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"THE ASIAN DRAMA" : AN INDIAN VIEW*

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The Asian Drama is a big book by a big man, Gunnar Myrdal, and the School of Myrdal, in 3 volumes, 2284 pages, 16 appendices, a large number of statistical tables, with a total number of words, possibly of the order of a million and quarter. It has the flavour of an epic, at a high level of tension when the master himself is speaking with zest in a torrential outflow of words, ideas and images. The level is somewhat uneven when his associates are dealing with particular problems; useful surveys based on a painstaking piecing together of information, detailed factual analysis; and occasionally, technical criticisms which are sometimes irrelevant or not convincing.[1]

The book is an encyclopaedic collection of studies, descriptive and analytical, with emphasis on the analytical side, of changes in social, economic and political conditions in South Asian countries in the post-war period. The book is mostly about India, the largest country in the region, Pakistan and Ceylon and other countries in South East Asia.[2]

Volume I gives a general account of political problems, the coming of independence in the Indian sub-continent with its partition into India and Pakistan; in Ceylon, and in South-East Asia. An account is next given of economic realities, factual aspects of population, national income, levels of living, investment, foreign trade, etc., together with a mass of statistical data, often of dubious quality, as repeatedly and correctly stressed by Myrdal and his colleagues. Volume II deals with the crucial historical event of acceptance of planning for economic growth in South Asian countries, with an analytical discussion of associated concepts of equality and democracy, socialism, democratic planning, and the contradictions which had existed earlier, or which developed after independence, between accepted values and present social conditions. There are separate studies of the rapid growth of population, and of inadequate utilization of labour, which are characteristics of the great poverty of the large masses of people in this region, especially, in India and Pakistan. Volume III gives a survey of problems of population quality, health, education, literacy. The large amount of information given in these volumes would make the publication a most useful source book for a long time.

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*A short review of the *The Asian Drama* prepared by the author was published in *Scientific American* in July 1969. A much longer version was published in *Economic and Political Weekly* also in July 1969. Some additions have been made to the longer version in the present article.

[1]The present article gives an intensely personal view of the *The Asian Drama* of an individual who has been associated with Indian planning; the choice of topics is subjective but made almost at random because there is so much to choose from. The views expressed here are not those of any of the organisations with which the author was or is still associated.

[2]Attention is also given to Burma, Indonesia, Thailand, Malaya and the Philippines, with briefer references to North and South Vietnam, Laos and Cambodia, a group of countries which Myrdal calls South-East Asia.

The sub-title of Myrdal's book is "An Inquiry into the Poverty of Nations".[3] Adam Smith published, nearly two hundred years ago (1776), *An Inquiry into the Nature and Causes of the Wealth of Nations*, at the dawn of the Industrial Revolution and the rise of capitalism in Europe. Myrdal's sub-title draws pointed attention to the sharp contrast between the new era in Europe which was in front of Adam Smith, and the dark future in South Asia which prompted Myrdal to take up his studies. Myrdal, as always, had a dual motivation, an involvement in human problems, in this case the seemingly perpetual poverty of one-fourth of the world's population, and a scientific interest to find the reasons for lack of development by an objective analysis of the available evidence.

Adam Smith created the theory of the economic man and laid the theoretical foundations of individualistic capitalist society, which was characterised as 'anarchism plus the police constable'. Myrdal, writing two hundred years later, takes socialism for granted. He has "an intense awareness of the momentous human drama of the desperate strivings for national consolidation and economic development in the South Asian countries" (Preface, p. vii). His intention was, originally, to focus attention on actual conditions in this region, prospects for development, and the main policy alternatives facing national governments. Gradually, in order to identify the factors responsible for stagnation, he was obliged to make a sustained effort to construct a theory of development, or lack of development, in the under-developed countries in this particular region, which although heterogeneous, are more similar to one another because of their geographical proximity, than under-developed countries in other parts of the world like Africa or Latin America.

Myrdal's first task was to destroy the abstract concept of man as an economic automation, and his book is based on his "firm conviction that economic problems cannot be studied in isolation but only in their demographic, social, and political setting" (Preface, p. ix). He adopted, in other words, the institutional approach, tried to build up an "institutional theory" of development, and got involved in a great deal of "methodological studies."

Myrdal started his project in 1957 shortly after a new strategy for industrialisation was adopted in India in the Second Five Year Plan (1956-61) which roused a good deal of hope. Myrdal made India his headquarters for some time in a mood of optimisim. The original intention was to complete the work in two and a half years which, however, was extended to ten years, and the book concluded with a brief postscript covering the period 1 January 1966 to 30 June 1967. Developments in South Asia have not been encouraging. Mydral is deeply distressed at the absence of any sign of "take-off" by the countries in this region to self-sustaining economic growth. India had the strongest base for planning but achievements were so much below expectations that Myrdal is obliged to conclude that the social and economic revolution, which started after independence, has failed in India. The position is much the same, or worse, in the other countries of the region.

On the basis of his institutional theory or model of development, Myrdal suggests remedial measures to remove obstacles to growth, but is not sure of rapid social and economic

[3]A. K. Cairncross used the same phrase "The Poverty of Nations" in Chapter 1 of his book *Factors in Economic Development* (Allen and Unwin, London, 1962), to which, however, no reference has been made in Myrdal's book.

progress in South Asia in the near or in the foreseeable future. He stresses that forecasts of the course of history in South Asia would be a hazardous task and repeatedly emphasises that "in South Asia the interdependence of 'economic' and 'non-economic' factors is much more intensive and consequential than in western countries." The social system has to be moved forward as a whole. "Poverty and inequality are universal... Obstacles to economic expansion are formidable and are rooted in the inefficiency, rigidity, and inequality of the established institutions and attitudes, and in the (existing) economic and social power relations" (p. 47). Myrdal quotes (p. x), with approval, J. K. Galbraith's view : "We have given too little attention to inquiring whether (the things that contribute to economic development) are being employed in a context that is favourable to development."[4]

Myrdal raises a crucial question : whether economic growth is possible in underdeveloped countries under political democracy (p. 779). He notes that democracy, in fact, may not be an effective vehicle for economic and social change but only a means for the protection of the status quo (p. 791). He points out that "the main resistance to change stems from attitudes and institutions" (p. 1873); and "a plan is fundamentally a political programme" (p. 1881). He is convinced "that under-developed countries cannot rely on a gradualist approach" (p. 1899), and gives a vigorous exposition of the need and rationale of the "Big Push" (pp. 1897-1900). I have discussed these questions later in this paper.

Myrdal stresses the importance of the turning point in a history which occurred with a rapid liquidation of the colonial power structure in South Asia, after the Second World War, and the emergence of an urge for economic development in the newly independent countries. The situation was complicated by international tensions, culminating in the cold war between the USA and the USSR, and the respective blocks called West and East. He notes the spurt of interest in problems of under-developed countries, particularly, on the Western side, which stemmed from internal interests and pressures exercised by the dominant social strata for narrow political, or still narrower, military-strategic, interests sought to be justified by the "security" of Western countries (Prologue, pp. 8-13). In this situation, bias in research, possibly often unconscious, was unavoidable in the selection of subjects and their treatment (Prologue, pp. 8-17). Coming from Myrdal, thoroughly conversant with Western ideas and thinking, the discussion of such bias is of great value, and, I hope, would be salutary.

In order to clear the ground for his institutional approach, Myrdal makes a sharply critical analysis of what he calls the "modern approach" in which economics is abstracted from modes and levels of living, and from attitudes, institutions, and cultures, which may make sense in the Western world but not in under-developed countries.[5] Myrdal points out forcibly that South Asian intellectuals are as much afflicted, if not more, by the methodological bias of the "modern approach." Indians and South Asians, trained at Western centres of learning, or now increasingly in their own countries, who acquire skill in abstract exercises

[4]The need of an institutional approach to planning has been continually stressed by D. R. Gadgil and some other Indian economists and social scientists. Their views have been extensively quoted in Myrdal's book.

[5]This point was also stressed in India : "Familiarity with economic theories suited to advanced Western countries had acted as a thought barrier to economic progress in India" in "Labour Problems in a Mixed Economy", by P. C. Mahalanobis in *Ind. Jour. Lab. Econ.* **3**(1), April 1960, 1-8 ; reprinted in *Talks on Planning*, Indian Statistical Institute 1961, 153-159 (abbreviated as 'TP-1961' in later references).

in economic model making, with a big show of mathematical acrobatics, enjoy high reputation, although such models may have no contact with reality.

Myrdal himself uses conceptual and logical models in constructing his institutional theory of development, and of lack of development, in South Asia. Model making is, in fact, indispensable in both natural and social sciences. The use of mathematical symbols is also indispensable when quantification is necessary and feasible. The value of a model, however, depends on the extent to which it succeeds in incorporating important facts and factors of a given problem or a given situation in the world of reality, and also to what extent it succeeds in neglecting factors which are irrelevant or unimportant[6] for the purpose in view. Also, as each model serves a given purpose, no model has any intrinsic or universal value of its own, as I observed in a paper[7] in connexion wsith Indian planning in 1955.

Myrdal has characterised the demand for economic development in the newly independent under-developed countries in South Asia, and still more, the assumption that it is the concern of Government to promote such development by means of planning, as a new event in history (p.172). He points out that South Asian countries accepted planning as an idea even before they were able to translate planning into reality (p. 175). Acceptance of State planning implies the acceptance of certain basic social objects, namely, economic growth as well as improvements in the level of living; equalisation of opportunities; increasing participation by the people in making planning and policy decisions etc. "Planning thus becomes the intellectual matrix of the entire modernisation ideology", and, also : "economic development becomes a human problem". (p. 711).

Planning was a dirty word in western countries in 1955 at the time of the preparation of the Second Five Year Plan of India. The position changed rapidly owing to the plausibility and, at least, partial success achieved in the early stages of the Indian Second Plan. By the beginning of the present decade, planning in under-developed countries became acceptable to western countries, and Government planning began to receive support from both western and communist Governments. As Myrdal points out, planning became a going concern in India and Pakistan (p. 732).

Myrdal stresses the need of stating the value premises, and makes a significant contribution by providing a list of the value premises used by him. These include among others : rationality, or the assumption that policies should be founded on rational considerations; rise of productivity and increase of per capita income; improvement of levels of living in terms of nutrition, housing, health, education, cultural amenities etc.; equalisation by promoting social mobility; equality in status, opportunities, wealth, for rapid economic and social growth. On the political side, the dominant ideas are maintenance of national independence and promotion of national consolidation; and in a general way, with variations and differences of approach, also of growth of political democracy. Myrdal notes that em-

[6]In pure mathematics nothing can be neglected, in principle ; whatever is selected is arbitrary, in the sense that it depends on a formal or subjective choice. In applied mathematics, the important point is to know what can be neglected.

[7]"I do not think that the models have any permanent value of their own. I have used them as scaffolding to be dismantled as soon as their purpose has been served". ("The Approach of Operational Research to Planning in India", *Sankhyā*, **16**(1), 1955, 3-130).

phasis, in principle, is given on the idea of democratic planning which is distinguished from planning through compulsion as practised in communist countries.[8] Abstention from compulsion, Myrdal stresses, is an important component of the concept of modernisation in the countries in South Asia (pp. 49-69). Although there can be rational differences of opinion about the validity of the value premises listed by Myrdal, he points out that these are the value premises which are, in fact, accepted by the intellectual and political leaders in South Asian countries, and are, therefore, the appropriate value premises for his purpose.

II

Myrdal's enquiry and observations on the methodology of research[9] in social sciences are of intrinsic interest independently of the factual and analytical studies relating to South Asian countries. There is much in common with the methodology of research in natural sciences. There are also important differences which Myrdal has brought out clearly. I may note, briefly, that Myrdal undertakes an analysis of the concept of objectivity to distinguish it from subjective impressions, a problem which arises also in natural sciences. He admits that "it is necessary to raise the question of objectivity in research as a problem of logic" (p. 31). He insists "Every study of social problem, however, limited in scope, is and must be determined by valuations. A disinterested social science has never existed and never will exist. For logical reasons it is impossible. A view presupposes a view-point. Research like every other rationally pursued activity must have a direction. The view-point and the direction are determined by our interest in a matter. Valuations enter into the choice of approach, the selection of problem, the definition of concepts, and the gathering of data and are by no means confined to the practical or political inferences drawn from theoretical findings" (Prologue, pp. 32-33). He therefore tries to state the value premises explicitly in order to make research as objective as is feasible in social sciences (Prologue, pp. 31-33). In natural sciences also a conceptual frame-work, which is taken for granted for a long time, has to be critically examined and replaced to accommodate new accumulation of knowledge.

Myrdal is obliged to stress the continuing interaction between the subject who is making a study and the object of the study; or the interaction between the process of planning and the success or lack of success with which the plan is being implemented; and also the effect of what is achieved by the implementation of a plan on the future process of planning. Natural scientists would recognise that Myrdal has to face, in principle, the same question of the interaction between the subject (or the observer) and the object (or what is observed) which sets an ultimate limit to the accuracy of physical measurements. In social sciences,

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[8]Myrdal refers to U.S.S.R. and the other countries of the 'Eastern bloc' as 'Communist countries'; these countries themselves use the phrase 'Socialist countries'. I have used Myrdal's terminology for convenience of reference to his book.

[9]The methodological part of the study is given by Myrdal himself partly in the Preface, the Prologue on "The Beam in Our Eyes", discussions on "The Value Premises Chosen" and "The Wider Field of Valuation" in chapters 2 and 3 respectively; and in Appendix 2 in which he gives a full exposition of his theory of economic development.

the subject-object interaction occurs in a big way, and gives rise to uncertainties of various kinds in the collection and interpretation of information, in value judgements, in action programmes and in the effect of such programmes, as Myrdal fully recognises. The problem of interaction may also arise in a somewhat analogous way in natural sciences, for example, in the possibility of 'contamination' of the moon or other planets by probes, or devices for collection of specimens, sent from the earth by space vehicles, which may become of crucial importance in connexion with investigations into the origin of life.

In dealing with the march of history Myrdal has to face the dilemma of teleology or determinism and free will. He concludes his Prologue with some observations on the conception of drama, as used by him in the *Asian Drama*, the title which he selected for his book. Myrdal is sustained in his task by an awareness of the complexities and conflicts in the progress of history in South Asia. The action in this drama is speeding towards a climax, tension is mounting, economic, social and political. "Urged by aspirations but curbed by material conditions and their own inhibitions, articulate individuals and groups in all these countries continually take decisions with the objectives of resolving or accommodating the conflicts. The drama gains its fast pace from the terrific strength of the forces creating the conflicts. The lofty aspirations of the leading actors are separated by a wide gap from the abysmal reality—including the unreadiness of leaders, followers, and the more inert masses to accept the consequences of attempting to attain these aspirations. And the gap is widening. The movement of the drama is intensified as, through time, aspirations are inflated further by almost everything that is printed and preached and demonstrated, be it planned or not, while positive achievements lag. Meanwhile populations are increasing at an ever faster pace, making the realisation of aspirations still more difficult" (pp. 34-35).

Myrdal continues : "Wrapped up in the dramatic conception of the life of these nations is also the recognition, shared at bottom even by those who assert the opposite, that the outcome is anything but certain. The student knows, of course, that at some future date a backward glance will be taken, and today's choice will then seem necessary under the circumstances. For this is the way history is explained; everything that happened had its causes and exerted further effects in unending sequence" ... "In the classic conception of drama—as in the theoretical phase of a scientific study—the will of the actors was confined in the shackles of determinism. The outcome at the final curtain was predetermined by the opening up of the drama in the first act, accounting for all the conditions and causes of later development. The protagonist carried his ultimate fate in his soul while he was groping for his destiny. In life, while the drama is still unfolding—as in the practical phase of a study, when policy inferences are drawn from value premises as well as from premises based on empirical evidence, the will is instead assumed to be free, within limits, to choose between courses of action. History, then, is not taken to be predetermined, but within the power of man to shape. And the drama thus conceived is not necessarily a tragedy" (p. 35).

A natural scientist like me may observe that teleology has meaning only in terms of subject-object disjunction, when the observer can make observations on a system, so to say, from the outside, and make inferences whether the sequence of events within the observed system shows any pattern or some purpose. Even leaving out the question of pattern or

purpose, determinism is an essential ingredient in scientific thinking up to the limit set by the Heisenberg principle of uncertainty in physical measurements. In 1814, long before the principle of uncertainty had been formulated, Laplace had taken the view that whatever uncertainty existed in our knowledge was due to our ignorance because every thing that happened in reality was determined by fixed laws of nature. He therefore said that the uncertainty, that is, our own ignorance, was given the name chance, although there was no such thing as chance in reality. In the present century the same dilemma arose in the controversy between Einstein and Bohr which was perhaps never resolved satisfactorily. In both natural and social sciences the distinction between teleology or determinism and chance may ultimately vanish due to both words ceasing to be meaningful beyond any limit.

III

Myrdal makes a probing evaluation of planning in India. He points out that less than one per cent of the Indian people, who pay income tax, form the upper class;[10] there is no middle class in the sense of western countries. "India is ruled by a selected group of upper class citizens who use their political power to secure their privileged position" (p. 766); the masses are very poor, inarticulate, split by class and community differences. Mention is made of bureaucratic delays, corruption (to a much smaller extent than in some other countries), and the linking up of the vested interests of businessmen, permanent officials, and political leaders in India. The above criticisms have to be accepted. In a pre-industrial society in which the caste system has been a dominating feature for two thousand years, there are many inter-connexions between different levels of the social and economic, and also of the political, power structure in the country after independence. Practically all Government construction work is done by private contractors; it is known that there are leakages at different levels. The greater the increase in public investment, the larger would be the inflow of money into the black market. I may mention some other cases of feed-back mechanisms through which monetary gains accrue to the upper and the middle classes. Under the influence of welfare ideas, there is a legal ban on slum clearance by public authorities unless the displaced persons are provided with suitable accommodation within a reasonable distance; public authorities can do very little about slum clearance. The owner can sell the land without finding alternative accommodation; high profits are continually being made by selling slum lands and new slums are being created by the evicted tenants. Again, due to welfare ideas, a medical benefit scheme is in operation for civil servants in which medical fees and cost of drugs are reimbursed by Government; this system has led to widespread abuse through the issue of false or exaggerated medical fees, and false bills for drug purchases. There are other examples. The problem is deep-seated in under-developed countries.

Myrdal, however, makes a perceptive observation : "explanation of the gulf between ideals and reality is however far more complex than simple hypocrisy" (p. 769). The intel-

[10]The Indian 'ruling princes' and the big land-owing class, who formed a kind of 'upper class', were eliminated after independence. Myrdal's point is now basically correct. The phrase 'middle-class' is however still extensively used in India to describe people belonging to upper castes who are not very rich, in order to distinguish them from the very rich people.

lectuals and the upper class generally do believe in the egalitarian and modernisation ideals, and in spite of considerable intellectual dishonesty and rationalisation, or even plain cheating, the appeal to masses on the basis of egalitarian and modernisation ideals would continue to have a long range impact. Myrdal observes "When we pointed out that in India these (modernisation and egalitarianism) ideals are far from having been realised, we do not imply that in the long run they will fail to influence the course of events" (p. 769).

Myrdal raises a very important question : whether there is a conflict between economic equalisation and economic progress (p. 747). He thinks that in South Asia, much more than in the West, any increase of equality would help rather than hinder development (p. 747). I should agree unequivocally with the above view as regards education and care of health, or the ownership of both rural and urban land. However, it seems to me that in certain respects, welfare measures tend to be implemented in India ahead of economic growth, for example, in labour laws which are probably the most highly protective of labour interests, in the narrowest sense, in the whole world. There is practically no link between output and remuneration; hiring and firing are highly restricted.[11] It is extremely difficult to maintain an economic level of productivity, or improve productivity. At early stages of development in all countries there has been a real conflict between welfare measure and economic growth. Japan is an outstanding example; the concept of minimum wages was introduced only about 10 or 12 years ago when per capita income had reached the level of $ 250 or $ 300 per year; and minimum wages were fixed more or less at actual average levels. In India with a per capita income of only about $ 70, the present form of protection of organised labour, which constitutes, including their families, about five or six per cent of the whole population, would operate as an obstacle to growth and would also increase inequalities. It is a serious problem not only in India but in other under-developed countries.

Some of the criticisms of Indian technical planning, not by Myrdal himself but by his colleagues, however, seem to be misconceived. It is correctly stressed that "all effective planning is physical planning" (p. 1922). Criticism of Indian planning in this regard is scarcely

[11]To the extent the right of hiring and firing is restored it would be necessary to make arrangements to provide the discharged employees, on a paid basis at lower rates, with opportunities for training or partly subsidised work, in lieu of unemployment allowance which are available in advanced countries. The following proposal for a Labour Reserve service for this purpose was discussed in "Labour Problems in a Mixed Economy" (*Ind. Jour. Lab. Econ.*, **3**(1), April 1960 ; 1-8 ; TP-196, 153-159) : "I should suggest that a..... Labour Reserve service (LR) be set up to absorb such industrial workers as may be considered surplus and be "laid off" by existing industrial enterprises at their discretion, and also to serve as a pool for other enterprises to draw upon, again, at their own discretion. The Labour Reserve service would then act as a buffer against unemployment and would serve as a (perhaps socially more useful and psychologically more preferable) form of or substitute for unemployment insurance limited, however, in the first instance, to persons who are already factory workers. The responsibility would rest on Government to make the best use of the Labour Reserve. The workers admitted into the Labour Reserve would receive, not the full, but a suitable part (say, between a half and three-quarters) of the emoluments they were receiving in their original posts ; they would also be bound to take up whatever work they were offered by the LR authorities and if they refused they would have to leave the LR. It should be possible to recover an increasing part of the expenses out of productive work taken up by the LR. The balance of the cost may be met partly by a comparatively small (LR or unemployment insurance) levy on enterprises, partly by a direct contribution for each worker sent to LR by an enterprise, and partly by Government out of its general income. An enterprise would send an employee to the LR only when the benefits accruing would be considered to be commensurate with the direct contribution."

justified because the physical approach was deliberately adopted in the Second Plan of India (1955-56 to 1960-61). The strategy of domestic manufacture of machinery to set up factories for the production of fertilizers was adopted essentially on the basis of long-term considerations. It was explained that it would take at least 10 or 15 years to establish basic heavy machine building complexes and provide energy, steel, and necessary capital and producer goods, before it would be possible to manufacture fertilizers with the help of domestic hardware. In the meantime it would be necessary to import foodgrains, fertilizers, and also machinery to set up fertilizer plants. The comment that the time-factor was not kept in mind by Indian planners seems to be due to lack of acquaintance with relevant, and easily available, documents.[12] The phrase "perspective planning" was deliberately coined to emphasise that "the approach in the Second Five Year Plan is to take a perspective view of development over a long period of years", so that a "balance can be secured between short-term and long-term objective." There are other comments of a somewhat casual nature which need not be pursued here.

Indian technical planning, I venture to think, is being done at a high level of competence. The real point in the present context is that competent technical planning is necessary but not sufficient because social, economic and political conditions are highly interdependent in under-developed countries, and society as a whole has to be moved forward. We get back to Myrdal's essential point, namely, importance of the institutional aspect of development in respect of which he has an unassailable position.

I have differences of opinion with Myrdal in some matters; one is important, about agricultural policy. Myrdal agrees that radical redistribution of land to agricultural labour would be a great advance in equality and institutional reforms. However, "as neither political will nor the administrative resources for ... any fairly effective land reform are present", he advocates, almost in despair, promotion of capitalist farming by supplying, preferentially, to the largest and more successful cultivators, such facilities as credit, improved seeds, fertilizers, pesticides, electricity, tractors and other machinery (p. 1380) A preferential supply of inputs in a package form was started sometime ago in a Ford Foundation project which has been quite successful in some parts of the country. The top ten per cent of households in rural areas have become richer during the last ten or twelve years. The poorer households may not have become poorer in absolute terms, but disparities have increased within the village. Apart from social and psychological problems arising from increase of inequality, there are disadvantages in encouraging a selective growth of capitalist agriculture. Rich cultivators, in a country which is not self-sufficient in foodgrains, first, would tend to hoard

[12]For example : "Planning must be continous and flexible. In addition to the Five Year Plan, detailed annual plans must be prepared every year. Targets, projects and policies must be continually re-assessed and reformulated to suit changing needs and conditions.

"At the same time it is imperative to keep in perspective the potential growth of the economy over a long period so that decisions can be made to secure a balance between short-term and long-term objectives". ("Draft Plan-frame for the Second Five Year Plan of India 1956-57—1960-61", 17 March 1955, *Sankhyā*, **16**(1), 1955, 63-90). Also, "we must always keep in view the growth of the economy over a long period of 10 or 15 or 20 years, so that a balance can be secured between short-term and long-term objectives". (Radio talk on "Approach to Planning in India", 1955, TP-1961, 47-54).

their grain in years of good crop outturn, and secondly, would try to restrict the production of foodgrains to maintain and increase prices by reducing the areas sown. If higher and higher prices for foodgrains have to be offered as incentives, there may be a spiral of inflation; in consequences, the agricultural surplus may be reduced in years of good outturn, or may vanish in years of shortfalls, as has been the experience in India. How to increase agricultural production without increasing the price of foodgrains is perhaps the most difficult problem of Indian planning. One solution is for Government to maintain a buffer-stock of several million tons of foodgrains to control prices by open market operations, or through physical rationing in years of acute scarcity. The above policy was accepted by Government in 1953, but has not yet been fully implemented, owing to social and political obstacles as well as physical shortfalls of crop outturn. If a buffer-stock can be built up, and is used with strong social discipline, it should be possible to maintain reasonable control over prices.

The wider question of 'emphasis on agriculture' in peference to industry, which is still haunting Indian planning, also deserves consideration. Fear of hunger forced human beings to give all possible emphasis on agriculture all the time all over the world; and yet there were periodic shortages of food and famines until recently. Even in the U.S.A., Land Grant Colleges began to be established, about one hundred years ago, to overcome the fear of hunger. The yield per acre of wheat, barley, and maize started rising in a significant way so late as in the mid-1930's in the U.S.A., and a little later in the U.K.; in Japan agriculture contributed only about one per cent per year to economic growth between 1875 and 1925. The reason is easy to understand. The yield per acre (the appropriate indicator in a country like India) can increase only with an increase in the quantity and variety of inputs which become available with the progress of industrialisation, such as, improved implements, fencing, pesticides, fertilizers, tractors, electricity, irrigation etc., facilities which would have to be all brought to the villages; the agricultural surplus would have to be preserved, processed, transported and marketed; credit facilities would have to be extended for both production and distribution, and so on. Finally, and most importantly, for effective utilisation of industrial inputs, village habits and psychology have to be transformed into the industrial outlook with interest in tools, gadgetry and new innovations, and desire for acquisition of skill in using them. To bring about a full industrialisation of agriculture in underdeveloped countries would take, possibly, two generations or a period of forty or fifty years, that is, would require a much longer period of time than that required for establishing the basic industries. An agricultural surplus is indispensable for industrial progress. An increase of industrial inputs is equally indispensable for agricultural growth. It is simply not possible, in theory or in practice, to give more emphasis on agriculture than on industry. Agriculture and industry must advance together, one step forward of one, and the next step forward of the other.

Another important question is family planning. I have no difference of opinion with Myrdal, but only some reservations which may be worth stating. A consolidated national income account for the period of the first two Five Year Plans of India, 1950-51 to 1960-61, gives a revealing picture. Out of the total additional income which accrued to the country during the above decade, about 45 per cent, or nearly half, was used to give the new additions to the population the same per capita consumption as the population had in

1950-51 at the beginning of the decade.[13] A retardation of the rate of growth of population can certainly be of help in speeding up economic development.

It is, however, necessary to recognise that there is no evidence, of any scientific value, to show that efforts to promote birth control has any short-term effect in either increasing the use of contraceptives or in reducing the birth-rate in the course of four or five years or so. Promotional efforts, however, may have long-term effects; and may also be of value in making social and psychological conditions more favourable for birth-control. The birth-rate is the resultant of the interplay of many complex social, economic, political and psychological factors. There is some evidence to show that, in India, improvements in the level of living have a retarding effect on the birth-rate. Progress of industrialisation may therefore act as a brake on the birth-rate by improving levels of living, by promoting urbanisation and the breaking up of the joint family,[14] and by making psychological attitudes more favourable for the use of contraceptives. Rapid industrialization, with increase of income and urbanization, may be the most effective means, in the long run, of reducing the rate of growth of population, which would have a feed-back effect, as each reduction in population growth would be of immediate help in promoting economic growth. In any case, whether or not there is any short-term effect in reducing the birth-rate, it would be wise to promote the use of contraceptives on rational lines, and also pursue experimental programmes, with scientific controls, to study the effect of such programmes on the birth-rate. It has been noted with approval in Myrdal's book that a good deal of attention is being given to family planning programmes in India.

I need not pursue other differences of opinion. I am in agreement with Myrdal's main contention that "India's promised social and economic revolution failed to materialize" (p. 775), with, however, some important qualifications. It is indisputable that there have been serious set-backs. In my opinion, had there not been unnecessary delays in making decisions and in implementations, it would have been physically possible to have started, by 1957 or 1958, establishing heavy machine building complexes with large capacity for the manufacture of machinery to produce steel, chemicals, fertilizers, electricity, transport equipment etc., and such complexes could have started supplying, in about ten years or so, that is, by 1967 or 1968, a good part of the hardware required for self-generating growth. This physical possibility was not realized and in consequence the industrial revolution has not yet started. This is true. Indian planning however, has not been futile. Industriali-

[13]The following extract from the Report of the Committee on the Distribution of Income and Levels of Living, Part I (Government of India, Planning Commission, February 1964, p.8) is relevant: "It would be noticed that about 73 per cent of the additional income was available for increase in private consumption out of which, 45 per cent, however, was required to provide that part of the population which was added during the decade with a *per capita* consumer expenditure at the rate of 1950-51. The largest part of the additional income during the decade thus had to be used to compensate for the growth of the population during the ten year period. Any slowing down of the rate of growth of the population would help in improving the general level of living. The balance of only a little over 28 per cent or a quarter of the additional income was available for the net increase in *per capita* consumption".

[14]In rural areas, there would be normally no difficulty, in a joint family, in looking after an additional child who may also be of some economic help in household enterprises. A married couple living by themselves in an industrial area may, however, find it difficult to look after young children; all the more so, if both husband and wife have outside jobs, or wish to participate in social, cultural, or political activities in their leisure time.

zation is proceeding, may be, with not enough speed, but the economy is not stagnant. To consider this question in greater depth I shall have to elaborate the institutional theory of development somewhat further than Myrdal has done.

IV

In *The Asian Drama* mention has been made of science and technology but their role in economic growth has not been adequately brought out. Isolated discoveries and innovations were being made from time immemorial, such as the use of fire, stone implements, or successive stages of agriculture. The modern view of 'nature' as an inter-related, integrated and objective reality, however, emerged very recently, only about four hundred years ago. There were only two domains of decisions in organised society before the emergence of science. First, there has always been, and there will always be, freedom of individual choice of food, clothes, recreation, art, music, literature and spiritual values etc., within the limits of social permissibility and of physical availability of supplies. Second, there is the principle of authority in which sanction would depend on the level of the authority in a hierarchical system which is determined by tradition, law or religion. For example, a regime of law cannot be conceived without the possibility of at least one appeal to a higher authority. Also, the court of appeal must have an absolute right of upholding, modifying, or reversing, the verdict of the lower court. The decision of the court of appeal may also be subject to appeal to a higher level, and so on. The decision of the highest court to which a case is referred must be accepted as final. This principle of authority must be maintained for the orderly existence of every human organization and of society itself.

With the emergence of science, the human mind became aware of 'nature' as an objective reality, which is amenable to human understanding through observations and experiments. The crucial point is that such observations (or inferences therefrom) and results of experiments, made by one person, being subjective in one sense, require to be repeated and verified by other persons, and after being repeated and verified by other persons, can be accepted as a part of the knowledge of 'nature', that is, of scientific knowledge as a whole. Such inter-personal (or inter-subjective) agreement between observations and results of experiments is the guarantee of the objective validity of scientific knowledge. Furthermore, 'inter-subjective parity' must be accepted, in principle, for assessment of 'inter-subjective agreement'.[15] That is, all scientists must have equal status and authority and freedom of communication, exchange of views and criticisms, amongst themselves in scientific matters. The tradition and outlook of science requires, and in fact consists of, the acceptance of a new third principle of objective validity of scientific knowledge which has its foundation in nature itself, and which cannot be changed by any authority however high its status, nor by personal choice or preference. The emergence of the principle of objective validity, about four hundred

[15]One well-known system of ancient Indian philosophy called *sānkhya*, is considered to have a 'pluralistic' view because it is based on the relation of 'many persons' (*purusa*) to one single reality (*prakriti*) of which a literal translation is 'nature'. The word *sānkhya* is derived from the noun *sankhyā* (=number) which also has the meaning 'determinate knowledge'. The *sānkhya* philosophy is metaphysical in character ; its views cannot be identified with the concept of 'inter-subjective agreement' as the basis of objective validity in its modern sense, but are of interest as speculative anticipations of the character of scientific knowledge.

years ago, was a turning point in the history of civilisation. The transformation of the advanced, or rapidly advancing countries has been brought about by the acceptance, slowly at first, and later in an increasing measure, of a scientific and rational view of life and nature. In the advanced countries, the scientific view has also permeated in a large measure the administrative organizations, tempering the outlook of individual administrators and executives, and increasing their ability to make responsible decisions, especially within the lower levels of the hierarchy of authority. This is the foundation of the modern age.[16]

The above views are in many respects similar to but not identical with those developed by C. E. Ayres in his book *The Theory of Economic Progress*.[17] Ayres points out that "each society has its own distinct way of getting a living. The truth is every economy, however simple, is technologically based" (Foreword, p. xv). Every large advance in technological innovations led to a significant improvement in the level of living accompanied by a cultural transformation. The Industrial Revolution itself became possible because of the emergence of modern science and technology accompanied by a profound transformation of western society. Ayres points out that the process of economic development is indivisible and irresistible once the technological revolution has started. He stresses the importance of the creation of human capital; and, like Myrdal, places great emphasis on education as an essential pre-condition for industrialization. Ayres, like Myrdal, strongly advocates the need of a "big push", and emphasizes that "the technological revolution brings its own values to fruition, to the detriment of all local and tribal value systems" (p. xxiv). He explains that science, which is the intellectual aspect of technology, is concerned with the discovery of truth, and prescribes its own conception of truth. Also, "the power which ideas exert by virtue of being correct is a function not of mind over matter but of technology over institutions in the long-run process of social change" (p. 289).

Myrdal makes some observations which deserve consideration in the present context : "The Western experience of scientific, technological and economic advance may well be unique. A series of extraordinary circumstances seem to account for a cumulative process of development in Western history" (p. 1871). It is hardly possible to accept the above suggestion. Japan has reached a high level of scientific and technological achievement and is developing very fast. In China also, distinguished western scientists, who visited the country up to 1967, were agreed that, although nothing spectacular had been done, there was steady progress in scientific research and technology, especially, in scientific instruments. China seems to have already reached the stage of self-sustaining growth. Scientists from India, Pakistan and other underdeveloped countries have made significant contributions to science and technology. Inborn talent is not lacking; necessary institutional facilities have to be created to give it the opportunity to become fruitful.

The industrial revolution in the Western countries and in Japan was the outcome of social transformation and the scientific revolution. In the U.S.S.R. and in China, rapid advancement of science and technology and industrialization started with a social revolution.

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[16]The above ideas were developed in a pamphlet consisting of two essays on 'Social Transformation' and 'the Scientific Base of Economic Growth' which was printed in 1961, and reproduced in *Sankhyā*, B, 25(1&2), 1963, 49-66.

[17]First edition, North Carolina University Press, 1944. Second edition, Schocken Books, New York, 1962, with a new and important 'Foreword'; reprinted 1965.

The scientific revolution, the social revolution, and the industrial revolution are three aspects of the process of modernization of every society; these three aspects may be distinguished but cannot be separated. The rate of economic growth in every country is determined both directly and indirectly by the rate of progress of science and technology : directly through the utilization of the results of research and development, and indirectly through institutional changes brought about by the increasing influence of the scientific outlook and tradition.

In the absence of the scientific tradition, science teaching and research tend to become highly imitative of what is being done in the advanced countries. There is lack of ability on the part of administrators and of scientists in senior positions to recognise and encourage pioneering work. Any new line of research for which a precedent cannot be found in the advanced countries would be necessarily suspect in a society which is still dominated by the principle of authority. There would be an irresistible tendency to discourage and suppress original work and innovations, and the scientific tradition would continue to remain weak; this is the main reason for the "brain-drain" from India and other under-developed countries.

The expansion of education in advanced countries is marked by increasing emphasis on science and technology leading to foster growth and improvements in the level of living. Education is expanding, generally, in under-developed countries without, however, adequate progress of science and research. The number of civil servants and managerial personnel is increasing but the proportion among them with a proper understanding and appreciation of the scientific outlook is probably decreasing, especially at lower levels. The authoritarian principle is likely to become stronger in administration, and decisions would continue to be made on the basis of rules, precedents, or authority instead of in a rational manner. The progress of industrialization is, therefore, likely to be retarded until a radical transformation of the social structure takes place and science begins to grow in under-developed countries. So long as science remains weak, the gap in science and technology would widen, and hence also the gap in economic growth and the level of living, between the rich and the poor countries. This is the conclusion one would reach on Myrdal's institutional theory of economic development if the role of science and technology is fully brought out.

V

The position of science and technology in India is of interest in the present context. Because of the British connexion, scientific work started in India nearly two hundred years ago, first with the topographical and the geological surveys, and then the field sciences. The Asiatic Society of Bengal was founded in 1784, under the leadership of Sir William Jones, with the object of studying "Man and Nature". Teaching in modern mathematics and natural sciences was introduced, on the initiative of the Indian gentry of Calcutta, in 1817. Engineering and medical training started in the 1830's. Three modern universities were established in Calcutta, Bombay and Madras in 1857. Distinguished scientific work was done in India by persons of both British and Indian nationality before Indian independence in 1947.

After independence there was rapid expansion of higher education and of technical training especially from the period of the Second Five Year Plan. India has a large stock

of scientific and technical personnel. The estimated number[18] in 1965 was 713,000 of whom 63,000 had a master's or a doctor's degree, 487,000 a bachelor's degree, and 160,000 a diploma of four year training in junior schools. The number of scientific and technical personnel coming out of higher institutions was 81,000 in 1965. As the annual outturn was increasing at the rate of 10 or 11 percent, the total number would be well over 500,000 in 1968.

Expenditure on research and development also increased very rapidly after independence, possibly, at the rate of 20 per cent, or more, per year at current prices. The number of research personnel increased possibly at the rate of about 10 per cent per year, or more if junior staff is included. According to one estimate the total number of scientific and technical personnel engaged in research and development[19] was 37,000 in India in 1962. If a more stringent definition with a higher level of qualification is used, the number of persons engaged in research and development (R and D) would be 17,000 or so in India which also is quite high. In spite of a large stock of scientific and technical personnel and a large number engaged in research why is the effect of R and D still marginal in India, and why is science and technology not yet a going concern in India ? I believe Myrdal's institutional theory of development can supply the explanation.

The tradition of science is not yet strong in India. There is no critical appraisal of scientific research. Most of the work is essentially imitative. Some competent work is being done but not much research of high quality. Less than 10 per cent of the R and D expenditure is being incurred in industrial enterprises in India in comparison with about 75 per cent in USA, and 65 per cent in UK and Japan. A very large part of the research and development, which is done in Government agencies or under direct government control, has little connexion with production.

The present deplorable situation is due essentially to institutional deficiencies and rigidities. Science and technology in India are still captives of an outmoded system of government administration whose main task used to be the collection of revenue and the maintenance of law and order in British regime, and which was taken over without any change by the successor government. The nature of work of civil servants has become more diversified after independence calling for greater initiative and decisions at all levels. The structure of the old "service" system of administration has been however preserved and strengthened making it increasingly more unsuitable for its new responsibilities. The power of government officials is increasing as an inescapable result of the pervasive authoritarian character

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[18] *Technical Manpower :* 9(12), December 1967, 4 (C.S.I.R., Government of India, New Delhi). Breakdowns of the stock in 1965 : science 270,000 ; engineering and technology 247,000 (of whom 110,000 university level) ; medicine 94,000 (of whom 60,000 university level) ; agriculture 28,000 and veterinary 9,000 ; postgraduates with master's or higher degree 65,000. Of the annual outturn of 81,000 from universities and higher institutions, the distribution was : science 35,000 ; engineering and technology 27,900 (with 10,300 university level) ; medicine 5,000 ; agriculture 5,000 ; veterinary 1,000 ; postgraduates 7,000. In 1969 the number reached was will over 900,000.

[19] Lecture by the Director General of the Council of Scientific and Industrial Research at the Indian Science Congress Session in Delhi, 9 October 1963. The number of R and D personnel 37,000 in India in 1962 compares favourably with the total number of about 39,000 of R and D staff in France in 1963 (Table 7, p. 39 and Table A1, p. 127, "Review of National Science Policy : France", O.E.C.D., Paris, 1966).

of Indian society.[20] Individual civil servants who have initiative and the desire to do useful work are helpless, and have to conform to established practices; to do anything else would usually have an adverse effect on their career.

The present system of control by career officials in Government services finds characteristic expression in the rule that grants to scientific institutions or to individual scientist must come through one single channel of the administrative department concerned. There is emphasis on classification of subjects, by names or labels, in separate compartments, which tend to be considered immutable like caste divisions, and which are allocated to different government agencies with jurisdictional boundaries. Multiple sources for research grants, which would violate the jurisdictional structure based on the principle of authority, are not permitted. Questions of legitimacy of the choice of subject are raised, even in the case of pure research, without understanding that the progress of science depends on exploring new fields which cannot be labelled in advance. Gerard Piel in his lecture on the "Role of Science in India's Self-Discovery" pointed out: "The work of science is done by people, not by machines. More precisely it is done by individual—by highly individualistic —men and women and not by boards or committees. When a question is ready to be asked by a team, it has already been framed by some one creative scientist. The work of science at this stage is easy to support. At the earlier, more critical stage, the scientist stands in greater need of backing and encouragement. In fostering science, therefore, India's planners and bursars must learn to sponsor the man ahead of the project. This policy is easy to declare but not so easy to carry into effect. It calls for the wisdom to recognise promise in the younger scientist, the courage to make unreserved, long-term commitments to his support, and the administrative restraint necessary to secure his independence."

"The only safe way to give effect to such a policy is to be open-handed in the granting of support. The hand of the granting agency must be especially open on the first grant; making many small initial grants, it can encourage the launching of many careers and secure the widest diffusion of initiative and enterprise in the rising generation".[21]

Replacing career administrators by scientists would be useless because scientists would become a part of the establishment. The present system of control, according to rules of government administration, has to be changed. Permitting multiple sources of small grants for pure research would open wider possibilities of recognising and utilising individual talent. To place some funds at the disposal of national scientific societies for this purpose would be another liberating step, and would facilitate critical evaluation of the quality of research.

I may now consider the case of statistics. Myrdal's criticisms of the weakness of statistics in India are fully justified. His diagnosis is correct that "weakness of much of the data stems from the fact that inadequate concepts and theories provided the framework of

[20]The findings of an enquiry made by the Indian Institute of Public Administration in 1968 was summarised in a newspaper in this way: "Civil servants by and large are authoritarian in their attitude to the public,.....in a significant number of cases their decisions are influenced less by rational considerations than by personal connexions,.....and, especially at lower levels, they show no interests in the result achieved."

[21]Indian Parliamentary and Scientific Committee, Parliament House, New Delhi, on March 3, 1964. Published in *Nature*, **202**, June 20, 1964, 1154-1155.

categories used in their collection and analysis" (Preface, p. xi); that unsuitable and imitative concepts and statistics now "stand in the way of scientific progress" (p. xii); and that "the Indian Planning Commission in particular needs to devote more effort to the collection of better statistics."

In the absence of a social awareness and appreciation of the scientific view of objectivity, among a sufficiently large number of civil servants or political leaders, the need of validity has not yet been accepted in the official statistical system in India. Official statistics in India is treated as an integral part of the administrative system which is regulated by the principle of authority. Approval of statistical estimates at a high level of authority is accepted as a substitute for validity. In many cases there is continuing opposition to independent cross-checks for the assessment of validity of the data. Officials have the feeling that two independent estimates, which might differ, would be confusing, just as two different decisions by the same court of law would be confusing and, in fact, unthinkable; therefore independent cross-checks in statistics should be eliminated.

There is lack of appreciation that statistics must have some purpose. There are persistent efforts to copy what is being done in the advanced countries, sometimes even of programmes and schedules which are manifestly unsuitable for Indian conditions. For example, there is much concern in obtaining national income estimates with detailed breakdowns by sectors, and by small geographical units, however inadequate and unrealiable the basic data might be for this purpose. On the other hand, there is resistance to study changes in levels of living over time in a poor country like India because in the western countries there is no annual collection of information on household income and expenditure.

During a visit to the U.S.A. in 1965, an American statistician of high standing told me that roughly thirty per cent of teaching and research posts in statistics in important American universities and institutions are held by persons of Indian origin most of whom are Indian citizens. Whatever be the proportion in America there cannot be any dispute that a large number of Indian statisticians are working abroad. Also, Indian statisticians, generally, have a high reputation at an international level. The question arises : Why then is Indian official statistics so deplorably weak ? The answer is : because the tradition of science is still weak in India.

Having admitted the weakness of Indian official statistics, in order to maintain a proper perspective, I should point out that, besides research of high quality in theoretical statistics, useful work has been, and is still being done in applied statistics, in India. The design of large scale sample surveys, for example, was developed in India to suit Indian needs ; some of its new techniques are being used also in other countries. It is somewhat unfortunate that certain criticisms of the National Sample Survey of India were apparently made without an adequate appreciation of the purpose, or proper understanding of the technical methods, of some of the investigations. For example, it was recognised in India that the concept of 'unemployment' as used in the advanced countries, where the majority of earners receive regular wages or salaries from employers, was unsuitable for India, because regular wage earners formed a very small fraction of the labour force in this country. In India most earners "are engaged in household enterprises or work on their own account and do not have jobs and cannot lose them. They can be never unemployed. But they may not have

enough work". The western concept would be meaningless in their case.[22] It was decided, deliberately, to use three different concepts for experimental purposes : "normal full-time work", "normal output per unit of time", and "normal earnings per unit of time". Results obtained were different for the three concepts as each approach has its own subjective element. Which concept is appropriate would depend on the purpose for which the information is to be used. It was not until the 15th round of the National Sample Survey (July 1959 to June 1960) that certain concepts could be provisionally standardised. Unfortunately, comments have been made in Myrdal's three volumes, which seem to be based only on the results of earlier surveys and are, therefore, misleading.

Secondly, objections have been raised on the ground that results of surveys would be affected by the motivation of the respondents. The 'response bias', and interaction between the investigator and the respondent, are well known problems in surveys in all countries. Wider aspects of this question have been considered by Myrdal himself in his discussions about the concept of objectivity in social sciences. It is pertinent to point out, in this connection, that two or more independent and inter-penetrating samples are used in Indian surveys, and information for each sample is collected independently by different groups of investigators and is processed separately. Two or more independent and comparable statistical estimates would be, therefore, available for each item under survey; the difference between such independent estimates would then supply a valid measure of the margin of uncertainty or 'error' of the information. The concept of objectivity in natural sciences is based on the degree of agreement in the observations made by different investigators. The survey method, as developed and used in India, using the design of inter-penetrating samples, can also supply statistical estimates which would always have, qualitatively, the same kind of objectivity as the results of investigations in natural sciences; this important point was apparently missed by Myrdal's colleagues.[23]

VI

I have already mentioned a basic issue raised by Myrdal : Whether economic growth is possible in under-developed countries under political democracy : He started his book with great hope that acceptance of planning, generally on the basis of socialistic and democratic values, would lead to rapid economic progress in South Asia, particularly in India. He is distressed that he has been forced to raise the question about political democracy. He calls the South Asian countries "soft" for lack of sufficient social discipline particularly

[22]"Science and National Planning" (*Sankhyā*, **20**(1&2) 1958, 69-106) TP. 1961, 86-87. The article on 'Unemployment', *Ind. Jour. Lab. Econ.* **2**(1) 1959, 39-45, and TP. 1961, 147-152 gives a general discussion of concepts and definitions of unemployment and underemployment which would be most appropriate for India.

[23]Some criticisms are based on confusion about technical points, for example, about what is the 'reference period'. If in a survey the respondent is asked how many days he had gainful employment during the previous week, then the 'reference period' would be 'the previous week' in this case. Also, as the same question would be asked, on each day of an interview in a sample household, the reference period of 'the previous week' would move from one calendar day to the next from the beginning till the end of the survey. As sample households would be located at random over the country, all estimates would be statistically representative of the whole of the geographical area under survey, and also of the whole period of time of the survey. There are other comments which indicate lack of knowledge of social conditions in under-developed countries.

among the ruling class. He continually emphasises the need of much greater social discipline if industrialisation is to be achieved in the forseeable future. He confesses he does not know what would happen. He has profound scepticism about the validity of forecasts of political developments in South Asian countries. He is, however, strongly of the view that political developments would vary widely from one country to another in this region. Poverty, and inequality, would not necessarily work according to a fixed rule of change, and move necessarily in the direction of communism. In India, Myrdal thinks, there is perhaps a greater chance of a take over by a coalition of military officers, higher civil servants and businessmen, rather than the communists. From within the country, such a contingency seems to me very unlikely; I shall refer to this point later.

Myrdal concedes that, although there is no danger of a communist take over in the near future, there is a possibility of several countries, perhaps, of all South Asia, moving closer to communism, or even to come under communist dictatorship. On the other hand, Myrdal thinks it is possible that Western countries, with the help of a generous and wise policy of aid, may succeed in strengthening non-communist or anti-communist regimes, sometimes without any favourable effect on the social and economic conditions of the masses.

C. E. Ayres[24] also raises a basic question : "Wherever ancient culture prevails, and most amongst dense populations, resistance to (social) change is correspondingly great". Such resistance is both passive and active : passive in the sense that spread of literacy is more difficult in large masses than in small; active in the sense that modifying language and other habits would be bitterly or even violently resisted; and refers to the language problem of India in this context. He points out that, as regards resistance to social change, practitioners of total revolution have a great advantage as they give the highest priority to the extirpation of the old culture following which the introduction of industrial technology becomes relatively easy. He states : "This is the secret of the astonishing rapidity with which the Soviet Union has been catching up the West", and adds that "revolutionaries may be afflicted with traditions of their own which act as a brake on the development process" (p. xx). As regards under-developed countries, at the present time, Ayres asks a crucial question : "Short of total revolution, what is to be the outcome of the confrontation of the irresistible force of the technological progress by the seemingly immovable obstacle of a population that is vast and dense and saturated with a pre-industrial culture ? Can such a mass of human beings be transformed without resort to violence ? We do not know. None has been yet. But we do know the principle by which alone such a transformation must be governed".

I agree with both Myrdal and Ayres that a "big push" is necessary to move the society forward as a whole. But what is the mechanism of a big push ? It has to begin, like a flame, or a chain reaction, and spread. It has to be like the spearhead of a movement. It must be big in the uncompromising comprehensiveness of its attack on the authoritarian structure of institutions giving support to inequalities, social rigidities, superstitions, and ritualistic religious practices devoid of spiritual values. I wonder whether a beginning can be made to

[24]C. E. Ayres, in his *The Theory of Economic Progress*, throughout adopted and emphasized the institutional view of economic development ; he also advocated the 'big push', as Myrdal has done, using the identical phrase. Myrdal himself could not possibly have traced all relevant references ; the important contributions of C.E. Ayres seem to have escaped the notice of his younger colleagues.

liberate science from the authoritarian control of civil servants, and also of scientists, who occupy seats of power, on the basis of status at different levels of authority; to modernise the structure of administration to suit present needs; and to organise spearheads for social and religious reforms.[25]

VII

What of India ? It is geographically a sub-continent with a population of 530 million, and politically a federation of constituent units of which 16 are major States, demarcated mainly on a linguistic basis, which are in some ways comparable with national states in other parts of the world. India has a mediaeval and authoritarian structure of society. It is divided, vertically and horizontally, by barriers of religion, of language, and of caste. Tensions between different religions and between different language groups are increasing; caste is becoming more pervasive. Resistance to social mobility and institutional changes is strong. Literacy is not yet universal. The country is not self-sufficient in food. Population is growing rapidly. The industrial revolution, which started with economic planning fifteen years ago, has not yet materialized. Political conditions are not entirely stable.[26] All this is true as pointed out by Myrdal after an objective evaluation of the situation. Naturally, on the whole, he is inclined to take a somewhat pessimistic view.

I am in agreement with most of what Mydral has said. The future looks dark. However, I feel India is no longer stagnant. Indian planning has, I believe, started the process of industrialization in a way which cannot be reversed. Modern industries are expanding. Factories have been and are being established in different parts of India. Heavy machine building complexes made slow progress but would be soon turning out machinery for the production of steel, electricity, fertilisers etc. It should be then possible to put up new plants with the help, to a large extent, of machinery produced in India. A turning point would be reached in the advance towards a self-generating economy.

Myrdal has commented that radicals are prone to exaggerate the Marxist view of a rapid adjustment of the entire social system to changes in the economic sphere. Independently of any theory on the basis of empirical evidence, I believe the industrial growth which has started in India is likely to gain momentum, even if slowly and help in the modernisation of Indian society. Changes of outlook are occurring which are of significance for the future.

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[25]The urgent need of drastic changes in the administrative machinery was emphasized in the concluding section of the "Draft Plan-Frame for the Second Five Year Plan, 1956-57 to 1960-61" (March 1955). It was stated that "Administrative difficulties inherent in the existing Government machinery are likely to prove the greatest obstacle to efficient planning. To overcome such difficulties, large organizational and even constitutional changes may become necessary", and that "Government must rally public support in favour of the Plan and encourage and help non-official organisations to promote its fulfilment."

[26]There are signs of an increasing sense of grievance and discrimination in particular areas within States which have the same common language. Feelings of 'sub-regional nationalism' may grow and lead to further fragmentation of the country. A much larger number of smaller States, with regional homogeneity and with a large measure of autonomy, which would have greater equality among themselves in area and population, may not be necessarily an obstacle to national integration ; but may indeed promote it. A federation of small States was proposed by A. S. Ray, a Bengali author in 1947, and more recently by J. P. Narain, a well-known political leader.

Businessmen, particularly, big industrialists, are becoming increasingly dependent, for purposes of production, on goods manufactured in different parts of India, and also on a country-wide market for selling their own manufactures. The mutual self-interest of industrialists is likely to become increasingly a strong cohesive force to hold India together. Organised labour is, perhaps, beginning to understand the risks and dangers of a narrow, provincial isolation. On the one hand, conflicts of language and of communities are increasing in some ways; on the other hand, advantages of inter-dependence of different States of India are beginning to be appreciated. A steady progress of industrialization is likely to promote, directly and indirectly, national intergation at the economic level.

I have pointed out the disadvantages of a selective encouragement of capitalist agriculture. I shall briefly mention the brighter aspects of the present situation. Benefits of industrialization have started reaching rural areas. New industrial towns are being established which are changing the character of their neighbourhood. The supply of tractors, electricity, agricultural machinery, pesticides, fertilisers, improved seed etc., is increasing. Transport facilities are growing to carry industrial products to rural areas, and to bring surplus agricultural productions or semi-processed goods to urban areas. Progress is being made in education, health and social services, cultural amenities etc., in both urban and rural areas, slowly no doubt, but not in a negligible way. The industrial infra-structure for agriculture has been built up to a large extent during the last 10 or 15 years. Conditions are becoming favourable for the beginning of industrialisation of agriculture. The inter-locking and reciprocal feed-back between agriculture and industry, once it reaches a critical level, would be another turning point in self-sustaining growth.

The progress of modern industries would promote urbanization, which would create many difficulties, but would also be of help in increasing social mobility and in changing old habits of mind and attitude to make conditions increasingly favourable for growth. An important effect of the progress of industrialization may be a gradual slowing down of the growth of population, which, in its turn, would speed up economic development and improvements in level of living.

On the political side, the statement that "India's parliamentary system has proved to be remarkably stable, but it is the stability of stagnation" (p. 776) calls for some comments. After independence four general elections were held, with adult franchise and secret ballot, in an orderly way and with free recording of votes, in early 1952, 1957, 1962 and 1967. Out of about 250 million qualified voters over 61 per cent recorded their votes in 1967. Such a high level of participation,[27] comparable with advanced countries, is a favourable factor for the growth of political democracy.

The Congress Party formed stable governments after the first three general elections. Conditions changed in the 1967 election. The Congress Party, which was still the biggest party with 40 per cent of all votes recorded, retained control at the Centre and in seven States. Non-Congress governments were formed in nine States with a population of about 307 million or only a little less than two-third of the total population of India. Many non-Congress governments were coalitions of parties from the extreme right to the extreme left; five of them resigned and mid-term elections are being held in these States. Political power is shifting from the Centre to the States. Opposition parties, however, have mostly regional

[27]About 70 per cent of the electorate recorded their votes in the mid-term election in West Bengal in 1969.

influence with programmes based on local and regional considerations No opposition party has yet emerged with a truly all-India character. Voting in the 1967 election was a demonstration against the Congress Party without, however, any support in favour of alternative programmes.

The political situation is no longer stagnant in India. The fact that non-Congress governments could be formed in a large number of States, even if for short periods in some cases, would give confidence to the opposition parties. Tensions would increase between the traditionalist and the modernist outlook; the latter view is likely to become stronger, in the long run with the progress of industrialization. Results of repeated mid-term and general elections may lead to a rejuvenation of the Congress Party under younger leaders, and also to a regrouping of other parties. Support may increase for more dynamic domestic programmes and a flexible foreign policy, especially, in respect of Pakistan and China. There may be a settlement of border disputes by mutual agreement. Or, failing such settlement, a policy may be adopted for defence in depth of border areas at low or negligible cost, which would reduce or stabilise military expenditure, and make more resources available to speed up social and economic development.

The course of events indicated above is only a possibility, not a certainty, and may not even have a high probability. What I wish to say is this : The infra-structure of science and technology exists in the form of trained scientific personnel, laboratories, and equipment. The infra-structure for industrial growth, and also for early industrialization of agriculture, has been built up to a large extent. National integration is increasing at the economic level. The infra-structure for the growth of political democracy is becoming stronger. Conditions are becoming ripe for modernisation. A "big push", of some kind, seems necessary to supply the spark for the beginning of a triple revolution, social, scientific and industrial. Can this be done without violence ?

What happens would depend on the political leaders. If there is failure of top leadership, political conditions may become increasingly unstable. A military dictatorship would be difficult to set up, and would not be viable, because the armed forces are not homogeneous in respect of language, religion and community, and also because of the political maturity of the people. Military, political or economic domination by foreign powers would be even more difficult, and cannot continue for long because of opposition from within the country and the rivalries of great powers. If there is failure of top leadership, owing to betrayal by the intellectual elite who form the ruling class irrespective of party ideologies, the country may have to go through a period of dissensions, increasing frustration, disorder, or violence until a strong government is firmly established with a progressive, modernisation programme. However, I believe, for the reasons explained above, that if industrialization can progress at a reasonably fast rate, and a "big push" can be given somehow, there is a possibility of India reaching the stage of self-sustaining growth and political stability without a violent revolution.

VIII

Myrdal's book gives an exciting description of the drama of history as it is unfolding in South Asia. Poverty, inequality, and lack of development will not have any foreordained role in the historical process. Without the progress of equality and improvement in the level of living, at least, beyond the poverty line, for one quarter of the population of the world

who live in South Asia, there would be grave repercussions on the rest of the world. The problem of the under-developed country is, in one sense, of greater concern to the advanced countries, because international rivalries and tensions arise from the desire to establish spheres of influence over under-developed areas. The very existence of under-developed regions would be, therefore, a continuing threat to world security and world peace.[28]

Myrdal has considered international tensions in terms of the cold war between the U.S.A. and the U.S.S.R. and between the Western and Eastern blocks. He clearly recognised that in future "China's relation with Southeast Asia can no longer be regarded as a simple matter of boundary disputes" (p. 229), but could not consider the international situation in South Asia in relation to China for lack of direct acquaintance with the progress of events in that country. If China, which has a population only slightly less than that of the South Asian countries covered in Myrdal's study, is included, this region would have a population of about half that of the whole world. Sooner or later, and very likely sooner than later, America would withdraw from Vietnam, and then gradually from South Asia, but not from Latin America. The international power situation has started changing, and would continue to change, as America gets out of South Asia. The future history of Asia has become more uncertain than at the time Myrdal's book was written or published. The Asian Drama would continue to unfold; one would fervently hope with Myrdal that it would not turn out to be a tragedy for the whole world.

I have expressed my views frankly. This is the only way in which I can pay my homage to a very great man who has written a great book with the highest sense of intellectual integrity and with intense sympathy and anguish for the poverty and stagnation of one-fourth of the world's population who live in the countries of South Asia.

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[28]P. C. Mahalanobis, "Industrialization of Underdeveloped Countries—A Means to Peace", Pugwash Conference 1958, *Bull. Atom. Scientists*, 1959, 12-17, TP-1961 125-134. The following extract is relevant :

"Very recently, the monopolistic superiority of the West in atomic and nuclear weapons and ballistic missiles has also gone. In this situation, it is inevitable that the conflict of interests between East and West in regard to spheres of influence in the underdeveloped countries would become more and more sharp. This, in brief, is the present position. Recent events in the Middle East, for example, corroborate the above analysis.

With the progress of industrialization of a country it would automatically follow that its own natural resources would be increasingly exploited by itself. With increasing industrialization it is also inescapable that commercial and economic relations with other countries would increasingly tend to become as between equals.

It is agreed that the very process of economic development would generally broaden the base of social and political decisions. That is, with the progresss of economic development a larger and larger number of persons would become involved in making economic and political decisions. External economic and political relations would, therefore, tend to become more stable.

A quick transformation of the under-developed countries into industrialized economies would, therefore, reduce the sphere of conflicting interests ; and hence decrease the tension between East and West."

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