

Unbalanced Growth, Programmes and Prognoses, and the Ideal Plan ⁽¹⁾

It occasionally happens that ideas formulated in entirely different contexts and for entirely different reasons, are found to have certain affinities. The purpose of this article is to show that such affinities can be found in the arguments underlying the criticism of the means-ends model in my essay "Programmes and Prognoses" (2) and those underlying the criticism of the doctrine of balanced growth (3). I shall first summarise briefly the main features of those models and the criticism, then discuss the convergence of underlying principles and finally link this up with some current notions of planning in underdeveloped countries, in which the notions of balanced growth and of the means-ends model converge.

The *doctrine of balanced growth* states that investment, to be successful, must be applied to the production of a variety of products in accordance with income elasticities of demand. "The case for 'balanced growth' rests on the need for a 'balanced diet'" (4). Since human wants are complementary, only a series of investment projects which cater for one another will create the mutually sup-

(1) Views similar to those presented here can be found in "Economic Development, Research and Development, Policy Making: Some Converging Views", by ALBERT O. HIRSCHMAN and CHARLES E. LINDELOM, *Behavioral Science*, Vol. 7, No. 2, April 1962, and in "Tinbergen on Policy-Making" by CHARLES E. LINDELOM in *The Journal of Political Economy*, Vol. LXVI, No. 6, December 1958. The inspiration to the approach in this article comes from Mr. T. Balogh and Professor G. Myrdal who have, repeatedly but with little success, pleaded for a rationality which is aware of the limitations of mechanistic model thinking in economics.

(2) In GUNNAR MYRDAL, *Value in Social Theory*, Introduction.

(3) ALBERT O. HIRSCHMAN, *The Strategy of Economic Development*; PAUL STREETEN, "Unbalanced Growth", *Oxford Economic Papers*, June 1959 and March 1963; "Balanced versus Unbalanced Growth", *The Economic Weekly*, 20 April 1963, and *Economic Integration*, second edition (Sythoff), chapters 6 and 7.

(4) RAGNAR NURKSE, *Problems of Capital Formation in Underdeveloped Countries*, 1953, p. 11.

porting markets which will justify each project. Various qualifications were introduced as the debate continued, such as the restriction of the doctrine to final goods (the exclusion of intermediate goods), the limitation of the principle to that of an ultimate objective (to the exclusion of the process of achieving this objective), etc. But the main idea remains: the emphasis on the complementarity of markets, requiring an investment "package".

The *means-ends model* is the accepted form of thinking about economic policy. It appears in the Social Welfare Function as the basis of modern welfare economics and in Professor Tinbergen's distinction between target variables and instrument variables in his elegant formulation of the theory of economic policy (5).

We are confronted with a given set of ends and we have knowledge of the structural relations of the economy. Turning the causes and effects of economic analysis into the means and ends of economic policy, we are able to construct, with sufficient knowledge, a system of interdependent relationships. If the ends can be rendered commensurable, so that we can indicate how much sacrifice of one is worth more of some other, we can reduce the problem to that of the maximisation of an end index. In order to separate the sphere of values from the sphere of facts successfully, we would have to assume:

- 1) that people attach to means no independent value but only instrumental value;
- 2) that people attach to ends independent value only, and never consider them as means to other ends;
- 3) no other effects of means than the "given" ends have independent value.

Both the balanced growth model and the means-ends model contain a sharp separation of two spheres: in the Social Welfare Function the ends of economic policy, assumed to be given, are separated from the means, which can be deployed in different ways. In the doctrine of balanced growth (BG) the projects dictated by income elasticities of demand are separated from the investment/income ratio, while incentives, human attitudes to work and life, and social

(5) Cf. J. TINBERGEN, *On the Theory of Economic Policy* (1952) and *Economic Policy: Principles and Design* (1956). See also e.g. R. A. MUNDELL, "On the Selection of a Program of Economic Policy...", *Banca Nazionale del Lavoro Quarterly Review*, September 1963.

and political institutions are assumed to be constant and fully adapted to economic requirements. In both cases one type of pattern, suited for the understanding of certain conditions, is elevated to the model of rational behaviour *par excellence*. The following criticism is intended not to reject this type of model, but to show some of its limitations.

The presentation often begins with statements which appear innocuous, indeed platitudinous, such as: we should specify clearly our ends before embarking on policies; we should choose between the available means those best adapted to achieve our specified ends; policies should be mutually consistent and should be framed only after full consideration of all alternatives and their implications; they should be scrutinised for their side-effects and attention should be paid to interactions, etc. Yet, if formulated precisely and extended to economic policy in general, these apparently self-evident admonitions are misleading. It is peculiar to both Unbalanced Growth (UG) and Programmes and Prognoses (P & P) that they probe "into the hidden rationality of practices that are perpetually at odds with established doctrine" (6).

Bottlenecks and imbalances appear to be signs of bungling and blundering. The lack of a clear separation of ends from means seems to be a symptom of muddle-headedness. In fact, they sometimes point to the limitation of the conventional notions of rationality. Unbalance can be the inevitable result or even a necessary condition of progress. The re-alignment and creation, rather than the acceptance, of ends may be the objective of planning.

The converging criticisms can be summarised briefly.

The separation of given ends from alternative neutral means is not always appropriate. More ultimate ends are frequently clarified, emerge or disappear in the process of attempting to achieve intermediate ends; means acquire and lose the characteristics of ends. Similarly in UG: the desire to seize profit opportunities is neither given and constant nor created by the existence of profit opportunities, but has itself to be planted and nursed. In other words, the task is not simply to promote given ends, but to create the desire for new ends: e.g. to transform a society governed by tradition into one susceptible to experiment and innovation; to remove end-characteristics from certain activities (stigma or dignity attached to

(6) ALBERT O. HIRSCHMAN (editor), *Latin American Issues*, fn. 4, p. 41.

certain jobs and professions) and to endow others with end-characteristics (business success; experimentation; novelty; enrichment). Indeed, from this point of view the whole process of economic development from a tradition-bound to an advanced society can be described as: let there be means where there were ends! (7) The introduction of the cash nexus where previously incommensurable duties and rights prevailed, and the substitution of contract for status, widen the area of instrumental values which replace independent values. In many underdeveloped societies the payment and receipt of interest on loans above a certain limit is immoral and illegal. The removal of the moral stigma and of the legal restriction paves the way for a rational use of scarce capital. Similarly, the notion of a *justum pretium* endows with moral value prices which, in a more advanced society, have purely instrumental value (8). The process of UG can be interpreted as the creation and the destruction of human attitudes and valuations, in order to initiate and accelerate development. BG, on the other hand, assumes these to be given and constant.

(7) The reclamation from an all-pervasive morass of end-valuations of the dry land of rational planning, and thus human liberation, is well illustrated by the ultimate ambition of Faust, in his extreme old age:

"Below the hills a marshy plain
 Infects what I so long have been retrieving;
 This stagnant pool likewise to drain
 Were now my latest and my best achieving.
 To many millions let me furnish soil,
 Though not secure, yet free to active toil;

...
 And such a throng I fain would see,
 Stand on free soil among a people free!"

Act V, Scene VI

(8) It is worth noting that at a later stage of development independent (political) value tends to be once again attached to certain prices. In welfare societies such prices as wage rates, house rents, interest rates, foreign exchange rates, etc. acquire again something of the quality of the *justum pretium* and are removed from the *purely instrumental* sphere. Sometimes independent value is attached to a specific price — such as the pre-war value of sterling in 1925, sometimes merely to stability of price, whatever its value happens to be. In the U.S. independent negative value is attached to a budget deficit. It may also be that variables are valued as instruments only within a range, but independently outside that range. Small exchange rate variations or small budget deficits are permitted, but large ones not. Expressions such as "defending the price of bonds" or "defending the exchange rate" indicate the independent value attached to certain prices.

Those who find the means-ends model and the BG model useful, look upon problems of economic policy and development as if they were, in principle, like puzzles. Granted consistent premises, there is always a "correct" solution. There is always an unambiguous "scientific" test of whether we have solved the puzzle. No doubt, many problems of economic policy are of this type. Some people, perhaps the technocrats, believe that all problems are. It is certainly tempting to assimilate all problems to this type and to say that a problem has been solved when certain ideal rules are obeyed (9). But the question, e.g., whether a certain rise of income per head per year should be a primary objective of development policy is altogether different. We might consider this rise simply as a means to some other end — say preventing revolution. But neither economic development nor a rise in income per head is simply a means to some other end or only an end in itself. Although we cannot apply simple and definite tests and present a "scientific" solution, the answer to the question as to whether development has proceeded is not arbitrary. Although value judgments enter into our judgment of the situation, they are not like the "ends" in the puzzle-solving model. The test of successful development is not found in confronting certain facts with a set of value judgments. Analysis and prognosis are skills, which cannot always be subjected to the rules of the means-ends game. Although they involve judgments which have some of the characteristics of valuations, they are not for that reason "subjective", arbitrary or mere matters of taste.

The conventional models of efficient resource allocation assume that there is normally a wide choice of means to promote the given ends. In the means-ends model this presupposes a wide sphere of non-valued activities; in the BG model this assumes mobility, flexibility and transferability of resources. In underdeveloped economies these assumptions are notoriously unwarranted. Available means may be so limited that there is little or no choice. This may be either because means are also valued independently, or because resources are not flexible. The situation is like that of the drunk

(9) Professor J. C. Maxwell told me that a critic of B. L. JOSEPH's book on *Elizabethan Acting*, which maintains that the techniques were extremely formal, notes that one of his arguments is drawn from the practice of wagers on actors' skill in declaiming set-pieces. Joseph infers from this that they must have had a "generally accepted body of rules as to what was a fault".

who has lost his key and looks for it not where he dropped it but under the street lamp — because this is where the light is. If there were alternative options, such behaviour would be irrational. But it may become rational if action is hemmed in by obstacles. These obstacles may be either valuations or physical restraints. To those whose thinking is confined to the conventional model, it looks as if means were dictating conduct. But the range of choice presupposed by this way of thinking does not exist. It therefore looks as if the means dictated the end, as if what should be done depended on what can be done.

The purpose of using means is not only to promote given ends but also to explore new ends. When we travel in new countries, taste new dishes, meet new people, read new books, educate ourselves, etc., we are not trying to satisfy given tastes, for we do not know what these satisfactions will be like: we are exploring new experiences in order to discover new ends. Similarly, in the process of UG new objectives are explored and discovered whose existence is presupposed in the doctrine of BG. What I have described as the anabolism of wants (10) consists in the pressure exerted by the satisfaction of existing wants upon the creation (or discovery) of new wants. Similarly for investment incentives and developmental decisions generally. A railway, a road, a dam may meet existing needs, but they also lead to the discovery or the creation of a cluster of new aspirations and development opportunities. The erection of factories generates opportunities and fosters attitudes to seize profits, which previously lay dormant or did not exist. Again, the conventionally postulated process is reversed: means are not used to achieve given ends but are used to explore, awaken, create new ends.

Whether we describe the process as one of the discovery of latent ends or of the creation of new ends does not matter. The point is that ends previously not part of the observed value pattern emerge as a result of the use of certain means. One set of wants is often generated in the process by which another set of wants is satisfied, or by the mere fact that new means become available.

In particular, imbalance can create and build up wants as in the case of the Hi-Fi enthusiast who always improves the weakest link in the chain of tuner, amplifier, player and speaker, where the elimination of one source of trouble shows up new weaknesses, rais-

(10) *Economic Integration*, second edition, pp. 115ff.

ing the standards of the performance he requires all the time (11). Similarly, in the UG process, disequilibrium calls into existence remedial forces and this process pulls along the economy, which would not have been activated had it not been for the series of disequilibria. The crossword puzzle, picked up in the dentist's waiting room, can lead to crossword puzzle addiction. The well-chosen disequilibrium can spark off the process of development. Sometimes not only are the specific ends not planned, but the process of emergence of new ends itself is unplanned, as in the story of the sons who were told to dig for treasure in the vineyard: they found no treasure but improved the soil. Important results of our actions are indirect and incidental. The ends follow the means (12).

Another common feature of the two convergent criticisms is that both point out that a system is never complete and finished. The Social Welfare Function, the notion of the Ideal Plan (in which a set of social objectives is contrasted with a set of policies to achieve these), the doctrine of BG, all presuppose finished systems. The appropriate investment policies spring, like Pallas Athene, fully armed from the head of Zeus. P & P and UG, on the other hand, postulate permanently unfinished systems. Yesterday's ends turn into today's means, and yesterday's means motivate or create today's ends. What looks like the fulfilment of one sequence opens up another sequence. The system moves because it is continually out of gear, and what looks like grit in the engine, in the eyes of BG, becomes the engine of growth in the eyes of UG.

UG and P & P stress the limitations of knowledge and the absence of clearly defined, generally agreed upon ends. Policies therefore must not only promote "given" ends, but must also improve knowledge, clarify and illuminate ends and promote agreement. They must be directed at changing what are viewed as parameters in the conventional models. Unbalanced advance has certain merits in improving knowledge compared with balanced advance. Ignorance, uncertainty and conflict can be reduced by actions which,

(11) *Ibid.*, p. 116. There are numerous other illustrations from common experience how new ends are generated in the process of satisfying quite different ones, and how ends are adjusted to means subservient to other ends. A course of planned reading corresponds to the means-ends pattern, but books picked up at random lead to the discovery of new tastes. Forced to prepare a lecture or to write an article on a subject outside one's sphere of interest, one discovers or creates a new range of interests.

(12) PAUL STREETEN, *Economic Integration*, pp. 107-108.

were it not for ignorance, uncertainty, and conflict, would appear wasteful and irrational.

Thus the concentration on one sector, or one region, or one project, in defiance of the requirements of balance, may have the following merits.

1) It may clarify ends which were previously confused. Such would be the effect of a model village or a model farm in demonstrating methods of cultivation.

2) It may promote agreement between previously conflicting groups. Thus the emphasis on raising the level of living of the lowest 20 per cent to a certain minimum can, given certain assumptions about income distribution, remove or reduce conflicts as to how to raise total GNP.

3) It may improve knowledge about likely bottlenecks and reduce uncertainty about the required consequential actions.

4) It may remove or reduce obstacles in the form of human valuations. The availability of ancillary work for women following the location of a large factory in an underdeveloped region may weaken the opposition to the employment of women. Attitudes and valuations often adjust to facts rather than the other way round.

5) It may remove or reduce the inhibitions of the planners. Successful resistance to the claims of a number of different regions will strengthen the hand of planners in resisting other pressure groups.

6) It may remove obstacles presented by rigidities of responses and immobility of resources. A railway will enable and encourage people to move. A bus service to a village or a cinema will create new wants, incentives and responses.

These forces can interact. Improved knowledge will change valuations. Successful co-operation convinces high-caste Hindus that contact with lower castes is not degrading. Dietary habits, and with them health, are improved as religious taboos are weakened. Professional, occupational and regional mobility are increased as caste notions of trades and occupations are shed.

The doctrines of BG and the means-ends model converge in the notion of the *Ideal Plan*. It is behind much of the theory of planning and model-building: given the objectives of policy it is the task of the Plan to specify a set of measures which would promote the consistent objectives maximally. Where inconsistency arises,

the Social Welfare Function tells us how much of one objective can be sacrificed for a given gain in a rival objective while the level of Social Welfare is constant. Thus inconsistencies are resolved and a one-dimensional end-index can be constructed.

The set of objectives or targets is then contrasted with a set of means or instruments, which must normally not contain fewer variables than the number of objectives. On the assumption that we have complete knowledge of all relevant conditions and their causal connexions, we must then estimate their initial magnitudes and their coefficients of change. These coefficients would normally vary according to the direction, size and speed of the change, according to whether the instruments are applied autonomously or in response to other changes, and according to whether the instruments are applied in isolation or in several possible combinations. Although many objectives will have not only independent value but will also be of instrumental value, very few instruments will have instrumental value only. Thus few instruments can be viewed as merely means for the Plan targets. The independent value attached to the means, again, will normally vary with the direction, size and speed of the change and according to what accompanying measures are taken.

Quite apart from the practical impossibility of acquiring even a fraction of the required knowledge, and apart from the difficulty of selecting the relevant objectives and clarifying their independent and instrumental values, there are logical difficulties in formulating such a Plan. The picture presented by the model not only fails to correspond to any conceivable practical Plan, but is also seriously misleading as an abstract guide for planners, though it may have useful limited applications.

First, the causal relations and the coefficients will change as a result of development. The Plan itself and its execution will alter the material which it assumes to be given. Obstacles to development put up by inertia, resistance and hostility, which present initial limitations, will normally be weakened or removed, though some may be strengthened.

Second, inhibitions of the planners themselves, when it comes to executing reforms which weaken the power and prestige of the classes to which they belong, constitute another form of initial limitation. Again, it is part of the purpose of the Plan to weaken and overcome these. This means that these obstacles and inhibitions

can be treated neither as physical limitations, defining means, nor as ends.

Third, the objectives chosen must not be arbitrary but must themselves reflect the objectives of the society to which they are applied, for otherwise the Plan can never be implemented. Unless the objectives express actual valuations, relevant to the developing economy, the Plan remains an idle dream. The relevant valuations are therefore rooted in the social conditions which the model attempts to separate from them.

But although an effective Plan is based upon actual social valuations, it also attempts to alter them; although it may disregard actual social valuations by setting up ends *in abstracto*, it is bound to remain a mere academic exercise if it does only this.

The (workable) Plan is not a complete blueprint. It is an unfolding vision with a built-in tendency for change. It neither accepts all political obstacles as ultimate constraints, nor ignores them as "non-economic" factors. Its function is to turn means into ends and ends into means where the development process requires this, and to improve on itself by so doing. To postulate a sharp means-ends or targets-instruments dichotomy is to ignore this process of transformation, and thus the political reality of a development Plan.

Albert O. Hirschman interprets the publications and activities of the Economic Commission for Latin America not as the blueprint of planners, but as protests against "certain inveterate traits such as the propensity to improvise, the lack of foresight, the failure ever to see the handwriting on the wall". ECLA's programme springs from the "desire to stamp out those traditional traits which are felt to be hindrances and handicaps on the road to economic progress" (13). From this point of view the function of the planners is to reform the national framework of planning itself: the point of the programme is to change the dismal prognosis which the acceptance of existing obstacles, including institutions, valuations and attitudes, would involve.

Similarly, a plan for the acceptance of certain minimum living standards after 15 years for the poorest 20 per cent of the people was proposed by the Perspective Planning Division of the Indian Planning Commission in 1962 not only as an obviously desirable objective, but also as a rallying point of divergent political interests

(13) A. O. HIRSCHMAN (editor), *Latin American Issues* (1962), pp. 22-23.

and as a means of achieving agreement on certain consequential policies. The aim is to achieve a convergence of ends and agreement to act (14).

One of the tasks of planning is thus to create and improve the process of planning itself. There is no confrontation of a sphere of social ends with a sphere of available neutral means, but a continual interaction of necessarily incomplete programmes and prognoses, both containing political and social, as well as physical limitations.

We therefore conclude that the notion of an ideal or optimum plan is misleading if it assumes: 1) that objectives are given *a priori*; 2) that we can draw upon a full causal analysis of instruments and their coefficients, which would differ if applied singly and in various combinations, once-for-all and sustained, and that we know coefficients which will differ according to the direction, size and speed of the change; 3) that there is no interdependence between the spheres of given objectives and known instruments. In fact, the Plan should be regarded as a steadily forward-moving pattern of policies, which have to be modified continually in the light of newly emerging events, changing causal connections and modified valuations. The programmes of the planners and the prognoses of social researchers are not two independent areas, but the programmes affect and alter the prognoses, and the prognoses in turn alter and modify the programmes. The Plan is not a static two-tier structure but an evolving process. Planning aims not at an *optimum* but at *improvements*. It is guided by a vision, but the vision is open-ended and flexible, not closed and rigid. It contains a rough perception of the connections between conditions prevailing over a period of time and the possibilities of moving, through rationally co-ordinated policies, towards changing objectives.

The transformation of ends into means can be illustrated by the literal and metaphorical desanctification of sacred cows in India. Some slaughtering would improve the quality of the surviving stock

(14) "Another function of the perspective plan is to educate public opinion on issues of development and to promote the kind of open discussion that is likely to secure a common consensus of political parties. This is perhaps easier in a poor society in which all can agree without controversy on at least one objective: the abolition of poverty. When the purpose is nothing less than to transform society, planning ceases to be an esoteric subject or a mathematical exercise. It must be imbued with deep social purpose and revolutionary zeal". PITAMBAR PANT, "The Development of India", *Scientific American*, September 1963, p. 196.

and raise the level of human consumption. Similarly, the choice of a profession by Hindus will, as a result of implementing the Plan, lose end-characteristics and acquire means-characteristics. For a Brahmin's son in India to cultivate the land is as scandalous as for a Canon's son in our society to become a pimp. But the change in valuations, which deprives certain activities of their stigma, increases the flexibility of resources. As workers can be switched from tending machines to sweeping floors because caste attitudes have been shed, "labour" acquires a significance which it does not have if trades are reserved for specific castes. In this way changes in valuations reduce obstacles to economic development. This in turn strengthens the positive values attached to development and eases the way for introducing further measures to reduce these obstacles. But it would be quite misguided to begin planning with a notion of homogeneous "labour" which bears no relation to actual social institutions, attitudes and values.

Similarly, "underemployment" and "unemployment" acquire significance only in relation to a standard working week, discipline and punctuality, which do not exist in rural peasant societies. Leisure and work are not substitutes and the question of a comparative evaluation does not arise. Only the introduction of wage-labour and organised production changes the valuations, clears an area of "means" (viz. working hours supplied) and can then be fitted into the Plan. To begin planning with the notion of "unemployment" in such a society is doubly misleading: it begs the policy issue as to what specific measures are necessary to mobilize human resources and it tacitly assumes the valuation of an urban industrial society with respect to the standard working week and attitudes to work. Yet, in the process of successful planning, as independent valuations of each trade are shed and as work and co-operation are organised, "underemployment" and "unemployment" and their underlying value judgments acquire significance and become meaningful and measurable.

The conventional models assume that a harmony of interests must precede policy formulation, otherwise a consistent system of ends cannot be given, and that differences about means can be removed by scientific analysis. The UG and P & P models, on the other hand, award a positive role to certain types of conflict. In the emergence of ends, conflicts are necessary if it is impossible to institute an authority above all interest conflicts which is both

willing and able to act in accordance with "the social interest". The "communistic fiction" (15) inherent in much liberal thought, that the State is such an authority, is either sociologically false or logically empty. False if it is postulated that the State is the seat of such authority. Empty if "general welfare" or the "public interest" is postulated as the proper end of State activity. The objectives emerge as a resultant of the conflicting actions of different groups, including public bodies, and conflict is both inevitable and, up to a point, desirable. In UG, conflict assumes an activating role. The pressure of industrial development on public authorities to provide social overhead capital, or the competing claims of different sectors, contribute to the formulation of the Plan as a moving design.

A particular illustration is the much-discussed problem whether the Indians should disperse new industries widely so as to meet the claims of the different States and regions and to spread the benefits of development, or whether they should concentrate on a few growth poles so as to reap economies of scale and external economies. Much of this discussion ignores the political aspects of these decisions. If the forging of political unity and the prevention of fragmentation is one of the objectives of planning, compromise and concessions must be made. If the Plan is to be a political reality and more than an academic exercise, these political forces must be part of its framework, like the facts of geography, climate and technology. But they must not be taken as given once-for-all. On the contrary, an important purpose of the Plan will be to mould the political pressures and to harness them for accelerated growth. A simple confrontation of political ends and economic means will not serve. It is the interaction of (changing) programmes and (hypothetical) prognoses which form the pattern of advance.

This is not just criticising a theoretical model for not "paying attention to political possibilities". For the costs of overcoming obstacles to the achievement of objectives must surely be part of a full theoretical model. If resistance to end E_1 can be overcome by incurring costs C_1 imposed by a unit pursuing end E_2 which conflicts with E_1 and if the pursuer of E_1 in turn can impose a levy C_2 on the pursuer of E_2 , the necessary sacrifices C_1 or C_2 are an essential element in appraising the pursuit of ends E_1 and E_2 .

(15) Cf. GUNNAR MYRDAL, *The Political Element in the Development of Economic Theory*.

Furthermore, variety of valuations and divergence of political pressures is not only a practical necessity, to which planners have to pay attention, but it is also a desideratum of democratic life. Full uniformity of values and the resulting conformity, which is implied by the conventional model, is rejected by the ethos of a vigorous democratic society.

The dominance of the conventional approach can itself be explained by the triumph of means over ends, or the "law of the instrument" according to which a small boy, given a hammer, will find everything worth pounding. Separation of ends underlies the methods of computers, operations research, linear programming, and other powerful mathematical techniques. Their success induces us to assimilate all problems to those amenable to the successful technique. Indeed, it has become almost tantamount to a definition of rationality. It would be absurd to deny that these techniques have wide areas of useful application. But it would also be wrong to ignore the fact that economic planning in underdeveloped countries is not itself amenable to such techniques. To postulate a clear separation of given ends from alternative neutral means, to postulate balanced growth and to incorporate both in the Ideal Plan in which "objectives of policy" or "targets" are confronted with "instruments of policy" (16) is misleading because it assumes away such problems as the planned transformation of ends and means, the role of conflict, and the open-endedness of effective planning, and because it interprets rationality too narrowly.

The distinction between target variables and instrument variables provides a powerful technique for decision-taking in certain restricted circumstances. But it does not illuminate the process of planning in underdeveloped countries and can be highly misleading if the technique is permitted to dominate and obscure the political process.

It may be thought that the criticisms can be formally expressed by saying that the Social Welfare Function, instead of being independently given, is itself a function of (a) the structural relations in the economy and (b) the policies employed to maximise it. If the Social Welfare Function, though dependent on structural relations, is independent of the policies to maximise it, one type of economy may generate a Social Welfare Function SWF_1 , which can

(16) Cf. J. TINBERGEN, *On the Theory of Economic Policy* (1952) and *Economic Policy: Principles and Design* (1956).

then be maximised by one set of measures. Another type of economy may generate SWF_2 which can be maximised by another set of measures. The two sets of policies are incomparable, unless a Super Welfare Function provides criteria of choice between SWF_1 and SWF_2 . But since there is no society to generate SWF_3 , no such criteria exist. Otherwise, whichever society happens to exist will, *ex ante*, seem superior, though a change of structure will, *ex post*, turn out to be justified.

If SWF is a function not only of the structure but also of the specific policies necessary to maximise it, the implementation of SWF_1 transforms it into SWF_2 , for which a different set of policies is appropriate, which in turn transforms it into either SWF_3 or back into SWF_1 , etc. This interdependence may be cyclical or subject to a trend, or both. The situation may be further complicated by an inability to distinguish between errors in optimising constant aims and failure to optimise changing aims. Regrets over past mistakes may be indistinguishable from hankering after abandoned ideals.

But such a formal interpretation of the criticism would miss the important point that Social Welfare Functions are not appropriate abstractions, even as variables dependent on either economic structure or economic policy. Social objectives lack the logical coherence and completeness postulated. What unity they possess is the unity of personality: it is psychological, not logical: to be understood, not to be deduced.

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