

## THE NATURE AND SIGNIFICANCE OF INSTITUTIONAL ECONOMICS

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'I see the tasks of social sciences to discover what kinds of order actually do exist in the whole range of the behavior of human beings; what kind of functional relationships between different parts of culture exist in space and over time, and what functionally more useful kinds of order can be created.' R.S. LYND, *Knowledge for What?*, 1939, pp. 125/126.

'The failure of the social sciences to think through and to integrate their several responsibilities for the common problem of relating the analysis of parts to the analysis of the whole constitutes one of the major lags crippling their utility as human tools of knowledge ...', *Ibid.*, p. 15.

### I. INTRODUCTION

ROBERT LYND's critical diagnosis of the crippling situation of the social sciences in the thirties was echoed later by SCHUMPETER's statement that the social sciences have steadily grown apart 'until by now the modal economist and the modal sociologist know little and care less about what the other does, each preferring to use, respectively,

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a primitive sociology and a primitive economics of his own to accepting one another's professional results – a state of things that was and is not improved by mutual vituperation'<sup>1</sup>.

In fact, neo-classical<sup>2</sup> economics has tended increasingly to develop into a self-contained body of knowledge which has become more and more isolated from other social sciences and analytical systems. This has been brought about by the influence of several inter-related tendencies and orientations which cannot be examined here as thoroughly as would be desirable. No doubt, the mathematization and formalization of economic theory have played a predominant role. So has a methodological individualism which can be traced back to the origins of our discipline. Equally important is the long tradition of reasoning by analogy to mechanics and the related search for levels of stable equilibrium, as well as the implicitly normative insistence that economic theory is concerned with the explication of the logic of rational action under conditions of scarcity or, as LIONEL ROBBINS, following Ph. WICKSTEED, put it, with a particular type or 'form' of human conduct: the study of 'human behavior as a relationship between ends and means which have alternative uses'<sup>3</sup>.

Under the influence of these orientations conventional economic theory has defined its subject-matter and the scope of its analysis in a rather narrow way and has convinced its practitioners that it is possible and useful to distinguish between 'economic' and 'non-economic' factors or aspects of social processes. Concrete economic systems or processes are thus believed to be adequately represented as isolated, self-contained and self-sustaining, closed mechanical processes with definable boundaries.

While it is true that individual economists who laid the foundation

1. JOSEPH A. SCHUMPETER, *History of Economic Analysis*, New York, Oxford University Press, 1955, p. 26/27.

2. The term 'neo-classical' is used here in a broad sense including standard micro- and macro-economics.

3. LIONEL ROBBINS, *The Nature and Significance of Economic Science*, London, Macmillan & Co., 1932, p. 16. WICKSTEED had pointed out that 'there is no occasion to define the economic motive, or the psychology of the economic man, for economics study a type of relation, not a type of motive and the psychological law that dominates economics dominates life'. Ph. WICKSTEED, 'The Scope and Method of Political Economy in the Light of the Marginal Theory of Value and Distribution', *Economic Journal*, Vol. 24 (1914), p. 10.

of neo-classical analysis have repeatedly and explicitly warned against any belief in the 'self-sufficiency' of neo-classical analysis particularly for the formulation of practical policies<sup>4</sup> the mainstream of neo-classicism has not heeded these warnings and has instead insisted on the autonomy and greater specialization of economic analysis if not its systematic isolation from other social sciences. A few illustrations may suffice to illustrate this point. SCHUMPETER denied the relevance of psychology for economic theorizing by stating, without qualifications and apparently with approval, that 'economists have never allowed their analysis to be influenced by psychologists of their time, but have always framed for themselves such assumptions about psychical processes as they have thought it desirable to make'<sup>5</sup>. DUESENBERY who rediscovered what he called the (Veblenian) demonstration effect defended the neglect of psychology 'as a deliberate attempt to sidestep the tasks of making psychological assumptions ... [which] has the advantage that it allows one to avoid getting out on a psychological limb which may collapse at any moment'<sup>6</sup>. Other neo-classical economists were even more explicit in rejecting attempts to relate economic analysis to other social disciplines. Thus, in opposing the trend toward interdisciplinary studies at American universities, G.J. STIGLER dissented by stating categorically that the royal road of efficiency in intellectual as in economic life is specialism – not interdisciplinary work<sup>7</sup>.

These attitudes together with the orientations outlined above have tended to push conventional economic theory more and more into the direction of a formal, self-contained, closed mechanical analytical system and have prevented the assimilation of new perspectives and

4. Thus WICKSTEED stated explicitly 'that the economic machine is constructed and moved by individuals for individual ends, and that its social effect is incidental ...', 'that the market does not tell us in any fruitful sense what are the "national", "social" and "collective" wants' ..., that 'economic laws must not be sought and cannot be found on the properly economic field ...', that 'to recognize this will be to humanize economics ...', and 'that economics must be the handmaid of sociology', PHILIP H. WICKSTEED, *op. cit.*, pp. 11/12.

5. JOSEPH A. SCHUMPETER, *op. cit.*, p. 27.

6. J. S. DUESENBERY, *Income, Savings and the Theory of Consumers' Behavior*, Cambridge, Harvard University Press, 1949, p. 15.

7. G. J. STIGLER, 'Specialism: A Dissenting Opinion', *AAUP Bulletin* 37 (*Am. Ass. of University Professors*), 1951/52, p. 651.

new paradigms developed by other disciplines. In fact, we seem to be witnessing to-day the extension of the neo-classical theoretical framework to such fields as the analysis of political behavior, public choice, and decision-making in general. While this development may be regarded by some as a move in the direction of interdisciplinarity it carries with it the dangers of a new kind of reductionism of social analysis to neo-classicism. It is not too late that social scientists and sociologists in particular take a critical position toward this kind of 'academic imperialism'<sup>8</sup>.

## II. INSTITUTIONAL ECONOMICS

Dissatisfaction with the 'mechanics of utility and self-interest'<sup>9</sup> and the narrow scope of conventional economics manifested itself very early; in fact, criticism has never ceased and is to-day stronger than ever. As always in times of economic and social crisis 'normal' economic theory is under attack and is criticized for its inability to provide an appropriate analytical framework for the diagnosis of the problems and the formulation of more adequate criteria, policies and remedies designed to cope with increasing internal and international disorganisation, environmental disruption, stagnation and inflation as well as unemployment, conflicts over terms of trade, *etc.*

The critique has always been directed against the scope and methodological preconceptions inherent in the equilibrium approach. This holds true for the historical school; it applies to MARX (with some qualifications) and to institutional economics the origins of which go back to the early critics of classical economics. What these critics have in common is the denial that economic processes (of production, distribution, and reproduction) can be adequately understood and analysed as closed, *i. e.* self-contained and self-sustaining systems isolated from a social and physical 'environment' of which the economic system is a part and from which it receives important inputs and with which it is related through manifold reciprocal inter-

8. BRIAN M. BARRY, *Sociologists, Economists and Democracy*, London, Collier Macmillan Ltd., 1970.

9. The words are those of W. STANLEY JEVONS, see his *Theory of Political Economy*, 2nd edition, London, Macmillan, 1879, p. 23.

dependencies. In other words, the critics have always considered the economy as an open system in continuous dynamic interaction with a more comprehensive social and political as well as physical system from which economic processes receive important organising (and disorganising) impulses and upon which they exert their own negative and positive influences. In addition to denying the self-contained and self-sustaining character of economic processes and by stressing the open character of economic systems the critics have challenged above all the belief in the mechanical and self-regulating character of economic processes. They have questioned the search for levels of partial and total equilibrium within an artificially closed system; they have refused to accept the view that economic analysis must confine itself to the study of a particular type or form of behavior; that the best method of studying complex phenomena is to separate the parts and study them one by one<sup>10</sup>, and that specialism is the royal road to efficiency in social analysis. In short, the critics have always been more or less open to other social and natural sciences. This applies particularly to institutional economists.

In fact, institutional economics has always aimed at a coherent representation of economic processes within and as part of a complex social system and their interaction. Institutionalists have endeavored to make explicit the relationships and the reciprocal interaction of the parts with one another and with the 'whole'. Long before structuralism and functionalism appeared on the academic horizon institutionalists have placed this reciprocal interaction in the center of their theoretical investigations. Institutionalists have found it problematical and indeed unacceptable to draw classificatory distinctions between so-called economic and non-economic factors and between economic and social processes. In order to illustrate these important characteristics of institutional economics let me first contrast ROBBINS' definition of economics with GRUCHY's characterisation of institutional economics. According to GRUCHY economics is concerned with 'the study of the structure and functioning of the *evolving* field of human relations which is concerned with the provision of material goods and services for the satisfaction of human wants. [...] it is the study of the changing patterns of cultural rela-

10. VILFREDO PARETO, *Traité de Sociologie Générale*, Lausanne, Librairie Payot, 1917, p. 17.

tions which deals with the creation and disposal of scarce material goods and services by individuals and *groups* in the light of their private and *public* aims<sup>11</sup>. Hence, whereas the neo-classical definition selects rational human conduct as a criterion GRUCHY makes it clear that economics is concerned with a much broader range of problems, namely the interdependencies of a great number of variables within a dynamic process of human and socio-cultural (interpersonal) relations resulting from changing modes of production, distribution and social reproduction. Not a particular *form* of behavior serves as the criterion of differentiation of economic analysis and determines its scope and approach but rather a particular set of interconnected dynamic problems which arise in the satisfaction of individual needs and public objectives.

In fact, the institutional approach focusses attention on the evolution of social systems and social processes. The analysis of the factors which provide the dynamic elements of these evolutionary processes has been in the center of institutional economics. Thus innovations, science and technologies as well as conflicts of interests, power and coercion in economic and social life have therefore always been included in their investigations. The central role of science, technology and innovations found an early expression in VEBLEN's *Theory of Business Enterprise* (1904). 'The material framework of modern civilization is the industrial system, and the directing force which animates this framework is business enterprise [...]. This modern economic organization of the "Capitalistic System" or "Modern Industrial System" so-called, its characteristic features, and at the same time, the forces by virtue of which it dominates modern culture, are the machine process and investment for a profit<sup>12</sup>.' Innovation, technology and domination of economic processes by the machine process set the pace for the rest of the industrial system and distinguish the present situation from all previous forms of economic organizations and civilizations. The aim of institutional economics is 'a theory of business enterprise [...] sufficiently full to show in what manner business methods and business principles, in

11. A. G. GRUCHY, *Modern Economic Thought*, New York, Prentice Hall, 1947, pp. 550, 552 (emphasis added).

12. THORSTEIN VEBLEN, *The Theory of Business Enterprise*, New York, Charles Scribner's Sons, 1904, p. 1.

conjunction with the mechanical industry, influence the modern cultural situation'<sup>13</sup>.

In addition, VEBLEN's theory of business enterprise laid the foundation for the analysis of economic instability and business fluctuations with their cumulative processes of investment based upon credit and the pervasive creation of debts, the generation of demand and employment and the inflation of all monetary values.

The preoccupation with the role of conflict, power and coercion is an intellectual heritage which, in America, antedates MARX and goes back to the Federalists and their European mentors prior to the American Revolution; early American institutionalists like VEBLEN and COMMONS have reformulated and integrated this heritage into their analysis of 'vested interests', absentee ownership, the economic role of the state, the legal foundations of capitalism, the importance of collective and political bargaining, public utility regulations and the analysis of collusion between financial, industrial and political power. In short, the problems raised by the industrial military complex and the 'power elite' have not been neglected in institutional economics.

In harmony with their early critique of the classical preconceptions and particularly the mechanics of self-interests developed by neo-classical utility, price and equilibrium theory, institutional economists have from the very beginning been sceptical of market prices in terms of which business enterprise tends to measure its performance and efficiency in utilizing scarce resources, *i.e.* of the criteria which price theory has accepted and legitimized, at least until quite recently, as criteria of optimal decision-making and as indicators of economic rationality in general. No wonder, therefore, that institutional economists were among the first who have called attention to and have analysed in considerable detail the social costs of production, long before the latter found a sudden and belated recognition in the current discussion of the increasing environmental and ecological disruption (including the exhaustion of non-renewable stock resources) with its serious threats to social reproduction and the quality of individual and social life. Unlike positive economics,

13. *Ibid.*, p.21. For an account of the emergence of innovations and new technologies, cf. VEBLEN's *Instinct of Workmanship and the State of The Industrial Arts*, New York 1914.

institutional economists have not hesitated to use the results of their inquiries as the basis of a critique of existing institutions and the *status quo*.

Equally significant have been the contributions of institutionalists to the analysis of underdevelopment (and development) and the persistence of increasing disparities not only between rich and poor countries but also within each of these two groups. MYRDAL's seminal studies of underdevelopment in South East Asia just as his earlier work on race problems in America are the outstanding examples of an institutional analysis which has overcome the conventional concentration on 'economic' variables such as savings and investment, employment, money, interest rates and GNP. MYRDAL and others have shown the true dimension and complexity of the persistent problems of poverty and underdevelopment and their relation to institutions, the soft state, the fundamental issue of the relationships between man and land including land-tenure relationships<sup>14</sup>, the population-resources relationship, illiteracy, the low level and an appropriate content of education, poor health and nutrition, pre-scientific knowledge of techniques, traditional attitudes, value systems, class, caste and kinship systems, and, last but not least, the domination effect (PERROUX) and center-periphery problem (GALTUNG) with its dramatic effects on the terms of trade. All these problems neo-classical theory had pushed more or less aside; to-day (1976) they can no longer be ignored for the simple reason that the countries of the Third World have begun to insist upon a new world economic order. No analysis in purely economic terms which abstracts from these institutional factors is able to come to terms with the circular interdependencies between these factors and the cumulative causal interaction which delay and arrest the process of development.

The preoccupation with problems of the kind outlined above gives institutional economics its scope and shows why there have always existed points of contact with other social and natural sciences including sociology, social anthropology, political science and ecology.

Needless to add that sociologists, social anthropologists and political scientists have contributed in no small measure to our under-

14. ERICH JACOBY (with CHARLOTTE JACOBY), *Man and Land*, London, André Deutsch, 1971.



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standing of such important elements of the development process as the analysis of caste, kinship and religion, factions and class conflict in traditional village life, attitudes and responses to innovation and modernization, economic motivation in traditional rural societies and socio-cultural evolution in general. However, in contrast to institutional economists these other social scientists have found it difficult, until quite recently, 'to think in terms of planning for national development. They are still laboring with finding out how people live and survive, and they are regularly, different from other economists, dealing with only segments of the national society and also mostly focussing their work on certain problems that have traditionally been at the center of their attention like *e.g.* caste in India. They have seldom attempted systematically to lay bare the circular causation between all conditions in a society they are studying<sup>15</sup>.'

### III. THE PRINCIPLE OF INTERLOCKING INTERDEPENDENCIES WITHIN A PROCESS OF CUMULATIVE CAUSATION AS A NEW THEORETICAL FRAMEWORK FOR THE SOLUTION OF CONCRETE PROBLEMS

With MYRDAL's formulation of the principle of circular causation we finally arrive at the core of institutional economics which sets it apart from earlier and contemporary non-institutionalist approaches and particularly from mechanistic equilibrium analysis. For, 'the principle of interlocking circular interdependencies within a process of cumulative causation'<sup>16</sup> is at the same time a new theoretical framework which rejects and replaces the traditional equilibrium framework and an analytical tool which permits the solution of concrete problems (*i.e.* of problematical, indeterminate situations) which have, so far, remained anomalies which could not be adequately accounted for in terms of the traditional 'disciplinary matrix'<sup>17</sup>.

15. GUNNAR MYRDAL, *The Unity of the Social Sciences, Plenary Address to the Society of Applied Anthropology*, Amsterdam, March 21, 1975 (ms), p. 12.

16. GUNNAR MYRDAL, *Economic Theory and Underdeveloped Regions*, London, Gerald Duckworth & Co., 1957, p. 23.

17. I am using here THOMAS KUHN's *new terminus* instead of his earlier 'paradigm'. Following MARGARET MASTERMAN, KUHN now identifies the growth

The principle of interlocking circular interdependencies within a process of cumulative causation has a long history. It played an important role in MALTHUS' analysis of the growth and decline of populations. THÜNEN advanced an early version of it when he stated that the manual worker cannot rise into the class of entrepreneurs because he lacks the necessary schooling since his wages are low which, in turn, is due to the fact that the poor have higher reproduction rates and hence the supply of labor is almost always higher than the demand, and consequently wages tend towards the subsistence level<sup>18</sup>. MARX was the first to stress the fundamental reciprocal interaction between 'productive forces' and 'production relations' and the ideological superstructure. VEBLEN developed and used the principle of circular interdependencies of a number of factors within a process of cumulative causation in connection with his analysis of the function of the leisure class, the role of technology and credit particularly in connection with his explanation of the business cycle and the inflation of all monetary values; and so did KNUT WICKSEL, within a narrower market framework, in his account of the inflationary expansion of credit resulting from a deviation of the money (market) interest rate from the natural, real rate of interest<sup>19</sup>.

However, it was left to MYRDAL to develop the principle of inter-

of knowledge with 'framework breaking' whereby the 'traditional' framework of analysis for problems solving (disciplinary matrix) is rejected and replaced by another set of ordered elements capable of 'solving' or accounting for what remained unexplained by the former: 'an artifact which transforms problems to puzzles and enables them to be solved even in the absence of an adequate body of theory'. THOMAS KUHN, *Reflections on my Critics*, in: IMRE LAKATOS and ALAN MUSGRAVE (Eds.), *Criticism and the Growth of Knowledge*, Cambridge, at the University Press, 1970, p.273. Cf. also MARGARET MASTERMAN, *The Nature of a Paradigm*, *Ibid.*, pp. 59-90.

18. JOHANN H. VON THÜNEN, *Der Isolierte Staat* (1850), Jena, Gustav Fischer, 1910, pp. 440/441.

19. The neo-classical theoretical framework of general equilibrium or total interdependence of all prices in a market economy is of course also a case of mutual interlocking interdependencies. However, in contrast to VEBLEN and MYRDAL, the neo-classical framework postulates an isolated closed analytical model with self-equilibrating tendencies. Similarly the 'multiplier' or the 'accelerator' are cases of cumulative interdependencies even though the relationships referred to are conceived in a narrow mechanical and deterministic fashion.

locking 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 consist 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); *conditions of production* (techniques, scale, capital intensity, savings and investment, social overhead, labor 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 interrelations 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<sup>20</sup>.

In other words, only by ascertaining the interaction and responsiveness of productivity and conditions of production to changes of the level of living, institutions and policy measures, is it possible to arrive at reasonable judgments as to the possible effects and outcomes of alternative policies, investments, and legislative action, as for instance agrarian reforms, new techniques, *etc.* In this sense, we believe that it is justified to regard the principle of interlocking circular interdependencies within a process of cumulative causation as the 'disciplinary matrix' which provides institutional economists with a new tool for the identification and ordering of the relevant elements in the study of socio-economic processes in their immensely diversified and changing complexity. More than this, the principle enables institutionalists (and other social scientists) to transform problematical situations and unsolved open problems (as for instance increasing disparities within and between 'rich' and 'poor' regions) into 'puzzles' which can be solved even when a complete theory and the precise knowledge as to the 'coefficients of interaction' are not (yet) available. As a matter of fact, this is precisely what the principle of

20. GUNNAR MYRDAL, *The Unity of the Social Sciences*, *op. cit.*, p. 6.

circular interdependencies has made possible not only with regard to the 'diagnostic' identification of relevant factors and conditions with regard to the problem of underdevelopment, but also with respect to the specification of possible measures and priorities required to deal with them.

One thing deserves special emphasis before turning to other matters. This is the question of the boundaries of the system and hence the question of the limits of the analysis. In other words, how far and how wide have we to extend the net of our investigations? A general but perhaps not entirely satisfactory answer is that all factors which can be shown to have a possible influence on the process or problem under investigation will have to be included regardless of whether or not this transcends the borderlines between traditional academic disciplines. In a more fundamental sense, the answer to the question as to the boundary of the system and hence to the factors to be included depends on the nature of the problem and the purpose of the investigation. Social Costs, environmental disruption, the increase of oil prices, and the emerging scarcities of non-renewable resources force economists to realize that economic processes depend upon a continuous exchange of energy and matter between the economy and nature and that available and accessible matter-energy is continuously and irreversibly transformed and partly dissipated into unavailable energy (increasing entropy). Therefore, an adequate and complete analytical description of economic processes cannot be obtained by the analysis of closed system (*e.g.* circulatory processes of production and consumption or systems of partial and total equilibrium, *etc.*) but calls for a representation of what the process needs in the form of input and what it does to man's environment by the emission of pollutants and the disposal of waste material. In other words, what is called for is a specification of the inputs required (and available), of the outputs including wastes disposed into the environment; the energy required (and available) for the transformation process as well as the resulting qualitative changes in time and space. I am listing these points not in order to suggest that institutional economics has already solved these problems but rather in order to call attention to the wide gap which exists between economic reality and economic models currently used for the theoretical representation

of economic processes. In short, the question of the boundary of the system raises much more fundamental problems than is usually believed; it includes the problem of the relevant time horizon or, more precisely, the question of the appropriate long-run time schedules of the inputs and outputs to be considered<sup>21</sup>. One thing, however, should be clear from the foregoing observations: the existing borderlines between traditional disciplines are to-day the most important obstacles to an adequate analytical treatment of economic and social processes. This is the essential point of MYRDAL's dictum: there are no economic (or, for that matter, sociological) problems; there are only problems and they are all complex. In fact, MYRDAL recently made the point that since research must be focussed on specific problems which are all composite and mixed, 'borderlines between our traditional disciplines should be transgressed systematically'<sup>22</sup>.

The central significance of the principle of circular interdependencies and cumulative causation derives from the fact that it abandons and, in fact explicitly rejects the notion of stable equilibrium as a misleading and unwarranted analogy to mechanics. From the perspective of mechanics everything is treated as a pendular movement where changes produce their counterbalancing forces and where production merely becomes a process of transformation under the influence of a maximization rule<sup>23</sup>. 'Actually, the economic process is not an isolated, self-sustaining process. It cannot go on without a continuous exchange which alters the environment in a cumulative way and without being, in its turn, influenced by these alterations<sup>24</sup>.'

In short, economic processes can be understood and must be represented for analytical purposes as radically open systems which

21. '[...] where we draw the abstract boundary, what duration we consider, and what qualitative spectrum we use for classifying the elements of the process depend on the particular purpose of the student, and by and large on the science in point'. NICHOLAS GEORGESCU-ROEGEN, 'Energy and Economic Myths', *Southern Economic Journal*, Vol. 41 (1975), 3, p. 350.

22. GUNNAR MYRDAL, *The Unity of the Social Sciences*, *op. cit.*, p. 15.

23. 'To equate the economic process with a mechanical analogue implies [...] the myth that the economic process is a circular merry-go-round which cannot possibly affect the environment of matter and energy in any way'. GEORGESCU-ROEGEN, *op. cit.*, p. 350.

24. *Ibid.*, p. 348.

exchange energy and matter with the environment in the course of which qualitative changes take place both with respect 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<sup>25</sup>.

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 'center' 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 cau-

25. 'Actual phenomena move in a definite direction and involve qualitative change. This is the lesson of thermodynamics [...] (*i.e.* the law of increasing entropy or the continuous dissipation of available energy into unavailable energy).' *Ibid.*, pp. 351/352.

sation a social process tends to become cumulative and often to gather speed at an accelerating rate'<sup>26</sup>. The principle does not pre-judge the direction of the cumulative response nor the final outcome. In fact, it does *not* imply only 'vicious' circles. In other words, the response of the system to an endogenous or exogenous change such as deliberately planned exogenous impulses may either reinforce, retard or reverse the process; hence there is room for a variety of possibilities of interdependencies<sup>27</sup>.

Moreover, the principle of cumulative causation and circular interdependencies offers a logical explanation why, under certain conditions, relatively 'small' changes are capable of bringing about comparatively 'big' effects or transformations in socio-economic as well as ecological processes. Once the conditions for cumulative processes (either upward or downward) exist in a particular system a relatively small additional impulse can act as an 'evocator' of substantial, non-linear and even 'jump-like' transformations particularly when certain limits or thresholds of tolerance are reached. Good examples for such disproportionalities between cause and effect can be found in the field of air and water pollution where critical limits of the carrying capacity of the environment may be reached or exceeded by small additional emissions of pollutants. Needless to add the principle of the disproportionality between cause and effect is not confined to environmental disruption. It applies also to socio-economic as well as to biological processes as it does to chemico-physical reactions.

Before concluding these considerations let me come back to the problem of the precision and completeness of our knowledge regarding cumulative causation and circular interdependencies of a great number of conditions. I have already referred to 'coefficients of interaction' of relevant variables, to possible time lags, and even to the total non-responsiveness of one or several of the relevant conditions to induced changes. Institutional economists are not opposed to precise and quantitative knowledge; on the contrary, they were among the first to call for and insist upon the quantification of

26. GUNNAR MYRDAL, *Economic Theory and Underdeveloped Regions*, *op.cit.*, p. 13.

27. GUNNAR MYRDAL, *Asian Drama*, Vol. III, New York, Pantheon Books, 1968, p. 1859.



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relevant relationships between variables in scientific investigations<sup>28</sup>. They have insisted on precise concept formations as well as on detailed and disaggregated empirical and quantitative statistical studies of all important factors and their interaction irrespective of conventional borderlines between academic disciplines with a view to filling the gaps of our knowledge. But, unlike those who are interested in quantification and precision out of a 'quest for certainty' and a search for precise and purely formal solutions of frequently esoteric problems, institutionalists have remained aware of and have warned against the tendency 'to overlook the imperfection of our knowledge and to pretend to precise knowledge which does not stand scrutiny' and serve no rational purpose<sup>29</sup>. While the ideal scientific solution of a problem may be, as MYRDAL indicated, to formulate 'an interconnected set of quantitative equations, describing the movement – and the internal changes – of the system under the various influences which are at work'<sup>30</sup> such a quantitative formulation is to-day, as MYRDAL also pointed out, far beyond the horizon. 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 coefficients 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.

#### IV. SOME PRACTICAL IMPLICATIONS OF THE PRINCIPLE OF CIRCULAR INTERDEPENDENCIES

In rejecting the mechanistic equilibrium approach as false and misleading and by stressing the importance of the principle of circular causation institutionalists do not argue that the situation is hopeless. While it is true that institutionalists regard circular causation, dis-

28. Cf. W.E. MITCHELL's work on business cycles and his programmatic article, 'Quantitative Analysis in Economic Analysis', *The American Economic Review*, Vol. 15 (1925), March. MYRDAL was one of the founder members of the Econometric Society.

29. GUNNAR MYRDAL, *The Unity of the Social Sciences*, *op. cit.*, p. 6.

30. GUNNAR MYRDAL, *Economic Theory and Underdeveloped Regions*, *op. cit.*, p. 19.

ruption, disparities and disequilibria as 'normal' tendencies they also regard these tendencies as the main determinants of the dynamics of the system, both evolutionary and cataclysmic<sup>31</sup>. At the same time, it is these dynamic tendencies towards disequilibrium which provide the main impulse for attempts at remedying, channelling and controlling social and economic processes by deliberate policy measures with a view to maintaining social reproduction.

What should be the specific policy objectives of such measures? How will they be determined? How can they be defined? Which criteria need to be used? These are some of the central questions with which institutionalists will have to concern themselves. They have only begun to deal with these problems and it would be too much to expect that a large measure of agreement has been reached, except at the most general level. MYRDAL, in his studies of underdevelopment, speaks of modernization ideals and economic integration as goals of policies designed to guide the process of development planning with a view to moving the entire social system 'upwards'<sup>32</sup>.

Others have argued that balanced growth be considered as a

31. W. F. WERTHEIM, *Evolution and Revolution*, Harmondsworth, Penguin Books, 1974, p. 9.

32. MYRDAL's modernization ideals are the basic and explicit value premises underlying the development effort; they include social and economic equalization, greater rationality, improved levels of living, including nutrition, health and housing, rise of productivity, new institutions, attitudes and motivations including the liberation from all notions of fatalism and 'destiny', national consolidation, self-reliance. These ideals have been criticized as eurocentric and 'Western' in character (cf. CLIFFORD GEERTZ, MYRDAL's Mythology - 'Modernism and the Third World', *Encounter*, Vol. 33 (1969), 1, pp. 26-34.) While this may be so, it is at least worth noting that they represent positive values for influential groups in some of the underdeveloped countries and that they were even shared by a man like GANDHI: 'The young Indian must come round to a rational and objective view of material advancement. He must be able and willing to tear himself away from his family ties; flout customs and traditions; put economic welfare before cow worship; think in terms of farm and factory output rather than in terms of gold and silver ornaments; spend on tools and training rather than on temples and ceremonials; work with the low caste rather than starve with the high caste; think of the future rather than of the past; concentrate on material gains rather than dwell on kismet (destiny). These are extremely difficult changes to envisage in the Hindu social structure and ideas. But they seem unavoidable'. D. K. RANGNEKAR, *Poverty and Capital Development in India*, London, Oxford University Press, 1958, p. 81, quoted from MYRDAL, *Asian Drama I*, *op. cit.*, p. 62, fn.

general objective of policy measures particularly in developed countries. This advances us only in so far as it stresses the need to look for, and to develop appropriate criteria and definitions of states of dynamic equilibria which should be the basis for the formulation of the specific goals and objectives of all our strategies and policies in a world in which tendencies toward disequilibrium are typical and prevailing whereas conditions of equilibrium and balance are transitory and provisional. In this sense and in so far as unbalance and disequilibrium endanger social reproduction and hence human life and survival, the analysis of disequilibria and the search for dynamic states of balance as policy objectives may indeed be said to be complementary. The latter presupposes the former.

However, I would go one step further. The search for and hence the formulation of conditions of admittedly transitory balance and equilibrium will have to be guided not only by a critical and diagnostic identification of the full range of relevant variables, their circular interaction and their logical (probable) outcome but by fundamental and explicit value premises. For to avoid value judgments in the field of practical action in an effort of maintaining one's alleged objectivity is nothing but an evasion of the basic problems inherent in policy formulation. In order to contribute to the latter social inquiry must go beyond a 'positive' analysis of the interaction of relevant variables; it will have to assess critically the outcome of social processes *in the absence* of deliberate social action and, in the light of such a critical evaluation of reality, contribute to what may be called the formulation of possible and desirable states of dynamic balances or processes as goals of social policies and social development. The creative formulation of possible and 'desirable Futures' (OZBEKHAN) goes far beyond anything that has thus far been undertaken by social analysis. Institutionalists are certainly not the only ones who have something to contribute to these new tasks. They bring to it perhaps a more thorough understanding than other social scientists, of the relevant circular interdependencies which determine the outcome of action or inaction. My own view is that possible and desirable Futures need to be defined with reference not only to general objectives of modernization, but with respect to more specific requirements defined in terms of essential or basic human and collective needs and the minimization of human suffering.

In fact, what is essential, perhaps more than anything else, are new fundamental principles for the determination of social goals and for the formulation of our public policies. Such basic principles must be 'operational', *i.e.* they must not remain vague and ambiguous like the utilitarian principle of maximizing happiness but must be capable of being translated into criteria of action and into quantifiable indicators of performance. Not maximization of pleasure, but the satisfaction of basic human needs or the minimization of human suffering seems to me to constitute such a first principle which could guide practical policies and serve as a yardstick of social efficiency. For, unlike happiness and welfare 'human suffering is utterly concrete [...]. To wipe out hunger and sickness, unemployment and poverty, illiteracy and ignorance can give rise to practical political action'<sup>33</sup> on a national and international scale. It is this 'inverted utilitarianism' which has been suggested as the first principle which must be our value premise to-day and in the future if we want to come to terms with the problems of social and ecological disruption as well as growing national and international disparities, inflation, unemployment, poverty, and last but not least with the threat to world peace.

In this context, I do not consider it as my task to outline the full implications of such a new normative approach to social analysis and social action. Suffice it to say, however, that what would be involved is a basic re-orientation of social analysis which ultimately will have to find expression in a reversal of our previous epistemological attitudes and thought processes: Many of the factors which we have so far accepted as given (even if only as parameters) as for example individual preferences, the state of technology, the principle of 'investment for profit' (as VEBLEN used to say) will have to be considered as dependent variables which need to be adapted and modified in accordance with the new value premises of minimizing suffering and providing the means for the gratification of basic human needs and the maintenance of essential economic, social and ecological balance<sup>34</sup>.

33. GUNNAR ADLER-KARLSSON, 'Inverted Utilitarianism or a New Way of Life in Developed Countries', *Symposium on a New International Economic Order*, The Hague, May 23-24, 1975, p. 68.

34. For evidence that the practical and political implications of such a re-

## V. CONCLUSIONS

I hope to have demonstrated that institutional economists have provided more than a rational critique of the scope and method of traditional economics. They have shown the trans-disciplinary character of our problems, and they have considerably broadened the scope of socio-economic analysis. Above all, they have provided an alternative analytical framework for the explication of the circular interdependencies within a process of cumulative causation which provides economists and other social scientists with a tool for the solution of theoretical and practical problems.

The principle of cumulative causation does not reflect a static view of interdependencies giving rise to a stabilization of the *status quo* within a given form of social organization. The principle does not rule out conflict, tension, contradiction, change, and transformation; on the contrary. Furthermore, the active factors in circular interdependence include both subjective and objective elements: common ideas, valuations, ideologies and institutions as well as techniques, and 'production relations'. While the principle refuses to attribute exclusive or primary importance to one or the other set of factors in circular interaction, it does not rule out the possibility that either one or the other set of factors may exert a predominant or decisive influence with either positive or negative effects. What the principle rejects as futile is any search for a primary cause.

In this as in other respects, institutionalists have indeed followed the lead of the problems with which they are concerned. This does not preclude specialization nor does it call for expert familiarity of

orientation are being investigated, *cf.* in addition to MYRDAL's writings, IGNACY SACHS, 'La crise dans les stratégies de développement: Vers l'identification de nouveaux objectifs', OECD, Séminaire: Sciences, Technologie et Développement dans un Monde en Mutation, Paris 1975. UNEP, The Cocoyac-Declaration, Development Dialogue, 1974, No.2, pp.88-96. 'What Now - Another Development', *The 1975 Dag Hammarskjöld Report*, prepared on the occasion of the 7th Special Session of the United Nations General Assembly. HASAN OZBEKHAN, *Technology and Man's Future* (ms), Santa Barbara 1965. K. WILLIAM KAPP, 'Umweltkrise und Nationalökonomie', *Schweizerische Zeitschrift für Volkswirtschaft und Statistik*, Vol. 108 (1972), 3, pp. 231-249.

the results of all disciplines. It means, however, as C. WRIGHT MILLS put it in another context, that a social scientist will have to be 'familiar enough with the materials and perspectives of other disciplines to use them in clarifying the problems that concern him'<sup>35</sup>. It does not mean that a social scientist needs to master everything and all fields.

The relevant boundaries of the limits of social inquiry differ depending upon the problems under discussion. In any event, in view of the cumulative circular interdependencies which link the economy to the environment and the resource base and hence to the interests of future generations economic processes cannot be adequately described without reference to a time horizon: that is to say, without reference to the time schedule of inputs in relation to scarce available resources, and the direction of the qualitative changes which the use of energy and matter as well as the disposal of waste have upon the environment and hence on economic processes and the well-being of future generations. It is this concern for a longer time horizon and for the complex interdependencies of actual social phenomena and processes moving in a definite direction with possibly irreversible qualitative changes and, last but not least, the rejection and the replacement of the mechanical analogy by the principle of circular causation which gives modern institutionalism, what I venture to call its modern character and its transdisciplinary scope.

#### SUMMARY

Critics of traditional economic theory have always denied the closed character of economic systems. They have stressed instead the open character of economic processes and have challenged above all the belief in their self-regulatory tendencies. They have rejected the belief in the dogma of the 'mechanics of self interest' and the conviction that specialism is the royal road to efficiency in scientific analysis as well as in production. However, institutional economists have not only provided a rational critique of the traditional scope and method of mainstream economics; they have advanced an analytical framework for the explication of the circular interdependencies within a process of cumulative causation – a framework which gives them a powerful tool not only for the ordering of relevant factors in the analysis of socio-economic processes but also for the formulation

35. C. WRIGHT MILLS, *Sociological Imagination*, New York, 1959, p. 142.

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and 'solution' of theoretical and practical problems. As such MYRDAL's principle of circular interdependencies can be regarded a new paradigm for a new approach to socio-economic analysis. Institutional economics aims at a normative system of knowledge which calls for explicit value premises of a preliminary and hypothetical nature. Instead of the vague utilitarian principle of maximizing 'pleasure' the author regards the satisfaction of basic human needs and the minimization of human suffering as the first moral principle and at the same time as a yardstick of social rationality which he considers as urgently needed in an era of environmental disruption and national and international socio-economic disorganization.

## ZUSAMMENFASSUNG

Kritiker der Wirtschaftswissenschaft haben seit jeher die Annahme «geschlossener» wirtschaftlicher Prozesse in Frage gestellt und haben demgegenüber den offenen Charakter ökonomischer Systeme betont, wobei sie gleichzeitig die Annahme einer quasi-automatischen Selbstregulierung als Dogma einer «Mechanik des Selbstinteresses» ablehnten. Sie haben ebenso die Ansicht abgelehnt, dass Spezialisierung die Voraussetzung zur Effizienz der Sozialforschung wie in der Produktion darstellt. Institutionelle Ökonomen von VEBLEN bis MYRDAL haben neben einer rationalen Kritik der methodologischen Grundlagen der traditionellen Ökonomie ein alternatives Erklärungsprinzip für die Erfassung der zirkulären Interdependenzen innerhalb eines Prozesses kumulativer Verursachung entwickelt – ein Prinzip, das ihnen ein wichtiges Werkzeug sowohl für die Ordnung relevanter Faktoren als auch für die Formulierung und Lösung relevanter theoretischer und praktischer Probleme bietet. MYRDAL's Prinzip der zirkulären Interdependenz mit kumulativer Verursachung kann in diesem Sinne als ein Paradigma für eine Erneuerung der Sozialwissenschaften angesehen werden. Die institutionelle Ökonomie strebt ein normatives System des sozialwissenschaftlichen Denkens an, das mit expliziten Wertprämissen hypothetischer Natur arbeitet. Anstelle des vagen utilitaristischen Prinzips der Maximierung von 'pleasure', das heisst eines subjektivistischen Glücksempfindens, plädiert der Verfasser für die Befriedigung existentieller Grundbedürfnisse und der Minimisierung menschlichen Leidens als ein moralischer Imperativ der gleichzeitig als konkreter Massstab gesellschaftlicher Rationalität von grundsätzlicher Relevanz im Zeitalter der Umweltzerstörung und nationaler und internationaler sozialer Disorganisation dienen kann.

## RÉSUMÉ

Ceux qui critiquent la théorie économique traditionnelle ont toujours nié le caractère fermé des systèmes économiques. Ils insistent au contraire sur le caractère ouvert des processus économiques et contestent en particulier la croyance en leur tendance auto-régulatrice. Ils ne croient pas non plus au dogme des «mécanismes

de l'intérêt personnel» et rejettent l'idée que la spécialisation est la voie royale vers l'efficacité, tant dans le domaine de l'analyse scientifique que dans celui de la production. Pourtant, les économistes institutionnalistes n'ont pas seulement élaboré une critique rationnelle des buts et méthodes de l'économie traditionnelle; ils ont aussi proposé un outil analytique pour l'explication des interdépendances circulaires à l'intérieur d'un processus de causalité cumulative – outil fort utile, non seulement pour la classification des facteurs appropriés à l'analyse des processus socio-économiques, mais aussi pour la formulation et la «résolution» de problèmes théoriques et pratiques. Ainsi, le principe des interdépendances circulaires de MYRDAL peut être considéré comme un nouveau paradigme pour une approche nouvelle de l'analyse socio-économique. L'économie institutionnaliste cherche à être un système de connaissance normatif qui exige comme hypothèses préliminaires des jugements de valeur explicites. Au vague principe utilitariste de la maximisation du 'plaisir', l'auteur oppose la satisfaction des besoins humains élémentaires et la minimisation de la souffrance humaine; il en fait à la fois la norme et le premier principe d'une rationalité sociale dont le besoin se fait pressant dans une époque de destruction de l'environnement et de désorganisation socio-économique sur le plan national et international.