

FACTOR PRICES AND THE CHOICE OF TECHNOLOGY IN DEVELOPING COUNTRIES

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Introduction

Among specialists in the field of technology and employment one can distinguish two broad schools of thoughts:

a) Those who point to the existence of many earlier production techniques and concludes that appropriate technology might be best achieved by identifying all the existing options and disseminating information about them.

b) Those who stress the advantages of modern technical progress and argue that earlier labour-intensive technologies are not sufficiently productive. They conclude that the bulk of available resources should be devoted to the design and commercial development of equipment that is labour-intensive yet embodies the latest in scientific knowledge.

Whatever the relative merits of the two schools, it seems necessary to ensure that a preoccupation with the creation of new indigenous technologies does not obscure the fact that current policy choices at any point of time are made on the basis of existing techniques or what is called the "technology shelf". (1)

One of the reasons why, in practice the technology choices of developing countries tends towards the capital-intensive end of the spectrum is that the factor prices are often distorted. This distortion favours the use of capital-intensive techniques. If relative factor prices were adjusted, it is claimed, it would become economic to switch over to known labour-intensive methods. Recent empirical studies have demonstrated that, although a favourable price and incentive structure may be a necessary condition for the use of appropriate technology, it is not sufficient in itself.

If the employment objective is given a very high weighting, then labour-intensive techniques, even if they are not least-cost one in terms of market prices, may be considered justifiable. What this means is that techniques which seem uneconomic on the basis of private cost calculations may score over capital-intensive ones if evaluated on the basis of social cost-benefit criteria (1).

Factor Pricing Problems

The concepts "structural disequilibrium", "over-population", "technological unemployment" and "underemployment" appear frequently in the literature on

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developing countries and there has been a considerable discussion of the comparative desirability for use in such areas of relatively labour-intensive or capital intensive techniques. It is a common feature, however, of the unemployment in these countries that it fails to respond to fiscal policy measures designed to increase employment by stimulating effective demand. Use of conventional income-generating techniques appears in fact to create inflationary and balance-of-payments difficulties long before full employment is approached.

Kindleberger (2) suggests that underdeveloped areas are characterized by "structural disequilibrium at the factor level". This suggestion has been the starting point for two types of explanation of unemployment or underemployment in underdeveloped areas. The first assumes that available technology would permit full use of the working force at some set of relative prices and finds the source of unemployment in various types of "imperfections" in the price system. The second suggests that there are limitations in the existing technology or the structure of demand which lead to a redundancy of labour in densely populated, underdeveloped areas.

Social policy in economically underdeveloped areas frequently proceeds more rapidly than economic growth. Imitation of the techniques of more advanced countries is not confined to technology. Elaborate social security legislation are often found in densely populated, low per capita income countries which are just on the threshold of economic advancement. New industrial projects may face the prospect of wage rates quite different from those prevailing in the handicraft and agrarian sectors and thus may be compelled to use different factor proportions. Money wages and prices would begin to rise, not uniformly but in the "bottleneck" sectors, prior to the achievement of general full employment. New investment in these sections would tend to increase still further the substitution of capital for labour while offsetting tendencies in the relatively stagnant sectors would work slowly, if at all. The balance of payments under the pressure of growing domestic inflationary pressures and increased demand for capital imports would tend also to develop deficits at an earlier stage in the expansion of national income. This could all be superimposed upon and could aggravate the "factor disequilibrium".

The presumed effects of factor market imperfections upon the choice of production technique in developing countries have been noted extensively in the literature. Generally it is argued that in less developed countries the interest rate or cost of capital is artificially depressed below equilibrium rates through various schemes of subsidization while wage rates are raised above equilibrium rates by social programs patterned around those of the advanced countries. High unemployment and labour surplus continue because the resulting factor prices make attractive the installation of too much capital and the employment of too

little labour. This has become known as the market imperfections aspect of the factor proportion problem (3).

Discussion

A bit of discussion of these points is in order. We hypothesize that the major variable is that of factor market price distortions brought about by import substitution programs and currency overvaluation. The incentive schemes used to attract investment into import competing activities tend to be capital using biased and the currency overvaluation leads to foreign exchange rationing which tends to favour capital equipment compared to other types of imports.

Capital Costs

In pursuit of higher rates of capital formation in most of the developing countries, inducements have taken the form of tax holidays, tariff exemptions, overvalued exchange rates, import licensing advantages, and other arrangements. In almost all cases the inducement takes the form of making the cost of capital lower than it would otherwise be. Evidently this type of approach to encouraging investment created incentives to use capital at the expense of labour, where such was technologically possible.

Empirical and qualitative evidence accumulated by a large number of investigators suggest that substitutability between capital and other inputs is substantial, and economic agents do respond to factor price signals. Therefore, policies that result in reducing the cost of capital relative to other inputs will result in increased capital intensity. Measures aimed at increasing the rate of capital formation have contributed to the emergence of types of activities - as well as techniques of production - that are alien to the resource endowment of the developing countries. This alienness seems to have penalized further kind of adaptations and modifications that might have produced greater labour absorption. (4)

Capital costs are also artificially reduced by an interest rate which is pegged too low in relation to the marginal product of capital and rate of price inflation. Continued and rapid inflation induces firms to carry heavy investments in inventories as a hedge. Inflation, also results in a persistently overvalued currency which makes attractive the importation of capital equipment. Tariffs almost discriminate against importation of used and reconditioned equipment. This tends to reduce the employment multiplier of new investment because new equipment is more labour saving than that of earlier vintage. (5)

Prices & Incentives

The system of prices may be of importance in two respects: in helping determine which techniques are selected, within the choice available, and in providing some incentive for appropriate technical innovations. This system cannot be treated as an independent parameter, which may be altered at a stroke. It is in part a reflection of the technology adopted (as well as in part a cause). Prices, which here include wages received by different groups of workers and the profits received by different groups of entrepreneurs, are themselves the consequence of a particular production structure, arising from technology and historical developments in the society in question.

Industrialization based on the use of advanced country technology (particularly in the context of an import substitution strategy, but also with a more open strategy) tends to lead to high (relatively to the rest of the economy) real wages in the sector affected; and subsequently to powerful interests concerned with maintaining those wages, and therefore that technology. (6)

Those who stress price "distortions" as a prime cause of many of the problems of less developed countries, including inappropriate technology and employment problems, are generally primarily concerned with the following distortions:

- a) relatively high wages in the modern sector,
- b) relatively low price of capital, caused by low interest, tax incentives related to investment, and over-valuation of the exchange rate,
- c) overvalued exchange rates combined with high level of protection.

In pulling together the threads of this discussion three sharply contrasting views of effective policy lines to pursue in promoting appropriate technological change in the developing countries can be identified.

One is the price incentive school. Some believe that "getting prices right", and "letting factor endowments speak" will be enough. The problem will then solve itself. The assumption behind this school is that with the "right" incentives the correct choice will be made, and there will also be incentives for any needed adaptation. This school considers unimportant the fact that with the source of most technology in the advanced countries, the scope for technological choice in itself becoming increasingly inappropriate.

Another is the radical-reform school. This school believes that radical transformation in the structure of societies in developing countries is required. Given such transformation along the lines of the Chinese revolution, correct technology policy will follow automatically. Without such transformation, no

amount of institutional and incentive changes will bring about the correct technology.

A third is the technological school. This school believes that institutional changes and changes in expenditure on research and development (R&D) may themselves be enough to bring about the required transformation.

Some kind of combination between these three views may be in order. The creation of a new technology is of course needed, as well as improved diffusion and selection of existing technologies. Such a change will not come about automatically, even with a reformed price structure. It requires institutional changes to bring about. But a new technology is not, in itself, enough to cure the employment problem. Changed income distribution, and the devotion of much greater resources to the traditional sector are also required. More than straight forward technological research is also needed to bring about the widespread diffusion of a new technology. (7)

Foreign Enterprises and Technology

One might expect that the factors that have been found to influence the choice of technology would affect domestic and foreign investors differently.

A number of critics have argued that the multinational enterprise will choose or develop a more capital intensive technology than its domestic counterpart because it faces different relative costs of the factor of production. The multinational enterprise can, for example, raise capital in markets outside the country, which generally cannot be tapped by the domestic firm. Access to these markets and the large size of the multinational enterprise may give it a capital cost lower than that of a domestic firm. (8) Bruton suggests that in this event domestic policies may not be very relevant to the decision making of the foreign firm. This is surely correct to some extent. It is however equally important to emphasize that in many instances, the various incentives offered to foreigners are unnecessary to attract them, and do encourage activities which are less domestic resource using than they would be in the absence of the incentives. (9)

Moreover, the foreign firm generally pays a higher wage rate for the same job than does the domestic firm. With lower costs of capital and high labor costs, the multinational enterprise might be expected to end up with a more capital intensive technology than the domestic firm.

The multinational enterprise also presumably has a sunk cost in knowledge of capital intensive technologies. Facing the choice of using a capital intensive technology that the firm knows from its experience in labor-scarce economies or

investigating a variant adapted for a labor-abundant economy, the multinational enterprise may have a greater preference for the capital intensive choice than would a domestic firm. The costs of investigation are more favourable for the multinational firm compared to those facing the firm with little experience with a given technology. And the risks of an unknown technology are greater than those of one with which the enterprise is familiar. Partly balancing this consideration, however, is the fact that a few enterprises have successfully developed modern labor intensive methods. They will tend to exploit such techniques as widely as possible.

But there are also influences on the multinational firm that may lead it away from capital intensity. Some evidence suggests that the multinational enterprise is more likely to use second-hand equipment than is a domestic firm. No doubt, the chief explanation lies in the ability of the multinational firm to locate and evaluate such equipment. In fact, in many cases, the equipment comes from one of the affiliates of the international firm. Its opportunity cost to the enterprise may be very low.

Although these factors may all influence the choice of technology made by the multinational enterprise, the evidence suggests that their influence is overwhelmed by the adjustments made for scale and in response to the competitiveness of the environment. (10)

Choice of Techniques

The international corps of development economists has gradually perceived that strategies resulting in growing unemployment and poverty are no longer acceptable to concerned economic decision makers in developing countries. As noted before, the response has been a now familiar check list of the obvious sources of labor displacement in a developing economy:

- Interest rates too low relative to what a free market would set as its value;
- Foreign exchange (and hence imported machinery) priced well below its opportunity cost to the economy;
- Artificially high wage levels through premature labor union pressures or government regulation;
- Lack of technological alternatives that employ labor.

As argued before, any of the first three items singly or in combination will be sufficient to bias any investment project toward more capital-using and labor-

saving facilities than would otherwise be chosen, with consequently less employment creation per dollar of investment and per establishment. These items represent deviations from free market conditions and can cause less than optimal allocation of productive resources.

In other words, market prices paid for capital and labor in developing countries do not correctly portray their relative scarcities or, more generally, give the wrong incentives to firms choosing techniques of production. Even under competition, market wage rates and interest rates on borrowed capital are an insufficient guide for choosing techniques that are the most desirable from the society's point of view. Moreover, government policies such as tax incentives for investment, low tariffs on imported machinery and subsidized credit have had the effect of artificially lowering the price of capital relative to labor in developing countries. (11)

The problem may be more complicated when dealing with item four above, as non-economists - many of them engineers - make economic decisions, implicitly or explicitly, in most aspects of their work. But a number of economists are also persuaded that variation in choice of techniques offers little hope of employing more people because of essentially fixed factor proportions (between capital and labor) required by modern technology.

That most investment proposals bear the mark of engineering criteria should be no surprise; most such proposals are written by engineers or by economists who come to the engineering analysis at such a late stage as to have a minimal degree of freedom in choosing an alternative technology to those proposed by the engineers. (12)

The design of a plant is also influenced by what one might call the "objectives of the manager". The manager is apparently influenced by the difficult human problems of managing the larger number of workers associated with more labor intensive technologies. In some countries, the management problems associated with labor intensive technology may be augmented by labor legislation. If the labor laws and regulations make it difficult for the firm to dismiss workers whose productivity is low or to reduce the work force if sales fall below expected levels, the apparent labor costs may be less than the real ones. The manager's decision to employ capital as a substitute for labor is, under certain conditions, reinforced by economic reasons.

However, most investment decisions are made on the basis of some kind of formal or informal feasibility study. Such studies calculate the return, usually on investment, that would be generated from a proposed project with a given technology. Rarely do studies, whether by foreign or local firms evaluate alternative technologies and ask what the incremental return is on the extra

capital employed in the more capital intensive process. If the return on the proposed technology is satisfactory, the matter is generally investigated no further. (13)

Policy Toward Foreign Investment

The general argument made earlier that foreign firms have more information and are better able to appraise options than responsive to market signals, and more affected by those policies that do in fact result in misleading price signals. There is some evidence that urban foreign firms do employ more suitable techniques when it pays them to do so. Firms that have easy access to foreign funds and technology may in fact require signals of a particular kind to induce them to use appropriate techniques and product mix.

Virtually all countries have special incentive systems aimed at encouraging the establishment of new industrial activities. Almost all of these incentives (they are usually tax holiday) make capital cheaper and more easily available than it would otherwise be. The simple elimination of such incentive systems would have favorable effect, but probably not enough to overcome all of the biases that exist against the choice of the most labor using technique that is technologically efficient. Foreign firms also have, as noted, many economically rational reasons to choose techniques less suitable than they could be under different circumstances. Also an incentive system that rewards the use of labor should affect not only the choice of techniques, but also affect the efforts to search for, and to design, new labor using techniques. (14)

It is not enough merely to investigate whether the technological alternatives are socially desirable. What may be more important is to devise a system which will ensure that private entrepreneurs actually use the socially optimum technique. Government may resort to various measures to induce a change to labour-intensive technology, for example a wage subsidy or an increase in the nominal price of a plant through the imposition of a tax, tariff or quota. The first involves a transfer of resources from the public to the private sector. If the government combines the subsidy with a package of measures including tax on equipment, the subsidy can be financed out of tax revenues. (15) However, the social opportunity cost of resources allocated to subsidy merits consideration. If the full amount of the subsidy were financed out of current consumption (say, of the modern sector) without adversely affecting investment, it would be socially desirable in the light of both employment and income distribution objectives. (16)

Second-hand Equipment

Another aspect deserving brief mention in the present context is imported

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second-hand machinery. Technology is, to a great extent, embodied in the equipment employed in a factory. Certain classes of equipment appear to be associated with more labour intensive technologies than others. Second-hand equipment, not only saves on capital because it is initially less expensive than new equipment, its design often reflects an older technology than that currently in use in the advanced countries. (17)

Advocates of second-hand machinery argue that, in the prevailing conditions of capital scarcity and need for employment in the developing countries, machines with lower investment cost per work station are justified. Those who argue against older equipment claim that it is always inefficient (i.e. output per unit investment is lower than with new machines), that maintenance and installation costs are higher, and that spare parts are often not available.

The pros and cons of this procedure, however, have been extensively discussed in the literature. In a number of industries, of which pulp and paper is an example, second-hand machinery has been transferred to developing countries by multinational firms as well as by other contractual arrangements. Other things being equal, such machinery has the advantage of being somewhat more labour-intensive than later models. It is arguable whether large multinational firms are the most likely agents for the efficient utilization of the international market for second-hand machinery, so that the conclusion emerges that measures to improve this market, through the use of consultants and other arrangements, may be desirable. (18)

Policy Implications

Many of the policies recommended to developing countries for influencing decisions have been designed to affect the relative cost of factors to firms. The assumption is that the enterprise would respond by adjusting its choice of technology to the optimal for the economy if factor prices reflected their social (opportunity) costs.

The importation of inappropriate technologies is also partly an outcome of current patterns of growth characterized by heavy dependence on external influences. For example, inequality in the distribution of income creates and sustains similar patterns of consumption to those of the developed world among persons in the developing countries, and the result is a bias in the allocation of resources towards the production of luxury consumption goods. The production of these goods leads to the adoption of the technologies used in advanced market-economy countries. The adoption of the techniques and the development of these industries create conditions leading to the perpetuation of technological and industrial dependence. Moreover, because of their low employment-generating effects and the opportunities (or the consumption to

which they give rise), the presence of these industries tends to accentuate the maldistribution of income itself and makes it socially and politically difficult to alter that maldistribution. (19)

To create an environment that encourages a stronger response from firms of all types to factor costs, a host government should consider several policies. (20)

a) Competitive Climate. If the businessman is most likely to respond to factor prices in his choice of technology when competitive pressures are strong, a relatively open economy is more likely to produce such an environment than is a highly protected economy, or one in which productive capacity is constrained by official licensing. Of course, some degree of protection may be required simply to attract the desired investment. But policies of high protection or of sectors closed to the expansion of capacity are likely to generate capital intensive technology.

If the environment is appropriate, the market cost of the factors to the firm no doubt has some influence on the technology that is selected. There may therefore be a need to introduce policies that lead market prices of productive factors to reflect more closely the actual scarcities in the economy. There is some evidence to suggest that different approaches to influencing the private cost to the firm have different degrees of effectiveness.

b) Wage Policy. Along with policies that reduce the cost of capital there are many developing countries that seek actively to raise wage rates. Among such practices are minimum wage laws, laws that make dismissal difficult and expensive, laws that require many fringe benefits and extra legal pressures to keep wage rates rising. There is no doubt at all that rising real wages penalize employment growth and thereby penalize the reduction in the number of people living in the most damaging poverty. The broad outlines of a possibly policy can be noted. 1) Wage rates or income of similarly skilled people should be about the same in urban and rural areas. Where urban wages rise relative to rural incomes, all kinds of problems are created and exacerbated. 2) Skill differentials should be adequate to provide incentives to acquire the skill. Wage income differentials should be based only on productivity. (Productivity will of course reflect relative scarcity). These differentials may well be large, and income distribution objectives met by tax policy. (21)

c) Subsidized Capital. Another tool for affecting the factor costs facing the private firm is the elimination of subsidies to capital, which are so widespread in developing countries. Some subsidies are obvious, in the form of low interest rates. Others are more subtle, such as the provision of tax holidays. A careful examination of certain tax rebates and capital markets may reveal other

influences that unduly lower the cost of capital as opposed to that of labour.

As far as the foreign investor is concerned, low interest rates can affect the extent of foreign equity in a given investment and can affect the kind of technology and activity that is profitable. Tax holiday does nothing to protect an investor against losses. Its principal effect is to allow the investor to keep a larger amount of his profits than he would in the absence of the tax holiday. It is probably true that more useful tax exemptions can be desired especially those which encourage labor using technology.

d) Tariffs and Sales Taxes. Among the most important elements in the factor costs may be the initial cost of the equipment. Feasibility studies for plant design generally include the cost of tariffs and taxes on capital equipment in the investment figure. Tariffs (and sales taxes) on capital equipment may beneficially affect the choice of technology by making the capital investment greater for capital intensive technology. (22) The effectiveness of such policies will depend on the economic activity in question.

Also, any foreign (or domestic) investor intending to produce a new product for the domestic market will require some protection from imports of similar products. It is to be expected, except in rare instances, that at the outset of new industrial activity, costs will be higher here than for the older, more established producers in other countries. Protection will be very much in order if it does result in a period during which productivity is increased and costs reduced. The simplest kind of protection is of course direct prohibition of imports or allowing only a specific quantity. The greatest disadvantage of prohibitions and quotas is the elimination of the kind of competition or threat of competition that seems necessary to induce productivity growth. Studies of the operation of foreign owned (or participated in enterprises) show rather convincingly that sensitivity to local factor costs and to the research for productivity innovations depends very heavily on the existence or the threat of competition.

e) Income Tax Laws and Direct Payments. Probably the least effective tools for affecting the choice of technology are those involving changes in tax laws or those requiring direct subsidies. Biases can be built into the income tax laws that encourage the use of capital instead of labor. These should be removed, unless they serve some clear purpose, such as that of increasing local capital formation sufficiently to offset any likely effects on the choice of technology. Candidates for removal are accelerated depreciation capital allowances, investment credits..... etc.

As a conclusion to what has been mentioned, some other observations and findings may be in order:

-Probably the principal factor determining the relative use of factor inputs is the scale of the productive operation. When scale increases, the technology that is available tends to be more capital intensive.

-Some types of labor may be scarce factors in a developing economy, even more than capital. Comparisons based on naive capital labor ratios are likely to lead the policymaker astray.

-The degree of sensitivity and adaptation of foreign-owned enterprises to local factor costs and availabilities is partly a function of competitive pressures. Where attention to costs and prices is critical to survival, the degree of adaptation will be high; where attention to quality is critical, the propensity to tinker with production processes will be much less. (23)

FOOTNOTES

(1) Bhalla, A.S., Technology and employment: some conclusions, *International Labour Review*, Vol. 113, No. 2, March-April 1976.

(2) *Ibid*

(3) Kindleberger, C.P., & Depres, E., The Mechanism for Adjustment in International Payments, *American Economic Review*, May 1952, XLII.

(4) Mason, Hal, *The Transfer of Technology and the Factor Proportions Problems: The Philippines and Mexico*, UNITAR.

(5) Bruton, H., Economic Development and Labour Use: A Review, in Edwards, E.O., ed., *Employment in Developing Nations, Report on a Ford Foundation Study*, 1974, pp. 49-82.

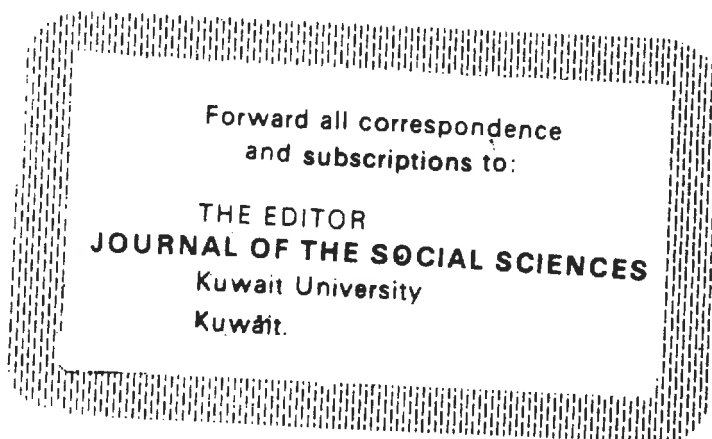
(6) Mason, H., *op.cit.* pp. 10-11.

(7) Steward, F., Technology and Employment in LDCs. in Edwards, E., (ed), *op.cit.*, pp. 104-106.

(8) *Ibid.*, p. 107.

- (9) Chudson, Walter, *Acquisition of Technology from Multinational Corporations by Developing Countries*, Department of Economic and Social Affairs, United Nations, New York, 1974, ST/ESA/12.
- (10) Bruton, *op.cit.*, p. 65.
- (11) Chudson, W., *The Acquisition of Technology from Multinational Corporations by Developing Countries*, United Nations, New York, 1974, ST/ESA/12
- (12) Technological Dependence. Its Nature, Consequences and Policy Implications, *Report by the UNCTAD Secretariat*, Nairobi, 1976, TD 190.
- (13) Timmer, P., The Choice of Technique in Indonesia, in *The Choice of Technology in Developing Countries* (some cautionary tales), *Harvard Studies in International Affairs*, 1975.
- (14) Chudson, *op.cit.*, p. 8.
- (15) Bruton, *op.cit.*, pp. 74-75
- (16) Bhallar, A.S., Technology & Employment: some conclusions, *International Labor Review*, Vol. 113, No. 2, March-April 1976.
- (17) *Ibid*
- (18) Chudson, *op.cit.*, p. 11.
- (19) Chudson, W., The International Transfer of Commercial Technology to Developing Countries, *UNVITAR* 1971.
- (20) UNCTAD, Guidelines for the Study of the Transfer of Technology to Developing Countries, United Nations, New York 1972, p. 6.

- (21) For more details, see Chudson, the *Acquisition of Technology from Multinational Corporations by Developing Countries*, *op.cit.* pp. 15-18.
- (22) Bruton, *The Role of Private Foreign Investment in Egypt*, mimeo, 1975.
- (23) Chudson, *The Acquisition of Technology*, *op.cit.* p. 16.
- (24) Vernon, R.,: *Multinational Enterprises in Developing Countries: An Analysis of National Goals and National Policies*, Prepared for UNIDO (Draft), June 7, 1974.



CLASSICAL VS. MODERN ORGANIZATION THEORIES IN DEVELOPING COUNTRIES

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There is no doubt that the major causes of both development and decline in administrative systems are strongly rooted in the ecological factors surrounding them and that administrative systems in all nations are inequitably affected more deeply by the external development of their political, social and economic systems than by their internal subsystems or their laws and regulations. Some writers have gone further stating "that the dominant managerial philosophy in a given country is in large part the product of the external environment" (1).

But this not to deny that administrative systems can experience significant changes both qualitatively and quantitatively if a meaningful development in the structural and human variables can be introduced from within the administrative system.

In this article, however, we will argue that the more such internal change in the administrative system can be balanced and adapted with the external environment, the more valuable and significant its contribution to administrative development becomes.

How to Improve an Administrative System from Within ?

Is organization simply a structure, or does it also include the people within the structure ? To many theorists and classical writers "organization is not people". They argue that "people have about the same relationship to the organization as the driver and passengers in an automobile have to the automobile itself". (2). If we want to improve the effectiveness of the automobile in reaching its objectives, that is, improve it as a means of rapid, safe and comfortable transportation, we can do this in a factory, far away from the people who will ride in it. To these theorists,

Just as it would be unwise to design an automobile exactly to fit the dimensions, personality and tastes of one individual, because it would then be unlikely to fit the needs of anybody else, in the same way the organization should not be tailored to fit individual personalities. (3)

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But research findings at Harvard University, the University of Michigan and other institutions demonstrate that the organizational structure itself can either facilitate or handicap the motivational and social development of the people. These conclusions show that to the extent that the organizational structure facilitates participation, communication and delegation, it also motivates the people to highest productivity. In other words, the design of the automobile, according to this group of theorists, must always be predicated upon the characteristics of the people who will use it and the environment in which it is to be used. In the following pages we will discuss these two schools of thought in some detail before examining the relevance of either one to the improvement of administrative systems in new nations.

The Bureaucratic Approach

In the literature of this field one can easily find a large number of principles and propositions which were widely accepted and practiced by public and private organization during the first half of this century. It has been argued that most of these principles foster maximum efficiency and economy, make the organization relatively easy to control, and achieve co-ordination reasonably well. Among these principles are usually the following:

1. Lines of authority in the organization must be clear.
2. No one in the organization should report to more than one supervisor.
3. The responsibility and authority of each supervisor should be understood by everyone concerned.
4. The number of people reporting to one supervisor should be no more than the number whose efforts he can effectively direct and co-ordinate.
5. Authority to act should be delegated as much as possible to the units or individuals nearest the point where action must be taken.
6. Every function needed to accomplish the organization's purpose should be assigned to a unit of the organization.
7. The organization should be flexible, but ordinary changes in it should be made gradually except under highly special conditions.
8. Administrative efficiency is increased by grouping the workers, for better control, according to (a) purpose, (b) process, (c) clientele, or (d) place.

The works of Taylor, Fayol, Mooney, Urwick, Gulick, White, Gauss, Stene (4) and many others stress the significance as well as the necessity of these principles for any effective organization. Max Weber is perhaps the most well known theorist who argues the technical superiority of the bureaucratic form of organization which is largely characterised by the above principles. To Weber, the bureaucratic organization is the one most capable of attaining the highest degree of efficiency and the most rational form of administration.

Weber says:

Precision, speed, unambiguity, knowledge of the files, continuity, discretion, unit, strict subordination, reduction of friction and of the material and personal costs - these are raised to be optimum point in the strictly bureaucratic administration, especially in its monocratic form. (5)

Today, the bureaucratic approach to organizational development is still favoured by many writers in both developed and new nations. Dimock, for example, says:

The things they admire about it are its exactness and its reliability, its logical symmetry, its elimination of chance and individuality, its reliance upon 'the one best method', the fact that it treats everyone the same and hence avoids playing favourites. (6)

Many administrators in new nations still strongly feel that it is the bureaucratic model which can fight the battle against personal subjugation, nepotism, and subjective judgments, which are common features in most of these societies.

To the behavioural scientists, however, efficiency and rationality are not the right criteria for measuring the development and the success of administrative systems. They have argued that efficiency and rationality, with which the traditionalists are mainly concerned, can only be achieved by making the employees fully dependent and submissive and requiring them to utilize only a few of their less important abilities. Argyris, in this regards says:

The formal organizational principle makes demands of relatively healthy individuals that are incongruent with their needs. Frustration, conflict, failure and short term perspective are predicated as resultants of this basic incongruency. (7)

Criticizing the bureaucratic type of organization, Bennis says:

This form of organization is becoming less and less effective, in that it

is hopelessly out of joint with contemporary realities and with managerial practices in general. So within the next twenty-five to fifty years, we should all be witness to, and participate in, the end of bureaucracy and the rise of new social systems better able to cope with twentieth-century demands. (8)

The Behavioural Approach

During the last three decades, behavioural scientists have been studying the factors that motivate people within administrative systems. One of the most systematic efforts in this direction was Maslow's hierarchy of needs. (9) According to his theory, the needs of human beings are organized on five levels. Once the lower-level needs are met, the higher levels become increasingly important as motivators of behaviour. Maslow's theory has been the basis on which most modern theories of organization depend.

Theory X Vs. Theory Y

During the Fifties, McGregor developed what he calls Theory X and Theory Y. (10) The former is his expression of the traditional point of view toward managing human beings within organizations. According to this theory, all materials, equipment and people must be used efficiently to produce goods or services if the organization is to be successful. And in order to get people to work well and hard, to do what the organization wants, management has to direct, persuade, reward, punish and control them. McGregor argues that theory X, by emphasizing efficiency through direction and control is failing in our present-day society. Along with Maslow's theory he points out that theory X does not provide for the effective motivation of people whose physical and safety needs are satisfied and whose social and egoistic needs are therefore dominant.

Stressing the need for a better understanding of human nature than is required by theory X, McGregor presents theory Y as the alternative. He feels that its assumptions are generally supported by the findings of many behavioural scientists in recent years. Theory Y holds first that people do not like or dislike work inherently, but rather develop an attitude toward it based on their experiences with it. Second, while authoritarian methods can get things done, through direction, control, threat, and punishment, they are not the only methods for doing so. There is nothing inevitable about them, and their undesirable side-effects need not be tolerated. Third, people select goals for themselves if they see the possibility of some kind of reward, be it material or purely psychic, and once they have selected a goal they will, in pursuing it, work at least as vigorously as they would have under pressure from supervisors. And finally, imagination, ingenuity and creativity are characteristics of most human

beings, but it is only under the right conditions that the average man will seek to display such characteristics and fulfill his responsibilities toward them. (11)

Now, ten years after McGregor developed theory Y, he has still not found it necessary to change its major assumptions. What he finds instead is that X and Y cannot be compared on the same scale, because they are qualitatively different. In a more recent book he says:

The belief that man is essentially like a machine that is set into action by the application of external forces differs in more than degree from the belief that man is an organic system whose behaviour is affected not only by external forces but by intrinsic ones. Theory X and Theory Y therefore are not polar opposites. They do not lie at extremes of a scale. They are simply different cosmologies. (12)

The Authoritative Vs. The Participative Theory

Since 1947 the Institute for Social Research at the University of Michigan has been studying the human problems involved in administrative and management practices. In 1961 Rensis Likert, its Director, published a summary of finds and a new administrative theory based on empirical research. (13) A few years later he added to his original theory and supplied additional proof of its usefulness. (14)

Likert, in his work, differentiates between authoritative and participative systems of organizations. The authoritative systems have been conceptualized as exploitative, benevolent and consultative. The three types of systems are placed on a continuum representing different degrees of control. The exploitative authoritarian has more unilateral control than the benevolent and consultative. Likert's ideas on how management ought to deal with people have been evolving into what he calls a "modified theory" or the participative system of organization. The participative system stands in greatest contrast to the exploitative system. It resembles, in fact, the style of management which McGregor developed in Theory Y. Under Likert's participative system, people at every level feel a real responsibility to the organization's goal, and they work hard to reach them. Managers have complete confidence and trust in their people. The employees have complete freedom to express ideas about the work.

Moreover, Likert has been able to relate productivity to his systems. He has shown, for example, that the nearer the management system is to the participative system, the more productive the organization is. It results also in lower costs, higher earnings, better employee attitudes and higher morale.

The "Mechanical" vs. "Organic" Theories

Shepard, Burns and Stalker (15) have all agreed that it is no longer adequate to perceive organization as a kind of machine, in the way Max Weber did. (16) They have attempted to replace such a mechanical idea of bureaucracy with what they feel is its natural alternative: an "organic" system. This organic organization can adapt spontaneously to the needs of the internal and external systems, rather than operating through programmed codes of behaviour which are contained in the formal role specifications of the mechanical structure. To Shepard, the organic organization is based on the following principles:

1. Good management is understood to be the emergent product of adequate working relationships among the organization's members.
2. The cement of the system is mutual confidence.
3. The structure of the organization must correspond to the network of interdependence among members required by the organizational tasks.
4. The principle of multigroup membership is substituted for the mechanical concept of supervision.
5. The wide sharing of control and responsibility created by the foregoing leads to the principle that "Conflict of interests must be resolved by the use of problem solving". (17)

In the literature of organization theory, one can also find many other attempts by scholars, in discussing effective versus ineffective organization, to set up two "ideal types" or organizations. To mention only a few, Gouldner differentiates between what he calls the "rational" and the "natural" models. He points out that if we focus primarily on the natural model we will miss or underemphasize several important aspects of the rational model. (18)

Among the rest are Litwak, (19) who differentiates between the "bureaucratic" and "human relation" models; Bennis, (20) who speaks in terms of "habit" and "problem solving" models; Barnes, (21) who stressed the differences between "closed" and "open" systems, and White, (22) who develops the "dialectical" model as an alternative to the bureaucratic type of organization.

Argyris has examined most of the above models and contrasted them to each other. He has found from his analysis that there are only slight variations among them. He finds that all these men have agreed that the organization which is variously called "Y" by McGregor, "participative" by Likert, "organic" by Shepard and others, "natural" by Gouldner, "human relations-oriented" by

Litwak, "open system" by Barnes, "problem solving" by Bennis (and - I will add to them - "dialectic" by White), "tends to develop greater organizational flexibility, commitment, responsibility and effectiveness in problem solving and adapting to the environment". (23)

The question we are very concerned with here is: how relevant are these theories and an ideal type of effective organization to our discussion of new developing nations ? Or, to put the question in a different way, what type of organization theory would be more relevant to the balanced administrative system which these nations need ?

The Relevance of the Classical Theory to New Nations

To the classical students as well as to many practitioners and career-oriented administrators, the bureaucratic type of organization, or what is now commonly called the theory X type of organization, seems more appropriate to new nations than all other alternatives. This viewpoint, however, has been justified by different hypotheses and propositions. There are, first, those who argue that the trend toward bureaucratization is generally related to the tendencies of these nations to grow larger in total population, to become more complex in specialization, more urbanized and wealthier per capita as time passes. The proposition they present is that the more complex these societies become, the more conflicts are generated, and the larger the governmental organization must become. All this in turn will increase the probability that all jobs will meet the criteria for bureaucratization as Weber described them. (24)

One author says, in this regard:

The large organization is necessarily, it seems, run by a bureaucracy which is specialized as to job, organized in hierarchies of power, distributed in status according to rank rather than individual talent, governed by a few at the top who recruit their successors, and rationalized so as to see the individual as a mere instrument. (25)

The bureaucratic type of organization is also more relevant to these nations because of the limited financial and material resources they have. Here, therefore, efficiency and economy must be emphasized more than responsiveness and representation. In a recent article Wurzburg says:

The ordering of man's life is essential to prevent the chaos arising out of an uninhibited grasp for unlimited resources. The most efficient form of organization is bureaucracy. Hence the politics of scarcity produces the bureaucratic method of control. (26)

This argument has been supported by Braibanti, who says:

"The demands of economic development can be met only by an oligarchic bureaucracy". (27)

The classical theorists have often argued that despite the varying goals and environments of different organizations, it is possible to identify basic similarities in structure and process which can be conceptually analyzed and made explicit. Mooney, who is very authoritative among these writers, said once:

Our study of governmental organization back to remotest ages reveal one fact of deepest import: This fact confirms our thesis that the principles of organization are universal and hence must appear in the governmental forms of every age. (28)

On the empirical level, Harbison and Meyers, in their study of administrative practices in twenty-three countries, made a number of generalizations concerning many bureaucratic principles which did not differ fundamentally from country to country. (29)

Last, but not least, the advocates of the classical theories in new nations think that the environment there is not quite favourable to the application of modern theories because they require a democratic style of administration.

In these new nations, says one author, there are definite limitations on the use of democracy in management. Quite obviously it can yield little in areas in which technical knowledge and competence are demanded. Democracy connotes deliberation, and deliberation takes time which is not then available. If democratic practices are carried to extreme limits, they can, in effect, so diffuse responsibility that responsibility cannot be located. (30)

The Relevance of Modern Theory to New Nations

G. Sjöberg, in his occasional paper **Ideology and Social Organization in Rapidly Developing Countries**, says:

My thesis is that the kind of 'bureaucracy' that characterizes the pre-industrial civilized society and the Weberian type of bureaucracy in the advanced industrial order both serve to sustain the status quo and are not easily amenable to demands for resocialization within rapidly industrializing societies. Both types of organization stress hierarchical relationships, order and control. (31)

What these nations need, according to Sjöberg, is an ideal-typical model which is committed to a revolutionary type of ideology and which permits change in the values and beliefs of clients.

From the point of view of most students of the "New Public Administration Movement", administrative development in changing societies can hardly be achieved without attempting to cope with demands for change by engaging in a dialectic involving both old and new. (32) Theory Y, for example, is considered as a means for introducing the new elements required for such change. At the same time, writers who have little faith in the ecological approach and take little notice of the environmental impact on management have also realized the significance of modern theory to new nations. To these students, "emerging bureaucracies in underdeveloped states are less intricately imbedded in the matrix of culture, since the bureaucracy is often more secular-minded and Western-oriented than the public mass". (33)

Modern theories are also advocated by those who try to change organizations by first changing the behaviour of the organization's members. By changing human behaviour, it is argued, one can cause the creative invention of new tools, or one can cause modifications in the power structure. In surveying the people approach, Leavitt says: "one is immediately struck by the fact that the recent literature dealing directly with organizational change is heavily people-oriented. (34) Students of administrative development in many new nations now are convinced that people within the organization must be changed first before a structural and institutional change is introduced. An Indian author, for example says:

Unless the man is made to look different or asked to think differently or motivated to function more purposively, no amount of investment in structural sophistication or modernization in machine-procedure will be in a position to hit the jackpot by way of raising the level of development of productivity. The critical ingredient, the bureaucrat himself, must, therefore, be freed from the existing conceptual orthodoxies, age old affiliations and narrow mental grooves so as to be the fitting torch bearer of a new and bright development order. (35)

A few overseas writers, attracted by Western and European thoughts and ways of life, encourage the application of most modern organization theories developed in these advanced countries. These writers, however, emphasize the necessity of these theories more than their relevance to new nations. Charles Malik, for example, says:

No country in Asia or Africa can possibly live today apart from the

more advanced countries of the world. On the one hand, it desperately needs them; on the other, they will not allow it to live by itself. They speak of independence, but independence is a most relative term, and in the intellectual and spiritual matters, there is no independence. In virtually all cases independence is a myth. (36)

From the above assumption, Malik makes this conclusion:

"if the new countries of Asia and Africa are to survive and develop, they must enter into the living European world of thought and organization". (37)

Critique of Modern Organization Theory

In contrast to those who argued the question of which classical or modern theories are more relevant to administrative development in new nations, this author, like many other writers, feels that neither of them is relevant. First, I do not believe that any single, general organizational theory - at least not X or Y - can combine all the advantages and avoid all the shortcomings of other theories, since no one theory can cover everything involved in administrative development. For example, choosing either X or Y would imply, for one thing, that the one chosen contains a better rationale for dealing with superior-subordinate relationships. Actually, though, the supervision style under either theory has its own advantages as well as disadvantages, and one method is not necessarily more effective than the other under all circumstances. On the one hand, under theory X the supervisor sees himself as a management representative. He is the authoritarian, task oriented supervisor who puts the management's goals first and the employees' needs second. The employees would, therefore, be expected to turn aside from their formal supervisions and follow their own informal leaders. Conversely, the supervisor under theory Y identifies himself strongly with the employees. His first loyalty is to them, and in his communication with management he will tend to play up employees' demands. Thus, he may win employees' acceptance, but at the same time he will likely alienate management and cause his supervisors to mistrust him, weakening his influence with them. What we need then is not to shift from one style of supervision to another, but to combine them both and arrive at a balanced style of supervision which considers the interests and needs of employees as well as of the administration.

In regard to productivity and economy, neither theory X nor theory Y is wholly satisfactory. Writers like Katz, Maccoby and Morse note that the close supervision and higher degree of centralization which theory X requires are inversely related to productivity and efficiency criteria. (38) On the other hand, if we use theory Y, the material cost of designing an administrative organization

specifically to fit the dimensions, personality and tastes of all individuals naturally cannot be provided by these nations at this stage of development. Therefore it is not enough in these countries to design all organizations to provide greater opportunity for psychological success and self-esteem. The participants must also be capable of meeting the challenges and accepting the responsibilities involved.

From the ecologist's point of view, it is also true that neither the classical nor the modern theories can be accepted as a universal or cross-cultural theory. To these writers, human motivation and behaviour in any productive or public enterprise is a function of various complex environmental factors. Many of these factors are naturally beyond the control of the people in charge of its administration. The ecologists, Farmer and Richman, have found through their empirical and cross-cultural studies that:

Direction and leadership techniques which prove effective in the American firm may prove inadequate, or even disastrous, when applied to firms in Saudi Arabia, Japan, or India. (39)

Gonzalez and McMillan, after serving as consultants on business administration training in Brazil, concluded that management philosophy is highly culture-bound. (40) Oberg says:

My own experience in international management leads me to believe that cultural differences from one country to another are more significant than many writers now appear to recognize. (41)

To the ecologists, managerial effectiveness cannot be achieved by shifting from the traditional theory to the modern theory. Such a shift can be effective only if it is necessitated by or relevant to the cultural and environmental factors in the society. Megginson has pointed out that the cultural elements that have the greatest influence on managerial effectiveness are the spiritual values and the educational system. Spiritual values are implied in the managerial philosophies and form the assumptions upon which managers make their decisions. The educational system determines the knowledge and analytical processes used by the executives in the decision making process. Megginson also adds that "spiritual values largely influence personal objectives, which are the ends desired, while education determines the means of achieving those goals". (42)

Other writers have denied the relevance to new nations of the McGregor, Likert, Shepard and other modern theories of organization, by criticizing the Maslow hierarchy of needs, which is considered the major theoretical framework of these theories and models. Bryan Davies, for example, says:

This model (Maslow's hierarchy of needs) has the advantages of coherence, and also intuitive plausibility with respect to Western individual cultures, though it would seem difficult to validate even here; but the anthropological evidence of Mead, Malinowsky and Gluckman etc. suggests that the model would certainly not survive transfer to all cultures. (A general hierarchy of needs model might do so, but the specific physical-social-egoistic ordering proposed by Maslow would not).

Keith Davies is another writer who has argued the need of new nations for different theories of management on the grounds of the different needs and motivations the employees have in these nations. He says:

In underdeveloped countries, most employees are still seeking basic physiological and security needs. Hence, some of the more sophisticated and elaborate motivational devices of modern industrial management may not be appropriate in these countries. The needs of their workers may be more simply reached by direct motivation. Therefore, they require management to show them simple, direct evidence that if they work more effectively they will receive more. In other words, work must be interpreted in terms of their immediate needs, rather than waiting for indirect results through a complex economic system. Accordingly, action which would be inappropriate in an advanced country may sometimes be workable in the underdeveloped country. (44)

From the "Dialectical View" both Classical and Modern organization theories are understood as formalized solutions of certain actors to the technical and practical problems posed by the organization's dialectical character. Such theories formalize a way of dealing with the multilevel contradictory complexity of the organization. Devices such as socializing, monitoring, rewarding, adjusting, structuring, and negotiating provide solutions to concrete problems encountered by participants. Such theories they add provide sets of procedures, movements, routines which may be employed to pursue an objective by cancelling, controlling, or capitalizing upon the contradictory complexity of organizational life.

The dialectican goes beyond such formulations to inquire into relationships between organization theories and organizational realities since they believe that administrative realities and the new administrative theories have emerged hand-in-hand. "From the Dialectical point of view: The theories and theorists are part of the reality they describe". (45)

Finally it is true that modern organization theories have some serious drawbacks in terms of their orientation and applicability to different types of

cultural and economic needs. The various theories of organization which are largely developed in the United States, for example, focus primarily on the person in a given organization, in a given environment, trying to determine how the organization might function better. Because of this, Whyte wants new nations who try to set up their institutions and organizations on these models to be careful. In Whyte's words:

Imitation of institutional models from industrialized nations is disfunctional for the developing nations. The imported model often does not fit the needs of the host culture. Furthermore, the model is a product of particular historical circumstances in the exporting country. Members of that institution would not re-create it in its present form if they were to build anew. (46)

Conclusion:

From the above analysis one would conclude that a balanced model and cultural-bound theories are required, not only to bring the administrative, political and economic sub-systems into a balanced situation, but also to build up an internal balance within the administrative system itself. The former, in fact, can hardly be achieved without the latter.

The modern theories of organization discussed above require a choice between complete centralization or extreme decentralization in structuring the organization. These theories have assumed that centralization and decentralization are distinct types of organization and that elements of both cannot be found within the same organization. Such a distinction, says Allen, is specious. "It would be as meaningful to attempt to classify pneumonia found in men as 'male pneumonia' and that found in women as 'female pneumonia'." (47)

These theories have also failed to consider the need of rapidly changing societies and organizations for a balanced model of centralization and decentralization, a model which is needed for pragmatic and purely administrative reasons as well as for the ecological reasons already discussed. Selznick, in this regard, once said:

The increasing complexity of organizational tasks makes decentralization and the delegation of responsibility to intermediaries inevitable. but such a measure brings forth the organizational paradox of goal displacement, a bifurcation of interests between the central system and its decentralized subunits. There is a tendency for the latter to neglect the main organizational goals in favour of their limited sub-goals. In this way sub-goals, from

simple means, become ends in themselves. This situation makes the needs for centralized control stronger and the circle may start all over. (48)

Ignoring such factors, modern organization theories are mainly directed toward the development of either overpowering manipulative organizations, or organizations that will keep people happy. Happiness and manipulation, however, can be fine guides to the administrative development only if they are combined and balanced with each other in a pragmatic rather than idealistic way. A balanced organization, on the other hand, cannot be achieved either if all administrators have task-oriented personalities. A balanced organization requires, first of all, a balanced administration and leadership. In describing what a balanced administrator is, Dimock says:

The top executive is balanced when he comes to possess a personality that qualifies him for a position of leadership, for inspiring confidence in others because he is interested in them and does not treat them merely as pawns in his own selfish designs. He is balanced when his sense of fairness imparts to his employees the assurance that their fortunes, both individual and collective, are safe in his hands, and that he will not make decisions on the basis of prejudice, favouritism or arbitrariness. He is balanced when he is not overly specialized, so that he does not become lopsided or merely a technician. He is balanced when he is sufficiently broad to be a good co-ordinator, because no executive is worthy of the name unless he can plan, integrate and combine all components of his enterprise into a unified and smoothly working whole. (49)

In my opinion, an effective administrative organization must maintain a balance between its internal elements as well as between them and the external and sub-systems in the society. Experience has shown that no ideal theory can be applied in new nations if it does not consider such needs. What will serve these nations best is a pragmatic and realistic model which is internally developed and comprehended. Harvey Sherman says:

The only plea I would make is that the degree of centralization or decentralization for a particular enterprise or function be determined pragmatically in terms of such factors as public convenience, economy, quality of service, availability of skilled personnel, need for control, and general effectiveness. (50)

Modern organization theories such as that developed by McGregor, Likert and Shepard, might cause confusion for administrators of developing countries who try to choose between their two conflicting styles. This is mainly because the

bureaucratic theory of organization which McGregor calls theory X is expected to work well in some situations, while theory Y might work better in the others. What will happen then if an administrator prefers to apply theory Y in an area where theory X is expected to function effectively? Theory Y also should not be embraced everywhere on the grounds that it is strongly oriented toward the development of man. Man, from our point of view, is distinguished from other elements of administration in that his development is not something that is done to him or for him. His development instead is growth, and growth can only come from within, and not from without.

FOOTNOTES

(1) R.N. Farmer and B.M. Richman. *Comparative Management and Economic Progress*, Richard D. Irwin, Inc. (Homewood, Illinois, 1965), p. 119.

(2) Louis A. Allen, *Management and Organization*, McGraw-Hill Book Company, Inc., (N.Y., 1958), p. 58.

(3) *Ibid.*

(4) See F. Taylor, *Scientific Management*, Harper, (New York, 1947); H. Fayol, *General and Industrial Management*, Pitman, (N.Y. 1949); J.D. Mooney, *The Principles of Organization*, Harper, (N.Y. 1947); L. Urwick, *The Elements of Administration*, Harper, (N.Y. 1944); L. Gulick and L. Urwick, *Papers on the Science of Administration*, N.Y. Institute of Public Administration, (1927); L.D. White, *Introduction to the Study of Public Administration*, (N.Y. 1939); J. Gauss, and others (eds.), *The Frontiers of Public Administration*, University of Chicago Press, (Chicago, 1936), and E.D. Stene, "An Approach to the Science of Administration", *American Political Science Review*, Vol. 34, (Dec., 1940), p. 1125-1137.

(5) See H. Gerth and C. Wright Mills, eds. *From Max Weber: Essays in Sociology*, Oxford University Press, (N.Y., 1953), p. 214.

(6) M. Dimock, *The Philosophy of Administration*, p. 161.

(7) Chris Argyris, *Personality and Organization*, Harper and Row, (N.Y. 1957), p. 74

(8) W. G. Bennis, *Changing Organizations*, McGraw-Hill Book Company, (N.Y. 1966), p. 5.

- (9) A.H. Maslow, *Motivation and Personality*, Harper and Row, (N.Y. 1966), p. 5.
- (10) Douglas McGregor, "The Human Side of Enterprise" in: *Proceedings of the Fifth Anniversary Convocation of the School of Industrial Management, Massachusetts Institute of Technology*, (Cambridge, 1957). Also under the same title, in book form, McGraw-Hill Book Company, (N.Y. 1960).
- (11) See William R. Van Dersal, *The Successful Supervisor in Government and Business*, revised, Harper and Row, (N.Y. and Evanston, 1968), p. 90.
- (12) Douglas McGregor, *The Professional Manager*, McGraw-Hill Book Co., (N.Y. 1967), p. 79-80.
- (13) Rensis Likert, *New Patterns of Management*, McGraw-Hill Book Co., (N.Y. 1961).
- (14) Rensis Likert, *The Human Organization: Its Management and Value*, McGraw-Hill Book Co., (N.Y. 1967).
- (15) H.A. Shepard, "Chancing Interpersonal and Intergroup Relationship in Organization", In James March (ed.) *Handbook of Organization*, Rand McNally, (N.Y.) and R. Burns and G.M. Stalker, *The Management of Innovation*, Tavistock Pub. (London, 1961).
- (16) Max Weber once said: "bureaucracy is like a modern judge who is a vending machine into which the pleadings are inserted together with the fee and which then disgorges the judgment together with its reasons mechanically derived from the Code". See R. Bendix, Max Weber, *An Intellectual Portrait*, Doubleday and Co., Inc., (N.Y. 1960), quoted in W. Bennis, *op.cit.*, p. 46.
- (17) H.A. Shepard and Robert Blake, "Changing Behaviour through Cognitive Change", mimeographed, presented at the annual meeting of the Society for Applied Anthropology, (May, 1961), Part I from which the above is quoted was written by Shepard, quoted in C. Argyris, *Integrating the Individual and the Organization*, John Wiley and Sons, Inc., (N.Y. 1964), p. 184.
- (18) Alvin, W. Gouldner, *Organizational Analysis*, in: Robert K. Merton, Leonard Broom and Leonard Cottrell (eds.), *Sociology Today*, Basic Books, (N.Y. 1959), p. 400-401.

- (19) Eugene Litwak, "Models of Bureaucracy Which Permit Conflict", *American Journal of Sociology*, vol. LXVII, (Sept. 1962), p. 117-184.
- (20) Warren Bennis, "Leadership Theory and Administrative Behaviour", *Administrative Science Quarterly*, Vol. 4, No. 3, (Dec. 1959), p. 259-301.
- (21) Louis B. Barnes, "*Organization Systems and Engineering Groups*", Graduate School of Business, Harvard University, (1960), Ch. VIII.
- (22) Orion F. White, "The Didactical Organization: An Alternative to Bureaucracy", in: *Public Administration Review*, Vol. XXIX, No. 1.
- (23) C. Argyris, *Integrating the Individual and the Organization*, p. 185.
- (24) See Anthony Downs, *Inside Bureaucracy*, Little, Brown and Company, (Boston, 1967), p. 255-256.
- (25) John Dollard, "Review of Robert Presthus's *The Organizational Society*", in: *The New York Times Book Review*, (Oct. 1962).
- (26) Frederic Wurzburg, "Bureaucratic Decay", in: *Journal of Comparative Administration*, Vol. 1, No. 4, (Feb. 1970), p. 388.
- (27) R. Braibanti, The Relevance of Political Science to the Study of Underdeveloped Areas in his and Spengler (eds.) *Tradition, Values and Socio-economic Development*, p. 143.
- (28) J.D. Mooney, *The Principles of Organization*, op. cit., p. 57.
- (29) See Winston Oberg, "Cross-Cultural Perspective on Management Principles", in: *Academy of Management Journal*, Vol. 6, No. 2, (June, 1963), p. 129-130.
- (30) C.T. Hardwick and B.F. Lanjuyt, *Administrative Strategy*, Simons-Boardman Pub. Corp., (N.Y. 1961), p. 324.
- (31) Gideon Sjoberg, *Ideology and Social Organization in Rapidly Developing Countries*, CAG occasional papers, (Bloomington, Indiana, Dec. 1966), p. 16.
- (32) See Wesley E. Bjur, "What is the New Public Administration", in: *Public Administration Review*, Vol. XXX, No. 2, (March/Apr. 1970).
- (33) See R. Braibanti, "The Relevance of Political Science to the Study of Underdeveloped Areas", p. 179.
- (34) Harold J. Leavitt, Applied Organizational Change in Industry: Structural, Technological and Humanistic Approach, in: J. March (ed.) *Handbook of Organization*, p. 1151.

(35) B.K. Day, "Bureaucracy and Development - Some Reflections", *Indian Journal of Public Administration*, Vol. XV, No.2, (Apr./June, 1969), p. 247-248.

(36) Charles H. Malik, "Ideals for Export", in: Maneck S. Wadia, *Management and the Behaviourable Sciences*. Allen and Bacon, Inc., (Boston, 1968), p. 533.

(37) *Ibid.*

(38) Daniel Katz, Nathan Maccoby, and Nacy C. Morse, *Productivity, Supervision and Morale in an Office Situation*, Ann Arbor Michigan Survey Research Center, Institute for Social Research (1950).

(39) R.N. Farmer and B.B. Richman, *Comparative Management and Economic Progress*, p. 8.

(40) R.F. Gonzalez and C. McMillan Jr., "The Universality of American Management Philosophy", *Journal of the Academy of Management*, Vol. 4, No. 1, (April, 1961), p. 33-41.

(41) Winston Oberg, "Cross-Cultural Perspective on Management Principles," *Academy of Management Journal*, Vol. 6, No. 2, (June, 1963), p. 129-130.

(42) Leon C. Megginson, "The Inter-relationship and Interaction between the Cultural Environment and Managerial Effectiveness", in: *Management International Review*, Vol. 7, (1967), p. 69. See also: Aldrich, Howard, and Jeffrey Pfeffer, "Environments of Organizations" *The Annual Review of Sociology*, Vol. 2, 1976, pp. 79-106.

(43) Bryan Davies, "Some Thoughts on Organization Democracy", *The Journal of Management Studies*, Vol. 4, No. 3, (Oct. 1, 1967), p. 270.

(44) Keith Davies, "Managing Productivity in Developing Countries", in: S. Benjamin Prasad, (ed.), *Management in International Perspective*, Appleton-Century-Crofts, (1967), p. 158-159.

(45) J. Kenneth Benson "Organization, A Dialectical View" *Administrative Science Quarterly* Vol. 22, No. 1, (March, 1977), p. 17, and other dialectical views such as those pointed by: Lourenco, Suson V, and Johc. Glidewell, "A dialectical analysis of organizational conflict", *ASQ*, Vol. 20, pp. 489-508. Heydebrand, Wolf, "Organizational contradictions in public bureaucracies: toward a Marxian theory of organizations". *The Sociological Quarterly* Vol. 18, No. 1, (1977).

Weinstein, Michael and Peter Blauy, "Blan's dialectical sociology: comments Sociological inquiry", Vol. 42, pp. 173-189, (1972).

(46) William Foote Whyte, "Imitation or Innovation: Reflections on the Institutional Development of Peru", *Administrative Science Quarterly*, Vol. 13, (Dec. 1968), p. 370.

(47) Louis Allen, *Management and Organization*, p. 157.

(48) P. Selznick, An Approach to the Theory of Bureaucracy, *American Sociology Review*, Vol. 8, (1943), p. 47.

(49) M. Dimock, *Philosophy of Administration*, p. 34.

(50) Harvey Sherman, *If All Depends: A Pragmatic Approach to Organization*, p. 82.

