the sun and planets moved round the earth) with the 'facts' and observations, Ptolemy had constantly to introduce new epicycles (or extra loops) to the course which the sun and planets supposedly followed.⁶ What was needed was a new theory; and so Kapp says that it is with economics today.

Institutional Economics and Cumulative Causation

Kapp's alternative view is derived from what was called in the 1920's the American school of 'Institutional Economics'.⁷ This school looked back to early American critics of classical economics — in particular to Thorstein Veblen. Kapp's debt to the Swedish economist, Gunnar Myrdal, whom he claims as an 'institutionalist', is equally evident. The extraordinary wealth of Veblen's insights into the institutions of American capitalism make his work a rich, if often confused, source of criticism of neo-classical economics. What Kapp draws from Veblen is his insistence on the openness of purely economic aims and means to the power and coercion of business interests — the industrial-military complex of which General Eisenhower complained at the end of his Presidency, the 'power elite' of which C.Wright Mills wrote so pungently.⁸ But Kapp's institutional economics comes very close to Marxism, without what Kapp would call Marx's classical economic pre-occupation with capitalism as a self-regulating economic system. Emphasis on the

5. *Ibid.*, pp. 16-17.

6. K.Wm. Kapp, "Environmental Disruption and Social Costs", *Kyklos*, 23, 1970, pp. 833-4.

7. K.Wm. Kapp, "The Nature and Significance of Institutional Economics", *Kyklos*, Vol. 29, No. 2, 1976, pp. 209-232.

8. C.Wright Mills, *The Power Elite*, New York, 1956.

interaction of economic processes with technological change, sociological perception, anthropological development, above all with legal and political institutions is central to Marxian political economy; and that emphasis is not at all dissimilar from Kapp's own approach.

Economics cannot be examined as a closed system, isolated from business power, property laws, capital intensive production, class antagonisms, national and group consciousness and a host of historical attitudes and traditional values. Whether we are looking at developed or underdeveloped societies, the economic elements that can be isolated, even in the relations between the two, provide only the most partial explanation of development and underdevelopment. Economic models taken from developed societies are likely to be useless, if not positively harmful, when applied to the underdeveloped. The aims of different groups of people cannot be simply separated from the means by which aims are realised, so that economics are said to deal with means and politics with ends. The two interpenetrate. There can be no 'positive' economics that is value free, but only an assumption that money values, the values of the market, must predominate; and such an assumption is challenged by every one of the social costs that Kapp elaborated in his book.

It was Gunnar Myrdal's ridiculing of the effort to free economics from value judgements, as much as his introduction of sociological insights and political preconceptions into the study both of developed and underdeveloped societies, that attracted William Kapp.⁹ But what Kapp draws from Myrdal is his principle of "interlocking intercircularity dependencies within a process of cumulative causation" as the central principle of the social sciences. In direct contrast to the economist's faith in a natural order that tended to equilibrium, Myrdal posits the concept of cumulative causation.¹⁰ For unto every one that hath shall be given, and he shall have abundance and from him that hath not shall be taken away even that which he hath." "Wealth attracts and poverty repels." "The more it grows, the more it goes on growing." "Virtuous and vicious circles, upward and downward spirals . . . these are the simple everyday phrases that offer the Time Paradigm of the social process, not the self-regulating balance of the human endocrine glands or the equilibrium of mechanical motion. In the process of cumulative causation, many dif-

9. G. Myrdal, *The Political Element in the Development of Economic Theory*, Harvard University Press, Cambridge, Mass., 1954.

10. C. Myrdal *Economic Theory and Underdeveloped Regions*, Duckworth 1957, p. 12.

ferent factors are involved in circular interdependence — the natural environment, technology, work and class relations, institutions, laws, ideas and values." This is how Kapp relates Myrdal's thinking to his own problem of developing an economic theory that will explain social costs and thus enable us to create a social system that is free of them.

Kapp is extraordinarily generous to Myrdal's work; but his own writing in the first edition of the *Social Costs of Private Enterprise* (1950) and in his remarkable study of *Hindu Culture, Economic Development and Economic Planning* (1963) precede respectively Myrdal's *Economic Theory and Underdeveloped Regions* (1957) and his *Asian Drama* (1968).

Interacting Interdependence

Kapp summarises a recent essay of Myrdal's as follows:¹¹

"However, it was left to Myrdal to develop the principle of interlocking interdependencies within a process of cumulative causation in a systematic way, and to have shown its significance and its implications as an alternative analytical framework for the entire field of social relations. He has done this in a continuous critical confrontation with the closed system of neo-classical equilibrium analysis, its hidden political or normative elements and in his life-long preoccupation with concrete and persistent problems such as race discrimination in America, international disparities, and the intractable problems of underdevelopment and poverty in Asia. In dealing with these problems Myrdal has developed a new explanatory theoretical framework which consists of a matrix of ordered and specified elements of social conditions which, in their reciprocal interdependencies, can be shown to influence the evolution and transformation of social processes. As an exemplary illustration we choose the relationship between developed and underdeveloped countries and the interpretation of the process of development and underdevelopment. The problems to be accounted for are the empirically observed disparities and the persistence of development differentials between 'rich' and 'poor' countries or regions. Both rich and poor regions are characterized by a number of specific conditions which can be classified or categorized in different ways. Myrdal considers the following conditions as relevant for the analysis and interpretation of the process of underdevelopment; *Productivity* (output/worker; income/population); *condi-*

11. K. Wm. Kapp, "The Nature and Significance of Institutional Economics", *Kyklos*, April, 1976, pp. 229-30.

tions of production (techniques, scale, capital intensity, savings and investment, social overheads, labour utilization and employment); *levels of living* (nutrition, housing, hygiene, medical attention, education and training, literacy and income distribution); *attitudes* to production, work and living (discipline, punctuality, prejudice, apathy, world outlooks, religion, absence of birth control, etc.); *institutions* (man-land relations, tenure conditions, market structures, class, caste and kinship systems, structure of national and local government and administration, etc.) and *policies and legislation* (the 'soft state', lack of law enforcement, taxation, mobilization of actual and potential surplus). Needless to say, this does not represent a complete list of possible relevant factors and conditions; moreover, they may have to be classified in a different manner depending upon problems and regions to be investigated. However, the important point is that, among all the conditions, there exists a causal relationship, and this relationship is to a large extent, but not always, of a circular character. In other words, the principle of circular interdependencies postulates a mutual responsiveness, i.e. a capacity of the different conditions to react upon changes of one or several elements. It is this circular and cumulative interaction which shapes the dynamics of the system which institutional analysis has to elucidate and to determine. In addition, it is essential to study the specific circular inter-relationships between the different factors and conditions before it will be possible to define objectives, to develop appropriate criteria of choice, and to make decisions with regard to long-run strategies as well as specific developmental policies. For, the formulation of such strategies and policies will require detailed, regional and local empirical studies designed to ascertain the concrete relationships between the different endogenous factors and conditions including their responsiveness to one another as well as the possible time lags and, in some cases, the lack of responsiveness of one or several of them to induced changes initiated by policy measures."¹²

Kapp then concludes:¹³

"In short, economic processes can be understood and must be represented for analytical purposes as radically open systems which exchange energy and matter with the environment in the course of which qualitative changes take place both with respect

12. Kapp is summarising: G. Myrdal, *The Unity of the Social Sciences*, Society of Applied Anthropology, Amsterdam, March 21, 1975.

13. K.Wm. Kapp, *op.cit.*, pp.222-4.

to the environment and the process itself. That is to say, socio-economic processes move in a definite direction and this direction needs to be ascertained.

"However, even if we could get away from the fundamental fact of entropy, the analogy to mechanics with the notion of stable equilibrium would still be problematical and usually misleading for the analysis of contemporary social conditions. For, these conditions are no longer, if they ever were, characterized by the interaction of a great number of more or less equal units in perfect competition none of which exert a dominating influence on the direction of the process and its outcome (e.g. prices, quantities produced and sold, inputs chosen, technologies adopted, and locations selected). Exchanges between dominating and dominated units give rise to unequal exchanges and unequal terms of trade and to a choice of inputs, technologies and locations which are bound to result in self-reinforcing movements and an unequal distribution of income, growing disparities and polarization. In short, in the normal course of exchange relations between dominating and dominated units, between 'centre' and 'periphery', between 'growth poles' and dependent economies, there is no assurance that inequalities and domination will cease or 'backwash' effects will be compensated by expansionary 'spread' effects.

"Under these circumstances, it becomes clear why the new theoretical framework of circular interdependence and cumulative causation is justified to reject the analogy to mechanics with its notion of stable equilibrium as a paradigm for problem solving in the social sciences. In fact, the new paradigm assumes that 'the system is by itself not moving towards any sort of balance between forces, but is constantly on the move away from such a situation. In the normal case a change does not call for countervailing changes but, instead, supporting changes, which move the system in the same direction as the first change but much further. Because of such circular causation a social process tends to become cumulative and often to gather speed at an accelerating rate'.¹⁴ The principle does not prejudice the direction of the cumulative response nor the final outcome. In fact, it does not imply only 'vicious' circles."

Marxists will regard it as a weakness in this exposition that there is no hierarchy or logical ordering of the many variables — nature, technology, production relations, legal and political institutions, ideas. Each is assumed to be of equal importance and none prior to

14. Kapp is quoting here from Myrdal: G. Myrdal, *Economic Theory and Underdeveloped Regions*, Duckworth, London, 1957, p.13.

another. The dynamic of change is thus indeterminate. Marxism does not, of course, assume that everything is determined by economics or even by technology — as its critics like to suggest. But Marx did believe that the economic structure of production relations did have to correspond to the necessities of the struggle with nature and to the different stages of human productive capacities, and that political and legal superstructures and dominant ideologies corresponded to the economic structure, not *vice versa*. Change then emerged dialectically through the consciousness of men and women of growing contradictions between their productive capacities and relations in production, especially class relations.

Without such a perspective the list of variables in the equations which Myrdal suggests for the scientific solution of problems are, as he himself concedes, necessarily "ideal and far beyond the horizon":

"an interconnected set of quantitative equations describing the movement — and the internal changes — of the system studied under the various influences which are at work."¹⁵

To this Kapp adds his own doubts:

"Moreover, I doubt that we possess or will ever possess the data and the type of mathematics needed for the quantitative formulation of mutual circular interdependencies and thus for a precise expression of co-efficients of interaction. In any event, it would be questionable if not illogical to require, or to make action dependent upon, a degree of quantitative precision of our knowledge which may be neither attainable nor necessary for the formulation of public policies."¹⁶

Measuring Costs or Setting Standards

The impossibility of reaching precise mathematical formulations is not regarded by Kapp as any reason for avoiding the task of selecting goals and deciding on means for counteracting the extra-market flows which give rise to environmental disruption. This is the more necessary because it is Kapp's conviction,

"that we are faced with a tendency of an increasing impairment of the environment and hence of increasing social costs resulting

15. Gunnar Myrdal, *Economic Theory and Underdeveloped Regions*, op.cit., p.19.

16. K.W. Kapp, *The Nature and Significance of Institutional Economics*, op.cit., p.225.

therefrom . . . we are confronted with a change of quantity into quality. Today's transformation of the environment is no longer an expression of an increasing mastery of the world we live in but is instead a sign of loss of such mastery."¹⁷

It is Kapp's view that social costs and social benefits cannot be measured in money terms, and this is so precisely because they are extra-market phenomena. Monetary values fail to take sufficient account of three factors, he says,

- "a. actual markets are far from perfect — in fact they are 'oligopolistic' in character,
- b. the consequences of environmental disruption are highly heterogeneous and cannot be compared quantitatively with one another, and
- c. the benefits obtainable from environmental control are equally heterogeneous and can neither be compared quantitatively with one another nor with the outlays for control."¹⁸

Kapp continues:

"More specifically, the social benefits sought by environmental control are social or public goods and must be dealt with as such. That is to say, they are above all goods or services which diffuse themselves throughout society; no one can nor should be excluded from their enjoyment; they are 'non-rival' that is, their use or enjoyment by one does not necessarily reduce their supply. For this reason we will have to look for other methods of assessment than those available or suggested in terms of market values. We will have to face political decisions based on evaluations arrived at outside the market under conditions of possible disagreements and lack of unanimous consent. Such decisions are similar to those which were made in the past and continue to be made with regard to labour legislation (including workmen's compensation for accidents and occupational diseases), to social security legislation and legislation regulating standards of food and drugs, provisions of educational facilities, etc. No cost-benefit analysis helps us in these instances and no market values and indeed no compensatory principle and no Pareto optimum can help us now in deciding whether and which controls are to be adopted. As in all decisions of this kind, we will have to act even

17. K.W.Kapp, *Environmental Disruption: General Issues and Methodological Problems*. Proceedings symposium of the International Social Science Council in Tokyo, March, 1970. Reprinted in *Social Science Information* (International Social Science Council), No.9, (4), 1970, pp.21-23.

18. *Ibid.* p.25.

if some industries may be worse off or fail to give their consent initially as was the case with regard to the aforementioned cases of legislation. In fact, the more we admit that all benefits (secondary, indirect, intangible, etc.) of control-measures ultimately have to be included in benefit-cost calculations the more problematical becomes any evaluation in terms of one single monetary standard. In short, I fail to see that cost-benefit analyses as they stand today have a solution of the problem of evaluating either the social costs of the disruption, or the social benefits of the improvement of our environment by control measure.

"And yet, my position should not be interpreted as a counsel in favour of arbitrary action; nor should economists who hold similar views be accused of preaching a gospel of license. In order to act rationally, we must know and assess the consequences of our action or non-action. To this effect we will have to draw the necessary inferences from what I have called the complex and cumulative character of the causal chain and to make an inventory of the actual and potential damages and losses caused by investment decisions and government action or non-action. To this effect, we need a co-operative multi-disciplinary research effort on a national and perhaps an international basis. In fact, in modern industrial societies it has always been important and is steadily becoming more urgent to anticipate the actual and potential effects of damages before investment decisions are taken. What are needed are inventories of the fullest possible range of the consequences which new technologies and inputs are likely to have on man and his environment. There can be no rational action and decision-making any more without systematic prior scientific analysis and prognosis. Many (though perhaps not all) of the unanticipated negative consequences and social costs which confront us today could have been anticipated by prior research and adequate outlays for scientific analysis. Today when we can build upon the accumulated experiences and lessons of the past, the pay-off of such prior research and prognosis is likely to be considerable.

"Analysis and prognosis, by assessing the consequences of decision-making, will provide us with an inventory of the nature of the damages and social costs of private and public investments; it will at the same time yield the necessary data and facts in the light of which it will be possible to evaluate and revise our aims and objectives and thereby to improve our policy-making. However, far from denying that measurement is important and that science is measurement (and all that), I want to emphasize that what is even more important than precision in measurement is the

selection of the goals, i.e., the distinction of what is essential and what is less essential; this indeed will call for more than data and facts concerning the possible consequences of alternative courses of action. It calls above all for some general standards in terms of which it may be possible to agree on and select the social goals we seek. Once agreed and stipulated, it would then be necessary to compare the real costs of attaining such stipulated ends by different courses of action or methods of control."¹⁹

Kapp concludes:

"The magnitude of the threat and the values at stake seem to me to call for a line of attack which must be directed towards the design and technique of production. What needs to be changed and controlled are the 'input mix', the technical process and the location of concentration of the process of production. This is perhaps best illustrated by a concrete example: if we want to avoid the destruction of plants by insects and pests, we can use insecticides and pesticides. We have done so in the past only to discover that the insects and disease carriers develop immunity and the increasing amounts of chemicals or their residues pollute our environment and tend to become serious health hazards to man. Instead of developing more and 'better' pesticides which, moreover, tend to attack not only pests but insects in general, plant geneticists and plant breeders are experimenting today with breeding plants with greater resistance to attacks by insects and pests. This type of control, by changing the nature of capital inputs, may be more economical and more effective in the long run than the use of chemicals, while at the same time avoiding the dangers of the pollution of the environment. Similarly, the control of air pollution by automobiles seems to me to be more economical and more certain by the design of new and more effective engines and/or by substitutes for gasoline than by indirect controls or better law enforcement. . . ."

"... Since the disruption of the environment is clearly a function of the location and relative congestion of an area it is imperative to consider these factors in all future decisions concerning industrial and residential sites. In other words, a rational determination of land use requires that we extend the unit of investigation and the area of environmental control in accordance with the actual physical interdependencies in an area as determined by its waterways, its topography, its climatic and meteorological conditions as well as its density of settlement. This broader perspective in

location theory will become more and more urgent with the growing exposure to the dangers of pollution from radioactive waste materials and possible accidents from radioactive sources such as atomic reactors. Instead of purely local zoning regulations, a rational location policy requires planning based upon a complete inventory of physical conditions and existing population densities on a regional, national and perhaps even international basis. In short, choices of site and location problems in general, whether residential, commercial or industrial, can no longer be made solely with reference to traditional market factors and costs such as outlays for transportation, materials and labour. Here too, costs and benefits will have to be evaluated in the light of inventories of hazards established by multidisciplinary research efforts. Whether the practical implications of such studies will be a dispersal or a concentration of industries and residential areas and which methods of control will be called for is today an open question."²⁰

Producing to Meet Human Needs

In another and more recent essay, on *The Socio-Economic Effects of Low and High Employment*, Kapp summarised the latest results of a system that treats human beings as instruments, whether as instruments of production or instruments for consumption: rising unemployment, increasing impairment of the work environment through health hazards, work tension and accidents, deterioration of the living environment especially for poorer people through pollution and poisoning of air and water, pressurised sales promotion and wasteful consumption. He concluded by emphasising the absolute necessity of starting from human needs in reformulating guidelines for public action and applying resources to meeting these needs instead of our current slavery to the dictates of the market:

"Market economies have continued to define their objectives and to gauge their performance in terms of questionable economic indicators which fail to take adequate, if any, account of social and environmental costs of productive processes. As long as these national income indicators, expressed in market values, continue to serve as a basis for the formulation of our goals, we shall continue to misuse our productive capacities and to develop technologies which threaten the quality of life, including the working and living conditions of millions of people and ultimately the process of socio-economic reproduction.

20. *Ibid.* pp.29-31.

"Is there a way out of this threat to human life, human health and human survival? Are there alternative ways of guiding the process of production and, if so, of what nature would the criteria of decision making have to be? An alternative model is at least conceivable, even though its feasibility depends upon far-reaching institutional changes. New criteria and guide-lines of economic and technical development, which must be directly related to individual and social needs, seem to be essential. This means that goals, objectives and criteria of performance must be based upon a concept of human needs. The identification of such needs can not be left to arbitrary judgments and decision makers. Their formulation is not possible without a theory of individual and social needs, their dynamic structure, and the consequences of their neglect or nonsatisfaction.

"Such a theory is in the process of being developed, and it is possible to identify some general principles: there exist basic individual and social needs which cannot be sacrificed with impunity. While these needs can be identified factually, tested empirically and expressed in terms of social and environmental indicators, such indicators, as their name implies, do no more than indicate a state of affairs. They are not norms of action. However, they can be transformed into social norms with the aid of a fundamental value premise and the demonstration of the inevitable effects of continued neglect of such basic or minimum needs as useful and rewarding work, human health and socio-economic reproduction.

"Stated simply, the fundamental value premise is as follows: the value of fundamental minimum requirements of individual and social reproduction must be accepted unless we are prepared to deny the value of our own lives and survival, or that of society. Once this premise is accepted, we are able to establish a link between social and environmental indicators and norms of action. Of course, there may remain a lack of consensus as to priorities, distribution of costs, and the extent to which we maintain and improve minimum requirements for all. But this is a problem of socio-political choice, preference and conflict which can and must find its solution within the framework of representative government, with a maximum of participation of all members of society. By formulating policies of output, technology, location and employment in accordance with individual and social minimum requirements, and not in accordance with maximum output regardless of social costs, genuine full employment and the improvement of the quality of life can become a fundamental objective of economic policies. These goals are bound to remain

a continuous challenge both for industrialized and underdeveloped countries."²¹

Kapp died before he had fully developed the implications of such a radical revision of economic policy in the light of a "new science of political economy". But we can see from the hints he offers in the last chapter of his original text, from the end of the article on China both of which are printed after the main text, where his thought was leading him. His insistence on social action and social choice to offset social cost, contrast with the economist's concentration on individual satisfactions set against individual costs. This pushes him into defining forms of collective decision making; and this in its turn implies not only a challenge to the market as the allocator of resources but to the whole distinction between so-called 'productive' and 'unproductive' labour. 'Productive' work means that the products can be sold and profit made from increases in 'productivity'. 'Non-productive' work produces only social benefits most of which have no value in the market. Is there then any way in which we can measure their value? Kapp's general answer emerges from the detail of all the specific social costs he has studied in the book. The answer is a clear affirmative. With the help of the engineers and doctors and scientists we can establish objective minimum standards to which all 'economic' activity must conform. Here are some of the examples he lists:

"Maximum permissible limits of concentration of pollutants in the air and water, rates of utilization short of the point of irreversible exhaustion of flow resources, minimum standards of sanitation, education and medical care, standards of land utilization which incorporate our technical knowledge concerning the proper use of land which maintains soil fertility without setting the stage for erosion, water-logging salinization and a higher incidence of malaria . . . the location and size of large multipurpose projects . . . guided by availability of raw materials, nearness to markets, access to transport facilities and the presence of energy resources. The principle of social economy demands, moreover, that investment be made in such a fashion as to overcome the cumulative tendencies towards inequality and regional backwardness."²²

21. K.Wm. Kapp, "The Socio-Economic Effects of Low and High Employment", *Annals of the American Academy of Political and Social Science*, Vol. 418 March 1975, pp. 70-71.

22. K.Wm. Kapp, *The Social Costs of Business Enterprise*, pp.294-5.

Kapp is well aware that all this involves new methods of "discovering individual preferences with respect to social ends and of bringing them into harmony with public needs and requirements",²³ new ways of voting besides the restricted choice that the market offers and the infrequent choice of political party election programmes. Kapp did not explore the implications of his conclusion for decentralised social decision making, the possibilities of using the new systems of information communication created by the computer, the opening of the books of business enterprise for all to study and understand, the extension of trade union bargaining into the area of control over business managements' prerogatives. But others have begun to do this,²⁴ and as one of these I commend this book to all those whose concerns are the same as William Kapp's. They will find in his writings not only fresh inspiration and new insights into the problems of environmental disruption that we all now face, but the most detailed analysis of the essential elements of the solution to these apparently insoluble problems.

Michael Barratt Brown
University of Sheffield, June 1977

23. *Ibid.*, p.299.

24. e.g. M.Barratt Brown, T.Emerson and C.Stoneman, *Resources and the Environment - A Socialist Perspective*, Spokesman Books, 1976.