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ECONOMIC DEVELOPMENT AND POVERTY

E. F. Schumacher

Dr. E.F. Schumacher is an economist, at present Economic Advisor to the National Coal Board of Britain. For a number of years he has been interested in contact with «self-help» aspects of aid to underdeveloped countries, and his ideas on the need for promoting «Intermediate Technology» attracted widespread attention after a full-page article had appeared in the London *Observer*, August, 1965. The following article is abstracted from an address to the African Bureau, delivered on March 3, 1966.

A great effort is going on called Foreign Aid for Development and when we inquire after its purpose, a recent British Government White Paper "On Overseas Development" puts it as follows: "To do what lies within our power to help the developing countries to provide their people with the material opportunities for using their talents, of living a full and happy life and steadily improving their lot". Some of us may be asking ourselves whether these words reflect reality. "Living a full and happy life"—when the unprejudiced observer, who does not spin theories but simply takes in what he sees, notices increasing desperation among the great majority of people, who, in many places are making no progress at all. "Material opportunities for using their talents"—when, again, the impartial observer cannot help noticing that most of the so-called "developing" countries are plagued by large-scale and increasing unemployment. If the proverbial visitor from another planet would come and have a look, he might say: "I do see development but little improvement. I do see great changes but no signs of growing economic health. I hear a great deal of talk about approaching the take-off point, but I see it receding. I notice more and more countries requiring ever-increasing food imports. I see increasing balance-of-payment problems—not increasing stabilization on the economic front". And he might also say that he sees increasing political instability. Turning his attention to the aid-giving world, he will undoubtedly say: "I see increasing disillusionment". A few years ago one could say that only a kind of lunatic fringe in the aid-giving countries was openly critical of aid and even against it, but today this is no longer so. Disillusion is spreading fast. So we had better have a new look at the whole problem.

Many people are having a look at it and some say the trouble is that there is too little aid. They admit that there are many disrupting tendencies but suggest that with more massive aid one ought to be able to over-compensate them. Effective aid, however, would have to be so massive that there could not be enough for everyone. So there are suggestions to concentrate on a few countries only and to forget the rest: to concentrate on the countries where the promise of success seems most credible. But the moment one looks at such proposals, one realizes that this is a running away from the problem. I think, therefore, that one is entitled to ask whether there may not be something fundamentally wrong with the philosophy of development. Because for the rich to help the poor is never easy. We know this from our private lives. The rich normally have very little "feel" and understanding for what it is really like to be poor. They have little contact with real poverty. And when it comes to far away countries, they are most likely to have contact only with a tiny minority who happen to have been educated in the West, and are possibly quite alienated from their own countries and traditions. Too many people can think only from the point of view of a rich society. Complacently they say to the poor: "Make a plan to show what help you need. Carry out the plan and all will be well".

Now, it is this thinking that needs perhaps to be questioned a little. Perhaps the logic of this thinking is too mechanical, too much lacking in insight. Our own civilization is a machine civilization, but it was not created by a machine civilization—it has grown out of something else, a pre-machine civilization. In every branch of modern thought the world "evolution" stands written with capital letters as a central concept;

we accept that everything has evolved bit by bit. But in economic development we appear to think differently. We talk about the great leap, the great jump and, of course, we have every reason to hope that such a jump might be possible, because the pressures are very great. The only question is, does it work?

The theory of evolution is certainly, to a very large extent, a reflection of all our experience of *human* development, particularly economic and technical development. Let us imagine a modern industrial establishment, say, a great refinery. As we walk around in its vastness, with all its fantastic complexity, we might well ask ourselves how is it possible that the human mind has conceived such a thing. What an immensity of knowledge, thought, ingenuity, experience is here incarnated in equipment! How is this possible? Well, the answer is that it did not simply spring ready-made out of the human mind—it came by a process of evolution. It started quite simple, then this was added and that was added, and so it became more and more complex. But even what we actually see in this refinery is only the tip of an iceberg.

What you do not see on your visit is far greater than what you see: the immensity, again, of the arrangements and the ingenuity to allow the crude oil to flow into the refinery and to ensure that a multitude of refined products, properly separated, properly labelled, is sent to specific consumers through a most elaborate distribution system. All this you cannot see. Nor do you see all the intellectual achievement of planning, of organisation, of financing, of marketing that stand behind this. Least of all, do you immediately become conscious of the great educational background which is the precondition of all, extending from primary schools to universities and specialized technical establishments, to cope with all these problems, only a few of which are immediately visible in the refinery itself. That is what I mean when I say that the visitor sees only the tip of an iceberg. There is ten times as much somewhere else which he cannot see, and without the "ten", the "one" that he does see is worthless. And if the "ten" is not supplied by the country where the refinery has been erected, either the refinery simply does not work or it is in fact a foreign body which depends for what I call the "ten" on some other country somewhere else. Let us never forget this. It is easily forgotten because the whole modern tendency is to see only and to forget all the invisible things that are really the preconditions.

Now, could it possibly be that the failure of aid, the failure or relative failure of development has something to do with our materialistic philosophy which makes us liable to overlook the invisible preconditions? We see the tip of the

iceberg and tend to forget that the visible means nothing unless the invisible requirements are met, which may be ten times as great. If we do not forget it, we call for a plan and imagine that the whole iceberg can be created by blueprint, by a comprehensive plan; in other words, not by evolution but by creation.

Is there an alternative? Some new thinking is undoubtedly required. When I say "an alternative", I am not suggesting that everything that has been done in the past was wrong or everything must now be totally changed. Life is not like this. Of course, every country is committed to an irrevocably modern sector, and if the country needs an airline, I would not recommend that it should buy anything but the best. But still: Is there a need for a certain change of emphasis, a certain reconsideration of the basic philosophy of aid? The philosophy of aid, the ruling philosophy over the last twenty years, has been "what is best for us must be best for them". And we have carried this to the most extraordinary lengths, which I think I can epitomise by reading out a list of the countries where the Americans and their allies, with, as a recent publication says, "the perplexed Russians following behind" have found it necessary or wise to establish, of all things, nuclear reactors—in Formosa, Columbia, Congo, Indonesia, Iran, South Korea, Philippines, Portugal, Thailand, Turkey, Venezuela, and, for good measure, Vietnam: all of them countries whose overwhelming problem is agriculture, since agriculture is the occupation of the overwhelming majority of their poverty-stricken peoples. (These countries have all been blessed with nuclear reactors—at a time when governments are engaging in frantic negotiations to avoid the proliferation of nuclear bombs).

Let us then ask: Why tackle development at all? The only reason why one is interested in development is the existence of poverty of such a degree for many people that it goes beyond poverty and constitutes misery. It is not because a country is under-industrialized that it ought to develop; if it is rich, whether with industry or without industry, it needs no "development", certainly no development aid. The starting point is poverty, and if we want to deal with poverty, our first task is to recognise and understand the boundaries and limitations which poverty imposes.

What is the cause of poverty? I would put it to you, the causes of poverty are certain deficiencies in education, organisation and discipline. Economics does not start with goods; it starts with people and their education, organisation and discipline. Without these three, all resources remain latent, untapped, potential, like the marvelous, unlimited resources of Brazil about which so many people have said that "Brazil is the

country of the future and will always remain so". There has been plenty of opportunity to observe the truth of this thesis after the second world war. Every country, no matter how devastated, which had a high level of education, organisation and discipline, produced an "economic miracle". In fact, these were miracles only for people whose attention is focused on the tip of the iceberg. The tip had been damaged but the basis, which is education, organisation and discipline, was still there.

Here, then, lies the central problem of development. If the causes of poverty are deficiencies in these three respects, then the alleviation of poverty depends on the removal of these deficiencies. Here is the reason why one cannot "jump" in development, because education does not jump; education is a gradual process. Organisation does not jump; it must evolve to fit changing circumstances, and the same goes for discipline. All three cannot be ordered or simply planned; they must evolve step by step, and the foremost task of policy must be to speed this evolution. And all three must become the property of the whole people, not merely of a small minority.

It is *mind over matter*, and having said this, I will add at once, and I hope this will not be overheard, that once we know that mind comes before matter, then we should also know that mind can only be tackled through matter. Education can be effectively tackled only if it is closely allied with work, and any economic activity, to be really helpful, must be designed to produce educational effects,—so that the higher level of education attained can fertilize more economic activity,—and must lead to a higher level of organisation and discipline.

So we come back to aid. Aid is given to introduce certain new economic activities, but these activities will be viable only if they can be sustained by the already existing educational level of fairly broad groups of people, and they will be valuable only if they raise, spread, and promote an advance in education, organization and discipline. There can be a process of stretching—never a process of jumping.

Equally with organization and discipline. If the new activity depends on a *special* organization and a *special* discipline which is not at all inherent in the society where the activity is introduced, then the activity will be neither viable nor valuable. It will remain as a foreign body that cannot be integrated.

So the task for development planners is first of all to understand that the problem of development is not primarily an economic problem. Economics is secondary. I should be the last, as a professional economist, to say that economists do not have their usefulness, but only as long as

they know precisely what is the crux of the matter. The invisible factors are more basic than the visible ones. If any project does not fit educationally, then it will be an economic failure. And even if it appears to be successful owing to certain highly artificial arrangements that can always be made, it will not promote healthy development but simply intensify the dual economy.

As I look around, it seems to me that of all the developing countries only two have quite clearly understood these truths. They are very different. One is China, and the other one is Israel. And they know what to do about education. Fundamentally, they say this to their students: If society enables you to get an education, something so valuable and so much better than what 99 per cent of your fellow countrymen can get, then you have to give something in return. And so in one way or another—do not be shocked at the term I am using—there is some kind of a conscription of the educated. It is temporary conscription, but with some element of compulsion. In China between 1958 and 1964, productive labor became a regular activity in all educational institutions; part-farm, part-study colleges and secondary schools; part-factory, part-study institutions in the towns. They say that it is only in this manner, when you marry education and work, that you achieve the necessary change in motivations and avoid producing an alienated educated class who will think of anything except looking after the people at large. Another approach is of great interest in this connection, i.e. the conscription of the educated through what is called "the peaceful use of military forces". And, of course, in Israel, a third model, the very well developed youth service has, I am informed, founded or helped to develop something like 200 new agricultural communities and given them the necessary impetus for growth. I believe that all these things deserve the closest attention both from the donor countries and from the receiving countries.

And what do the educated have to do? They teach the simple things, literacy, hygiene, and some improvements in either collective or co-operative farming. People might ask, what has literacy and hygiene to do with development? It is interesting to recall that when Gandhi was once asked what to do to fight the misery of rural India he said "Promote literacy and hygiene". He did not give the answer of an economist but, even economically speaking, his was unquestionably the correct answer. Because it is only with literacy and hygiene that the three basic pre-conditions of development—education, organization and discipline—can be realized. They can be realized only on a basis of self respect.

Now let us return to economics. I think the principles that we should never forget when deal-

ing with development are these.

If you want to go places, start from where you are.

If you are poor, start with something cheap.

If you are uneducated, start with something relatively simple.

If you live in a poor environment, and poverty makes markets small, start with something small.

If you are unemployed, start using your labor power; because any use of it, any productive use of it, is better than letting it lie idle.

In other words, as I said before, we must learn to recognise the boundaries of poverty. A project that does not fit, educationally and organizationally, into the environment, will be an economic failure or a cause of disruption.

Therefore, if we really want to help the helpless to help themselves in education, health, agriculture, industry, etc., we need in all these fields, an approach which I have termed the method of "intermediate technology": something more effective and more viable than the indigenous, traditional technology, and at the same time far cheaper and simpler than the modern. This intermediate technology must be cheap enough to create enough work places for all in populous countries like India (millions of work places and must be simple enough to educate the people. As I said before, education *en masse* can only be done through work—an education not just for a few people, who then will become alienated, but for the whole people.

It has been said that intermediate technology is a "second best". Well, is it? For whom is it a second best? Is a bicycle a second best for someone who has got nothing? No, it is the best for him, and the gift of a car would ruin him. Is a computer the best thing for the illiterate? Certainly not. Sometimes, I am doubtful whether it is the best thing for us! I agree that everybody should have the best—but thoughtfully chosen: that which is best for him. Not something which may be the best for someone living in entirely different circumstances. And I would also say that we should give the very best we have got. And what is the best we have got? It is not our ironmongery and hardware. The best we have got and can give as aid are matters of the mind; it is the knowledge that the West has gained through its scientific development. That knowledge has found one particular application in our present-day technology; it could find quite a different application in a quite different technology. Our technology has been designed to suit our condition—being rich in capital and poor in labor. But the same knowledge must now be applied to suit other conditions, the conditions of societies which are rich in labor and poor in capital, and if that were done, a very different technology would result: a technology that re-

cognizes and respects the boundaries of poverty and really helps the poor.

Intermediate technology is not a stupid man's fancy that something quite second rate would do. No, it is the appropriate employment of our best intelligence. It cannot be achieved just by good will, nor just by voluntary service overseas of schoolboys or young students, excellent as their efforts may be. No, it should be backed up by the best scientific and engineering knowledge that we can muster.

I would like to mention three roads to get to this intermediate technology, all of which are already being used. (All sound things find their way into real life before we intellectuals notice them and formulate them). The first road is somehow to scale down our technology so that it becomes appropriate to poor countries, keeping the tool element and dropping all expensive labor-saving accretions. That is the first road—starting from where we are and making our machinery appropriate for the poor. Another road is to start from the traditional methods of production and to upgrade them—probably the sounder road, but it depends on which product we are talking about. The third road is to recognize the problem as new and to commission new design studies. Normally, the design studies commissioned in the West aim at a reduction of the labor requirement. The studies I have in mind would have different terms of reference, such as these: "This is the raw material—this is the final product. Design a process for a capital-poor country where labor is relatively cheap and plentiful. On the average, the cost per work place should come to not more than £70 to £100 of capital".

An organization has now been set up in London to put these ideas into practice. It is called the "Intermediate Technology Development Group". As a result of some little newspaper publicity the response has been world-wide. Anyone who says that the underdeveloped countries would look scornfully at intermediate technology is sadly mistaken. Requests for help are coming from all over the world. Here is a typical case: "Some 20 or 30 years ago there existed a bit of equipment which one could purchase for £20 to do a particular job. Now it costs £2,000 and is fully automated and we cannot afford to buy it. Can you help us?" These are the requirements of the poor people for whom nobody really cares. The powerful people, who are no longer poor, are more interested in nuclear reactors, huge dams, steel works and so on.

How is the Intermediate Technology Development Group to help the poor to help themselves? It will work along three lines:

The first line is publicity or, I am almost tempted to say, re-education. The truth has to be preached. "In the beginning is the word".

The time is ripe for a fundamental rethinking of all matters of foreign aid and development. The new thinking must be publicized. The second line is documentation; to be able to act as a kind of brokerage bureau so that aid seekers can be put in touch with those who can really help them technologically. There are all over the world a great number of research organizations, specializing, for instance, in tropical products, storage problems, agricultural implements, food and materials processing, and so forth. But how much of the outcome of this research is really known to the people who most need it? Very little indeed. Proper documentation centers will ultimately be wanted in all development regions. Meanwhile, a beginning is being made by the Group in London. The third line of work is the adoption and promotion of actual projects in developing countries; but it is too early to talk about this now.

The "Intermediate Technology Development Group", as a private, voluntary organization, de-

pends of course on attracting financial support. But it is unlikely to require large funds, the kind of money on which other types of aid depend. The approach of Intermediate Technology is "organic" and "non-violent", and we know that everything truly "organic" and "non-violent" is relatively very cheap, indeed.

I think the time is ripe for new thinking on aid and development, and this new thinking will be different from the old because it will take poverty seriously. It will make a real effort of the imagination; it will not go along mechanically saying, "This is good for the rich; it must also be good for the poor"; it will make a conscious effort to develop a real feel and understanding for the realities of a poor society. It will care for people—from a severely practical point of view. Why care for people? Because people are the only ultimate source of any wealth whatsoever. If they are left out, if they are pushed out of the way by self-appointed experts and high-handed planners, then nothing can ever yield real fruit.