SMALL IS BEAUTIFUL

Economics as If People Mattered

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Contents

Few can contemplate without a sense of exhilaration the splendid achievements of practical energy and technical skill, which, from the latter part of the seventeenth century, were transforming the face of material civilisation, and of which England was the daring, if not too scrupulous, pioneer. if however, economic ambitions are good servants, they are bad masters.

"The most obvious facts are most easily forgotten. Both the existing economic order and too many of the projects advanced for reconstructing it break down through their neglect of the truism that, since even quite common men have souls, no increase in material wealth will compensate them for arrangements which insult their self-respect and impair their freedom. A reasonable estimate of economic organisation must allow for the fact that, unless industry is to be paralysed by recurrent revolts on the part of outraged human nature, it must satisfy criteria which are not purely economic."

R. H. Tawney Religion and the Rise of Capitalism

'By and large, our present problem is one of attitudes and implements. We are remodelling the Alhambra with a steam-shovel, and are proud of our yardage. We shall hardly relinquish the shovel, which after all has many good points, but we are in need of gentler and more objective criteria for its successful use.'

Aldo Leopold A Sand County Almanac

Part One

THE MODERN WORLD

One

The Problem of Production

One of the most fateful errors of our age is the belief that 'the problem of production' has been solved. Not only is this belief firmly held by people remote from production and therefore professionally unacquainted with the facts - it is held by virtually all the experts, the captains of industry, the economic managers in the governments of the world, the academic and not-so-academic economists, not to mention the economic journalists. They may disagree on many things but they all agree that the problem of production has been solved; that mankind has at last come of age. For the rich countries, they say, the most important task now is 'education for leisure' and, for the poor countries. the 'transfer of technology',

That things are not going as well as they ought to be going must be due to human wickedness. We must therefore construct a political system so perfect that human wickedness disappears and everybody behaves well, no matter how much wickedness there may be in him or her. In fact, it is widely held that everybody is born good; if one turns into a criminal or an exploiter, this is the fault of 'the system'. No doubt 'the system' is in many ways bad and must be changed. One of the main reasons why it is bad and why it can still survive in spite of its badness, is this erroneous view that the 'problem of production' has been solved. As this • error pervades all present-day systems there is at present not much to choose between them.

The arising of this error, so egregious and so firmly rooted. is closely connected with the philosophical, not to say religious, changes during the last three or four centuries in man's attitude to nature. I should perhaps say: western man's attitude to nature, but since the whole world is now in a process of westernisation, the more generalised statement appears to be justified. Modern man does not experience himself as a part of nature but as an outside force destined to dominate and conquer it. He even talks of a battle with nature, forgetting that, if he won the battle, he would find himself on the losing side. Until quite recently, the battle seemed to go well enough to give him the illusion of unlimited powers, but not so well as to bring the

possibility of total victory into view. This has now come into view, and many people, albeit only a minority, are beginning to realise what this means for the continued existence of humanity.

The illusion of unlimited power, nourished by astonishing scientific and technological achievements, has produced the concurrent illusion of having solved the problem of production. The latter illusion is based on the failure to distinguish between income and capital where this distinction matters most. Every economist and businessman is familiar with the distinction, and applies it conscientiously and with considerable subtlety to all economic affairs - except where it really matters - namely, the irreplaceable capital which man had not made, but simply found, and without which he can do nothing.

A businessman would not consider a firm to have solved its problems of production and to have achieved viability if he saw that it was rapidly consuming its capital. How, then, could we overlook this vital fact when it comes to that very big firm, the economy of Spaceship Earth and, in particular. the economies of its rich passengers?

One reason for overlooking this vital fact is that we are estranged from reality and inclined to treat as valueless everything that we have not made ourselves. Even the great Dr Marx fell into this devastating error when he formulated the so-called 'labour theory of value'. Now, we have indeed laboured to make some of the capital which today helps us to produce - a large fund of scientific, technological, and other knowledge; an elaborate physical infrastructure; innumerable types of sophisticated capital equipment, etc. - but all this is but a small part of the total capital we are using. Far larger is the capital provided by nature and not by man - and we do not even recognise it as such. This larger part is now being used up at an alarming rate, and that is why it is an absurd and suicidal error to believe, and act on the belief, that the problem of production has been solved.

Let us take a closer look at this 'natural capital'. First of all, and most obviously, there are the fossil fuels. No-one, I am sure, will deny that we are treating them as income items although they are undeniably capital items. If we treated them as capital items, we should be concerned with conservation: we should do everything in our power to try and minimise their current rate of use; we might be saying, for instance, that the money obtained from the realisation of these assets - these irreplaceable assets - must be placed into ii

special fund to be devoted exclusively to the evolution of production methods and patterns of living which do not depend on fossil fuels at all or depend on them only to a very slight extent. These and many other things we should be doing if we treated fossil fuels as capital and not as income. And we do not do any of them, but the exact contrary of every one of them: we are not in the least concerned with conservation: we are maximising, instead of minimising the current rates of else; and, far from being interested in studying the possibilities of alternative methods of production and patterns of living - so as to get off the collision course on which we are moving with ever-increasing speed - we happily talk of unlimited progress along the beaten track of 'education for leisure' in the rich countries, and of 'the transfer of technology' to the poor countries.

The liquidation of these capital assets is proceeding so rapidly that even in the allegedly richest country in the world, the United States of America, there are many worried men, right up to the White House, calling for the massive conversion of coal into oh and gas, demanding ever more gigantic efforts to search for and exploit the remaining treasures of the earth. Look at the figures that are being put forward under the heading 'World Fuel Requirements in the Year 2000'. If we are now using something like 7,000 million tons of coal equivalent, the need in twenty-eight years' time will be three times as large - around 20,000 million tons! What are twenty-eight years? Looking backwards, they take us roughly to the end of World War II, and, of course, since then fuel consumption has trebled; but the trebling involved an increase of less than 5,000 million tons of coal equivalent. Now we are calmly talking about an increase three times as large.

People ask: can it be done? And the answer comes back: it must be done and therefore it shall be done. One might say (with apologies to John Kenneth Galbraith) that it is a case of the bland leading the blind. But why cast aspersions? The question itself is wrong-headed, because it carries the implicit assumption that we are dealing with income and not with capital. What is so special about the year 2000? What about the year 2028, when little children running about today will be planning for their retirement? Another trebling by then? All these questions and answers are seen to be absurd the moment we realise that we are dealing with capital and not with income: fossil fuels are not made by men; they cannot be recycled. Once they are gone they are gone for ever. !But what - it will be asked - about the income fuels? Yes, indeed, what about them? Currently, they contribute (reckoned in calories) less than four per cent to the world total. In the

foreseeable future they will have to contribute seventy, eighty, ninety per cent. To do something on a small scale is one thing: to do it on a gigantic scale is quite another, and to make an impact on the world fuel problem, contributions have to be truly gigantic. Who will say that the problem of production has been solved when it comes to income fuels required on a truly gigantic scale?

Fossil fuels are merely a part of the 'natural capital' which we steadfastly insist on treating as expendable, as if it were income, and by no means the most' important part. If we squander our fossil fuels, we threaten civilisation; but if we squander the capital represented by living nature around us, we threaten life itself People are waking up to this threat, and they demand that pollution must stop. They think of pollution as a rather nasty habit indulged in by careless or greedy people who, as it were, throw their rubbish over the fence into the neighbour's garden. A more civilised behaviour, they realise, would incur some extra cost, and therefore we need a faster rate of economic growth to be able to pay for it. From now on, they say, we should use at least some of the fruits of our ever-increasing productivity to improve 'the quality of life' and not merely to increase the quantity of consumption. All this is fair enough, but it touches only the outer fringe of the problem

To get to the crux of the matter, we do well to ask why it is that all these terms - pollution, environment, ecology etc. - have so suddenly come into prominence. After all, we have had an industrial system for quite some time, yet only five or ten years ago these words were virtually unknown. Is this a sudden fad, a silly fashion, or perhaps a sudden failure of nerve?

The explanation is not difficult to find. As with fossil fuels, we have indeed been living on the capital of living nature for some time, but at a fairly modest rate. It is only since the end of World War II that we have succeeded in increasing this rate to alarming proportions. In comparison with what is going on now and what has been going on progressively, during the last quarter of a century, all the industrial activities of mankind up to, and including, World War II are as nothing. The next four or five years are likely to see more industrial production, taking the world as a whole, than all of mankind accomplished up to 1945. In other words, quite recently that most of us have hardly yet become conscious of it - there has been a unique quantitative jump in industrial production.

Partly as a cause and also as an effect, there has also been a unique qualitative jump. Our scientists and technologists have learned to compound substances unknown to nature, against many of them, nature is virtually defenceless. There are no natural agents to attack and break them down. It is as if aborigines were suddenly attacked with machine-gun fire: their bows and arrows are of no avail. These substances, unknown to nature, owe their almost magical effectiveness precisely to nature's defencelessness - and that accounts also for their dangerous ecological impact. It is only in the last twenty years or so that they have made their appearance in bulk. Because they have no natural enemies, they tend to accumulate, and the long-term consequences of this accumulation are in many cases known to be extremely dangerous, and in other Gases totally unpredictable.

In other words, the changes of the last twenty-five years, both in the quantity and in the quality of man's industrial processes, have produced an entirely new situation - a situation resulting not from our failures but from what we thought were our greatest successes. And this has come so suddenly that we hardly noticed the fact that we were very rapidly using up a certain kind of irreplaceable capital asset, namely the tolerance margins which benign nature always provides.

Now let me return to the question of 'income fuels' with which I had previously dealt in a somewhat cavalier manner. No one is suggesting that the world-wide industrial system which is being envisaged to operate in !he year 2000, a generation ahead, would be sustained primarily by water or wind power. No, we are told that we are moving rapidly into the nuclear age. Of course, this has been the story for quite some time, for over twenty years, and yet. the contribution of nuclear energy to man's total fuel and energy requirements is still minute. In 1970. it amounted to 27 per cent in Britain; 0-6 per cent in the European Community; and 0-3 per cent in the United States, to mention only the countries that have gone the furthest. Perhaps we can assume that nature's tolerance margins will be able to cope with such small impositions, although there are many people even today who are deeply worried, and Dr Edward D. David, President Nixon's Science Adviser, talking about the storage of radioactive wastes, says that 'one has a queasy feeling about something that has to stay underground and be pretty well sealed off for 25,000 years before it is harmless'.

However that may be, the point I am making is a very simple one: the proposition to replace thousands of millions of tons of fossil fuels, every

year, by nuclear energy means to 'solve' the fuel problem by creating an environmental and ecological problem of such a monstrous magnitude that Dr David will not be the only one to have 'a queasy feeling'. It means solving one problem by shifting it to another sphere - there to create an infinitely bigger problem.

Having said this, I am sure that I shall be confronted with another, even more daring proposition: namely, that future scientists and technologists will be able to devise safety rules and precautions of such perfection that the using, transporting, processing and storing of radioactive materials in ever-increasing quantities will be made entirely safe; also that it will be the task of politicians and social scientists to create a world society in which wars or civil disturbances can never happen. Again, it is a proposition to solve one problem simply by shifting it to another sphere, the sphere of everyday human behaviour. And this takes us to the third category of 'natural capital' which wt: are recklessly squandering because we treat it as if it were income: as if it were something we had made ourselves and could easily replace out of our much-vaunted and rapidly rising productivity.

Is it not evident that our current methods of production are already eating into the very substance of industrial man? To many people this is not at all evident. Now that we have solved the problem of production, they say, have we ever had it so good? Are we not better fed, better clothed, and better housed than ever before - and better educated! Of course we are: most, but by no means ail. of us: in the rich countries. But this is not what I mean by 'substance'. The substance of man cannot be measured by Gross National Product. Perhaps it cannot be measured at all. except for certain symptoms of loss. However, this is not the place to go into the statistics of these symptoms, such as crime. drug addiction, vandalism, mental breakdown, rebellion, and so forth. Statistics never prove anything.

I started by saying that one of the most fateful errors of our age is the belief that the problem of production has been solved. This illusion, I suggested, is mainly due to our inability to recognise that the modern industrial system, with all its intellectual sophistication, consumes the very basis on which it has been erected. To use the language of the economist, it lives on irreplaceable capital which it cheerfully treats as income. I specified three categories of such capital: fossil fuels, the tolerance margins of nature, and the human substance. Even if some readers should refuse to accept all

three parts of my argument, I suggest that any one of them suffices to make my case.

And what is my case? Simply that our most important task is to get oh our present collision course. And who is there to tackle such a task? I think every one of us, whether old or young, powerful or powerless, rich or poor, influential or uninfluential. To talk about the future is useful only if it leads to action now. And what can we do now, while we are still in the position of 'never having had it so good'? To say the least - which is already very much -we must thoroughly understand the problem and begin to see the possibility of evolving a new life-style, with new methods of production and new patterns of consumption: a life-style designed for permanence. To give only three preliminary examples: in agriculture and horticulture, we can interest ourselves in the perfection of production methods which are biologically sound, build up soil fertility, and produce health, beauty and permanence. Productivity will then look after itself. In industry, we can interest ourselves in the evolution of small-scale technology, relatively non-violent technology, 'technology with a human face', so that people have a chance to enjoy themselves while they art: working, instead of working solely for their pay packet and hoping, usually forlornly, for enjoyment solely during their leisure time. In industry. again - and, surely, industry is the pace-setter of modern life - we can interest ourselves in new forms of partnership between management and men, even forms of common ownership.

We often hear it said that we are entering the era of 'the Learning Society'. Let us hope this is true. We still have to learn how to live peacefully, not only with our fellow men but also with nature and. above all. with those Higher Powers which have made nature and have made us; for, assuredly, we have not come about by accident and certainly have not made ourselves.

The themes which have been merely touched upon in this chapter will have to be further elaborated as we go along. Few people will be easily convinced that the challenge to man's future cannot be met by making marginal adjustments here or there, or, possibly, by changing the political system.

The following chapter is an attempt to look at the whole situation again, from the angle of peace and permanence. Now that man has acquired the physical means of self-obliteration, the question of peace obviously looms

larger than ever before in human history. And how could peace be built without some assurance of permanence with regard to our economic life?

Two

Peace and Permanence

The dominant modern belief is that the soundest foundation of peace would be universal prosperity. One may look in vain for historical evidence that the rich have regularly been more peaceful than the poor, but then it can be argued that they have never felt secure against the poor: that their aggressiveness stemmed from fear; and that the situation would be quite different if everybody were rich. Why should a rich man go to war? He has nothing to gain. Are not the poor, the exploited the oppressed most likely to do so, as they have nothing to lose but their chains? The road to peace, it is argued, is to follow the road to riches.

This dominant modern belief has an almost irresistible attraction as it suggests that the faster you get one desirable thing the more securely do you attain another. It is doubly attractive because it completely by-passes the whole question of ethics: there is no need for renunciation or sacrifice: on the contrary! We have science and technology to help us along the road to peace and plenty, and all that is needed is that we should not behave stupidly, irrationally, cutting into our own flesh. The message to the poor and discontented is that they must not impatiently upset or kill the goose that will assuredly, in due course, lay golden eggs also for them. And the message to the rich is that they must be intelligent enough from time to time to help the poor, because this is the way by which they will become richer
still.

Gandhi used to talk disparagingly of 'dreaming of systems so perfect that no-one will need to be good'. But is it not precisely this dream which we can now implement in reality with our marvellous powers of science and technology? Why ask for virtues, which man may never acquire, when scientific rationality and technical competence are all that is needed?

Instead of listening to Gandhi, are we not more inclined to listen to on of the most influential economists of our century, the great Lord Keynes? In

1930, during the world-wide economic depression, he felt moved to speculate on the 'economic possibilities of our grandchildren' and concluded that the day might not be far off when everybody would be rich. We shall then, he said, 'once more value ends above means and prefer the good to the useful.'

"But beware!' he continued. 'The time for all this is not yet. For at least another hundred years we must pretend to ourselves and to every one that fair is foul and foul is fair,; for foul is useful and fair is not. Avarice and usury and precaution must be our gods for a little longer still. For only they can lead us out of the tunnel of economic necessity into daylight.'

This was written forty years ago and since then, of course, things have speeded up considerably. Maybe we do not even have to wait for another sixty years until universal plenty will, be attained. In any case, the Keynesian message is clear enough: Beware! Ethical considerations are not merely irrelevant, they are an actual hindrance, 'for foul is useful and fair is not'. The time for fairness is no; yet. The road to heaven is paved with bad intentions,
I shall now consider this proposition. It can be divided into three parts: First: that universal prosperity is possible;

Second: that its attainment is possible on the basis of the materialist philosophy of 'enrich yourselves';

Third: that this is the road to peace.

The question with which to start my investigation is obviously this: Is there enough to go round? Immediately we encounter a serious difficulty: What is 'enough'? Who can tell us? Certainly not the economist who pursues 'economic growth' as the highest of all values, and therefore has no concept of 'enough'. There are poor societies which have too little: but where is the rich society that says: 'Halt! We have enough'? There is none.

Perhaps we can forget about 'enough' and content ourselves with exploring the growth of demand upon the world's resources which arises when everybody simply strives hard to have 'more'.

As we cannot study all resources, I propose to focus attention on one type of resource which is in a somewhat central position - fuel. More prosperity means a greater use of fuel - there can be no doubt about that. At present, the prosperity gap between the poor of this world and the rich is very wide indeed and this is clearly shown in their respective fuel consumption. Let us decline as 'rich' all populations in countries with an average fuel consumption - in 1966 - of more than one metric ton of coal equivalent (abbreviated: c.e.) per head and as 'poor' all those below this level. On these definitions we can draw up the following table (using United Nations figures throughout):

TABLE 1(1966)

	Rich (%)	Poor (%)	World (%)
POPULATION (millions)	1,060 (31)	2,284 (69)	3384(100)
FUEL CONSUMPTION (million tons c.e.)	4,788 (87)	721(13)	5509 (100)
FUEL CONSUMPTION PER HEAD (tons c.e.)	4-52	0-32	1-65

The average fuel consumption per head of the 'poor' is only 0-32 tons - roughly one-fourteenth of that of the 'rich', and there are very many 'poor' people in the world - on these definitions nearly seven-tenths of the world population. If the 'poor' suddenly used as much fuel as the 'rich', world fuel consumption would treble right away.

But this cannot happen as everything takes time. And in time both the 'rich' and the 'poor' are growing in desires and in numbers. So let us make an exploratory calculation. If the "rich' populations grow at the rate of 14 per cent and the 'poor' at the rate of 2.5 per cent a year, world population will grow to about 6,900 million by 2000 AD - a figure not very different from the most authoritative current forecasts. If at the same time the fuel consumption per head of the 'rich- population grows by 23 per cent, while

that of the 'poor' grows by 4f per cent a year, the following figures will emerge for the year 2000 AD:

TABLE II (2000 AD)

	Rich (%)	Poor(%)	World(%)
POPULATION (millions)	1,617 (23)	5,292 (77)	6,909 (100)
FUEL CONSUMPTION (million tons c.e.)	15,588 (67)	7,568 (33)	23,156 (100)
FUEL CONSUMPTION PER HEAD (tons c.e.)	9.64	1-43	3-35

The total result on world fuel consumption would be a growth from 5-5 milliard tons c.e. in 1966 to 232 milliard in the year 2000 - an increase by a factor of more than four, half of which would be attributable to population increase and half to increased consumption per head.

This half-and-half split is interesting enough. But the split between the 'rich' and the 'poor' is even more interesting. Of the total increase in world fuel consumption from 5-5 milliard to 23-2 milliard tons c.e., i.e. an increase by 17-7 milliard tons, the 'rich' would account for nearly two-thirds and the 'poor' for only a little over one-third. Over the whole thirty-four-year period, the world would use 425 milliard tons of coal equivalent, with the 'rich' using 321 milliards or seventy-five per cent and the 'poor', 104 milliards.

Now, does not this put a very interesting light on the total situation? These figures are not, of course, predictions: they are what might be called 'exploratory calculations'. I have assumed a very modest population growth on the part of the 'rich'; and a population growth rate twice as high on the part of the 'poor'; yet it is the 'rich' and not the 'poor' who do by far the greatest part of the damage - if 'damage' it may be called. Even if the populations classified as 'poor' grew only at the rate assumed for the 'rich', the effect on total world fuel requirements would be hardly significant - a

reduction of just over ten per cent. But if the 'rich' decided - and I am not saying that this is likely - that their present pm capital fuel consumption was really high enough and that they should not allow it to grow any further, considering that it is already fourteen times as high as that of the 'poor' - now that would make a difference: in spite of the assumed rise in the 'rich' populations, it would cut total world fuel, requirements in the year 2000 by over one-third,

The most important comment, however, is a question: Is it plausible to assume that world fuel consumption could grow to anything like 23,000 million tons c.e. a year by the year 2000, using 425,000 million tons c.e. during the thirty-four years in question? In the light of our present knowledge of fossil fuel re serves this is an implausible figure, even if we assume that one quarter or one-third of the world total would come from nuclear fission.

It is clear that the 'rich' are in the process of stripping tile world of its once-for-all endowment of relatively cheap and simple fuels. It is their continuing economic growth which produces ever more exorbitant demands, with the result that the world's cheap and simple fuels could easily become dear and scarce long before the poor countries had acquired the wealth, education, industrial sophistication, and power of capital accumulation needed for the application of alternative fuels on any significant scale

Exploratory calculations, of course, do not prove anything. A proof about the future is in any case impossible, and it has been sagely remarked that all predictions are unreliable, particularly those about the future. What is required is judgment and exploratory calculations can at least help to inform our judgment In any case, our calculations in a most important respect understate the magnitude of the problem. It is not realistic to treat the world as a unit. Fuel resources are very unevenly distributed, and any short- age of supplies, no matter how slight, would immediately divide the world into 'haves' and 'have-nets' along entirely novel lines. The specially favoured areas, such as the Middle East and North Africa, would attract envious attention on a scale scarcely imaginable today, while some high consumption areas, such as Western Europe and Japan, would move into the unenviable position of residual legatees. Here is a source of conflict if ever there was one.

As nothing can be proved about the future - not even about the relatively short-term future of the next thirty years - it is always possible to dismiss even the most threatening problems with the suggestion that something will turn up. There could be simply enormous and altogether unheard-of discoveries of new reserves of oil, natural gas, or even coal. And why should nuclear energy be confined to supplying one-quarter or one-third of total requirements? The problem can thus be shifted to another plane, but it refuses to go away. For the consumption of fuel on the indicated scale -assuming no insurmountable difficulties of fuel supply - would produce environmental hazards of an unprecedented kind,

Take nuclear energy. Some people say that the world's re sources of relatively concentrated uranium are insufficient to sustain a really large nuclear programme - large enough to have a significant impact on the world fuel situation, where we have to reckon with thousands of millions, not simply with millions, of tons of coal equivalent. But assume that these people are wrong. Enough uranium will be found; it will be gathered together from the remotest corners of the earth, brought into the main centres of population, and made highly radioactive. It is hard to imagine a greater biological threat, not to mention the political danger that someone might use a tiny bit of this terrible substance for purposes not altogether peaceful.

On the other hand, if fantastic new discoveries of fossil fuels should make it unnecessary to force the pace of nuclear energy, there would be a problem of thermal pollution on quite a different scale from anything encountered hitherto.

Whatever the fuel, increases in fuel consumption by a factor of four and then five and then six... there is no plausible answer to the problem of pollution.

I have taken fuel merely as an example to illustrate a very simple thesis: that economic growth, which viewed from the point of view of economics, physics, chemistry and technology, has no discernible limit. must necessarily run into decisive bottlenecks when viewed from the point of view of the environmental sciences. An attitude to life which seeks fulfilment in the single-minded pursuit of wealth - in short, materialism - does not fit into this world, because it contains within itself no limiting principle, while the environment in which it is placed is strictly limited. Already, the environment is trying to tell us that certain stresses are be coming excessive.

As one problem is being 'solved'. ten new problems arise as a result of the first 'solution'. As Professor Barry Commoner emphasises, the new problems are not the consequences of incidental failure but of technological success.

Here again, however, many people will insist on discussing these matters solely in terms of optimism and pessimism, taking pride in their own optimism that 'science will find a way out'. They could be right only, I suggest, if there is a conscious and fundamental change in the direction of scientific effort The developments of science and technology over the last hundred years have been such that the dangers have grown even faster than the opportunities. About this, I shall have more to say later

Already, there is overwhelming evidence that the great self- balancing system of nature is becoming increasingly unbalanced in particular respects and at specific points. It would take us too far if I attempted to assemble the evidence here. The condition of Lake Erie, to which Professor Barry Commoner, among others, has drawn attention, should serve as a sufficient warning. Another decade or two, and all the inland water systems of the United Stats may be in a similar condition. In other words, the condition of unbalance may then no longer apply to specific points but have become generalised. The further this process is allowed to go, the more difficult it will be to reverse it, if indeed the point of no return has not been passed already.

We find, therefore, that the idea of unlimited economic growth, more and more until everybody is saturated with wealth, needs to be seriously questioned on at least two counts: the availability of basic resources and, alternatively or additionally, the capacity of the environment to cope with the degree of interference implied. So much about the physical-material aspect of the matter. Let us now turn to certain non-material aspects.

There can be no doubt that the idea of personal enrichment has a very strong appeal to human nature. Keynes, in the essay from which I have quoted already, advised us that the time was not yet for a 'return to some of the most sure and certain principles of religion and traditional virtue - that avarice is a vice, that the exaction of usury is a misdemeanour, and the love of money is detestable'.

Economic progress, he counselled, is obtainable only if we employ those powerful human drives of selfishness, which religion and traditional wisdom universally call upon us to resist. The modern economy is propelled by a frenzy of greed and indulges in an orgy of envy, and these are not accidental features but the very causes of its expansionist success. The question is whether such causes can be effective for long or whether they carry within themselves the seeds of destruction. If Keynes says that 'foul is useful and fair is net', he propounds a statement of fact which may be true or false; or it may look true in the short run and turn out to be false in the longer run. Which is it?

I should think that there is now enough evidence to demonstrate that the statement is false ill a very direct, practical sense. If human vices: such as greed and envy are systematically cultivated, the inevitable result is nothing less than a collapse of intelligence. A man driven by greed or envy loses the power of seeing things as they really are, of seeing things in their roundness and wholeness, and his very successes become failures. If whole societies become infected by these vices, they may indeed achieve astonishing things but they become increasingly incapable of solving the most elementary problems of everyday existence. The Gross National Product may rise rapidly: as measured by statisticians but not as experienced by actual people, who find themselves oppressed by increasing frustration, alienation, insecurity, and so forth. After a while. even the Gross National Product refuses to rise any further, not because of scientific or technological failure, but because of a creeping paralysis of non-co-operation, as expressed in various types of escapism on the part, not only of the oppressed and exploited, but even of highly privileged groups.

One can go on for a long time deploring the irrationality and stupidity of men and women in high positions or low - 'if only people would realise where their real interests lie!' But why do they not realise this? Either because their intelligence has been dimmed by greed and envy, or because in their heart of hearts they understand that their real interests lie somewhere quite different, There is a revolutionary saying that 'Man shall not live by bread alone but by every word of God'.

Here again, nothing can be 'proved'. But does it still look probable or plausible that the grave social diseases infecting many rich societies today are merely passing phenomena which an able government - if only we could

get a really able government! - could eradicate by simply making faster use of science and technology or a more radical use of the penal system?

I suggest that the foundations of peace cannot be laid by universal prosperity, in the modem sense. because such prosperity, if attainable at all. is attainable only by cultivating such drives of human nature as greed and envy, which destroy intelligence, happiness, serenity, and thereby the peacefulness of man. It could well be that rich people treasure peace more highly than poor people. but only if they feel utterly secure - and this is a contradiction in terms. Their wealth depends on making inordinately large demands on limited world resources and thus puts them on an unavoidable collision course - not primarily with the poor (who are weak and defenceless) but with other rich people,

In short we can say today that man is far too clever to be able to survive without wisdom. No-one is really working for peace unless he is working primarily for the restoration of wisdom. The assertion that 'foul is useful and fair is not' is the antithesis of wisdom. The hope that the pursuit of goodness and virtue can be postponed until we have attained universal prosperity and that by the single minded pursuit of wealth, without bothering our heeds about spiritual and moral questions. we could establish peace on earth is an unrealistic, unscientific. and irrational hope, The exclusion of wisdom from economics, science. and technology was something which we could perhaps get away with for a little while. as long as we were relatively unsuccessful; but now that we have become very successful. the problem of spiritual and moral truth moves into the central position.

From an economic point of view, the central concept of wisdom is permanence. We must study the economics of permanence. Nothing makes economic sense unless its continuance for a long time can be projected without running into absurdities. There can be 'growth' towards a limited objective. but there cannot be unlimited. generalised growth. It is more than likely, as Gandhi said, that 'Earth provides enough to satisfy- every man's need, but not for every man's greed'. Permanence is incompatible with a predatory attitude which rejoices in the fact that 'what were luxuries for our fathers have become necessities for us',

The cultivation and expansion of needs is the antithesis of wisdom. It is also the antithesis of freedom and peace, Every increase of needs tends to increase one's dependence on outside forces over which one cannot have

control, and therefore increases existential fear. Only by a reduction of needs can one promote a genuine reduction in those tensions which are the ultimate causes of strife and war.

The economics of permanence implies a profound reorientation of science and technology, which have to open their doors to wisdom and, in fact, have to incorporate wisdom into their very structure. Scientific or technological 'solutions' which poison the environment or degrade the social structure and man himself are of no benefit, no matter how brilliantly conceived or how great their superficial attraction. Ever bigger machines, entailing ever bigger concentrations of economic power and exerting ever greater violence against the environment, do not represent progress: they are a denial of wisdom. Wisdom demands a new orientation of science and technology towards the organic. the gentle, the non-violent, the elegant and beautiful. Peace, as has often been said, is indivisible - how then could peace be built on a foundation of reckless science and violent technology? We must look for a revolution in technology to give us inventions and machines which reverse the destructive trends now threatening us all.

What is it that we really require from the scientists and technologists? I should answer: We need methods and equipment which are
cheap enough so that they are accessible to virtually everyone:
suitable for small-scale application; and
compatible with man's need for creativity.

Out of these three characteristics is tom non-violence and a relationship of man to nature which guarantees permanence. If only one of these three is neglected, things are bound to go wrong. Let us look at them one by one,

Methods and machines cheap enough to be accessible to virtually everyone - why should we assume that our scientists and technologists are unable to develop then? This was a primary concern of Gandhi: 'I want the dumb millions of our land to be healthy and happy, acid I want them to grow spiritually.... If we feel the need of machine, we certainly will have them. Every machine that helps every individual has a place,' he said, 'but there should be no place for machines that concentrate power in a few hands and

turn the masses into mere machine minders, if indeed they do not make them unemployed.'

Suppose it becomes the acknowledged purpose of inventors and engineers, observed Aldous Huxley, to provide ordinary people with the means of 'doing profitable and intrinsically significant work, of helping men and women to achieve independence from bosses, so that they may become their own employers, or members of a self-governing, co-operative group working for subsistence and a local market ... this differently orientated technological progress (would result in) a progressive decentralisation of population, of accessibility of land, of ownership of the means of production, of political and economic power'. Other advantages, said Huxley, would be 'a more humanly satisfying life for more people, a greater measure of genuine self-governing democracy and a blessed freedom from the silly or pernicious adult education provided by the mass producers of consumer goods through the medium of advertisements'.'

If methods and machines are to be cheap enough to be generally accessible, this means that their cost must stand in some definable relationship to the level of incomes in the society in which they are to be used. I have myself come to the conclusion that the upper limit for the average amount of capital investment per workplace is probably given by the annual earnings of an able and ambitious industrial worker. That is to say, if such a man can normally earn, say, 5,000 a year, the average cost of establishing his workplace should on no account be in excess of $5,000. If the cost is significantly higher, the society in question is likely to run into serious troubles, such as an undue concentration of wealth and power among the privileged few: an increasing problem of 'drop-outs' who cannot be integrated into society and constitute an ever-growing threat; 'structural' unemployment: mal- distribution of the population due to excessive urbanisation; and general frustration and alienation, with soaring crime rates. and so forth.

The second requirement is suitability for small-scale application. On the problem of 'scale', Professor Leopold Kohr has written brilliantly and convincingly; its relevance to the economics of permanence is obvious. Small-scale operations. no matter how numerous, are always less likely to be harmful to the natural environment than large-scale ones, simply because their individual force is small in relation to the recuperative forces of nature. There is wisdom in smallness if only on account of the smallness and

patchiness of human knowledge, which relies on experiment far more than on understanding. The greatest danger invariably arises from the ruthless application, on a vast scale, of partial knowledge such as we are currently witnessing in the application of nuclear energy, of the new chemistry in agriculture. of transportation technology, and countless other things.

Although even small communities are sometimes guilty of causing serious erosion, generally as a result of ignorance, this is trifling in comparison with the devastations caused by gigantic groups motivated by greed, envy, and the lust for power. It is moreover obvious that men organised in small units will take better care of their bit of land or other natural resources than anonymous companies or megalomaniac governments which pre- tend to themselves that the whole universe is their legitimate quarry.

The third requirement is perhaps the most important of all - that methods and equipment should be such as to leave ample room for human creativity. Over the last hundred years no-one has spoken more insistently and warningly on this subject than have the Roman pontiffs. What becomes of man if the process of production 'takes away from work any hint of humanity, making of it a merely mechanical activity'? The worker himself is turned into a perversion of a free being.

'And so bodily labour (said Plus XI) which even after original sin was decreed by Providence for the good of man's body and soul, is in many instances changed into an instrument of perversion; for from the factory dead matter goes out improved. whereas men there are corrupted and degraded.'

Again, the subject is so large that I cannot do more than touch upon it. Above anything else there is need for a proper philosophy of work which understands work not as that which it has indeed become, an inhuman chore as soon as possible to be abolished by automation, but as something 'decreed by Providence for the good of man's body and soul'. Next to the family, it is work and the relationships established by work that are the true foundations of society. If the foundations are unsound, how could society be sound? And if society is sick, how could it fail to be a danger to peace?

'War is a judgment,' said Dorothy I,. Sayers, 'that overtakes societies when they have been living upon ideas that conflict too violently with the laws governing the universe., Never think that wars are irrational catastrophes:

they happen when wrong ways of thinking and living bring about intolerable situations. 'Economically, our wrong living consists primarily in systematically cultivating greed and envy and thus building up a vast array of totally unwarrantable wants. It is the sin of greed that has delivered us over into the power of the machine. If greed were not the master of modern man - ably assisted by envy - how could it be that the frenzy of economism does not abate as higher 'standards of living' are attained, and that it is precisely the richest societies which pursue their economic advantage with the greatest ruthlessness? How could we explain the almost universal refusal on the part of the rulers of the rich societies - whether organised along private enterprise or collectivist enterprise lines - to work towards the humanisation of work? It is only necessary to assert that something would reduce the 'standard of living', and every debate is instantly closed. That soul-destroying, meaningless, mechanical, monotonous, moronic work is an insult to human nature which must necessarily and inevitably produce either escapism or aggression, and that no amount of 'bread and circuses' can compensate for the damage done - these are facts which are neither denied nor acknowledged but are met with an unbreakable conspiracy of silence - because to deny them would be too obviously absurd and to acknowledge them would condemn the central preoccupation of modern society as a crime against humanity.

The neglect, indeed the rejection, of wisdom has gone so far that most of our intellectuals have not even the faintest idea what the term could mean. As a result, they always tend to try and cure a disease by intensifying its causes. The disease having been caused by allowing cleverness to displace wisdom, no amount of clever research is likely to produce a cure. Rut what is wisdom? Where can it be found? Here we come to the crux of the matter: it can be read about in numerous publications but it can be found only inside oneself, To be able to find it, one has first to liberate oneself from such masters as greed and envy. The stillness following liberation - even if only momentary - produces the insights of wisdom which are obtainable in no other way.

They enable us to see the hollowness and fundamental unsatisfactoriness of a life devoted primarily to the pursuit of material ends, to the neglect of the spiritual. Such a life necessarily sets man against man and nation against nation, because man's needs are infinite and infinitude can be achieved only in the spiritual realm, never in the material. Man assuredly needs to rise above this humdrum 'world'; wisdom shows him the way to do it; without

wisdom, he is driven to build up a monster economy, which destroys the world, and to seek fantastic satisfactions, like landing a man on the moon. Instead of overcoming the 'world' by moving towards saintliness, he tries to overcome it by gaining pre eminence in wealth, power, science, or indeed any imaginable 'sport'.

These are the real causes of war, and it is chimerical to try to lay the foundations of peace without removing them first. It is doubly chimerical to build peace on economic foundations which, in turn, rest on the systematic cultivation of greed and envy, the very forces which drive men into conflict.

How could we even begin to disarm greed and envy? Perhaps by being much less greedy and envious ourselves; perhaps by resisting the temptation of letting our luxuries become needs; and perhaps by even scrutinising our needs to see if they cannot be simplified and reduced. If we do not have the strength to do any of this, could we perhaps stop applauding the type of economic 'progress' which palpably lacks the basis of permanence and give what modest support we can to those who, unafraid of being denounced as cranks, work for non-violence: as conservationists, ecologists, protectors of wildlife, promoters of organic agriculture, distributists, cottage producers, and so forth? An ounce of practice is generally worth more than a ton of theory.

It will need many ounces, however, to lay the economic foundations of peace. Where can one find the strength to go on working against such obviously appalling odds? What is more: where Can one find the strength to overcome the violence of greed, envy, hate and lust within oneself?

I think Gandhi has given the answer: 'There must be recognition of the existence of the soul apart from the body, and of its permanent nature, and this recognition must amount to a living faith; and, in the last resort, nonviolence does not avail those who do not possess a living faith in the God of Love.'

Three

The Role of Economics

To say that our economic future is being determined by the economists would be an exaggeration; but that their influence, or in any case the influence of economics, is far-reaching can hardly be doubted. Economics plays a central role in shaping the activities of the modern world, inasmuch as it supplies the criteria of what is 'economic' and what is 'uneconomic', and there is no other set of criteria that exercises a greater influence over the actions of individuals and groups as well as over those of governments. It may be thought, therefore, that we should look to the economists for advice on how to overcome the dangers and difficulties in which the modern world finds itself, and how to achieve economic arrangements that vouchsafe peace and permanence.

How does economics relate to the problems discussed in the previous chapters? When the economist delivers a verdict that this or that activity is 'economically sound' or 'uneconomic', two important and closely related questions arise: first, what does this verdict mean? And, second, is the verdict conclusive in the sense that practical action can reasonably be based on it?

Going back into history we may recall that when there was talk about founding a professorship for political economy at Oxford 150 years ago, many people were by no means happy about the prospect. Edward Copleston, the great Provost of Oriel College, did not want to admit into the University's curriculum a science 'so prone to usurp the rest'; even Henry Drummond of Albury Park, who endowed the professorship in 1825, felt it necessary to make it clear that he expected the University to keep the new study 'in its proper place'. The first professor, Nassau Senior, was certainly not to be kept in an inferior place, Immediately, in his inaugural lecture, he predicted that the new science 'will rank in public estimation among the first of moral sciences in interest and in utility' and claimed that 'the pursuit of wealth ... is, to the mass of mankind, the great source of moral improvement'. Not all economists, to be sure, have staked their claims quite so high. John Stuart Mill (1806-73) looked upon political economy 'not as a thing by itself, but as a fragment of a greater whole; a branch of social philosophy, so interlinked with all the other branches that its conclusions, even in its own peculiar province, are only true conditionally, subject to interference and counteraction from causes not directly within its scope'. And even Keynes, in contradiction to his own advice (already quoted) that 'avarice and usury and precaution must be our gods for a little longer still', admonished us not to 'overestimate the importance of the economic problem,

or sacrifice to its supposed necessities other matters of greater and more permanent significance'.

Such voices, however, are but seldom heard today. It is hardly an exaggeration to say that, with increasing affluence, economics has moved into the very centre of public concern, and economic performance, economic growth, economic expansion, and so forth have become the abiding interest, if not the obsession, of all modern societies. In the current vocabulary of condemnation there are few words as final and conclusive as the word 'uneconomic'. If an activity has been branded as uneconomic, its right to existence is not merely questioned but energetically denied. Anything that is found to be an impediment to economic growth is a shameful thing, and if people cling to it, they are thought of as either saboteurs or fools. Call a thing immoral or ugly, soul- destroying or a degradation of man, a peril to the peace of the world or to the well-being of future generations: as long as you have not shown it to be 'uneconomic' you have not really questioned its right to exist, grow, and prosper.

But what does it mean when we say something is uneconomic? I am not asking what most people mean when they say this: because that is clear enough. They simply mean that it is like an illness: you are better off without it. The economist is supposed to be able to diagnose the illness and then, with luck and skill, remove it. Admittedly, economists often disagree among each other about the diagnosis and, even more frequently, about the cure: but that merely proves that the subject matter is uncommonly difficult and economists, like other humans, are fallible.

No. 1 am asking what it means, *what sort of meaning the method of economics actually produces.* And the answer to this question cannot be in doubt: something is uneconomic when it fails to earn an adequate profit in terms of money. The method of economics does not, and cannot, produce any other meaning. Numerous attempts have been made to obscure this fact, and they have caused a very great deal of confusion: but the fact remains. Society, or a group or an individual within society, may decide to hang on to an activity or asset for non-economic reasons - social, aesthetic, moral, or political - but this does in no way alter its uneconomic character. The judgment of economics, in other words, is an extremely fragmentary judgment: out of the large number of aspects which in real life have to be seen and judged together before a decision can be taken, economics supplies

only one - whether a thing yields a money profit to those who undertake it or not.

Do not overlook the words 'to those who undertake it'. It is a great error to assume, for instance, that the methodology of economics is normally applied to determine whether an activity carried on by a group within society yields a profit to society as a whole. Even nationalised industries are not considered from this more comprehensive point of view. Every one of them is given a financial target - which is, in fact, an obligation - and is expected to pursue this target without regard to any damage it might be inflicting on other parts of the economy. In fact, the prevailing creed, held with equal fervour by all political parties, is that the common good will necessarily be maximised if everybody, every industry and trade, whether nationalised or not, strives to earn an acceptable 'return' on the capital employed. Not even Adam Smith had a more implicit faith in the 'hidden hand' to ensure that 'what is good for General Motors is good for the United States',

However that may be, about the fragmentary nature of the judgments of economics there can be no doubt whatever. Even within the narrow compass of the economic calculus, these judgments are necessarily and methodically narrow. For one thing, they give vastly more weight to the short than to the long term. because in the long tem~. as Keynes put it with cheerful brutality. we are all dead. And then, second, they are based on a definition of cost which excludes all 'free goods'. that is to say, the entire God-given environment, except for those parts of it that have been privately appropriated. This means that an activity can be economic although it plays hell with the environment, and that a competing activity, if at some cost it protects and conserves the environment, will be uneconomic.

Economics, moreover, deals with goods in accordance with their market value and not in accordance with what they really are. The same rules and criteria are applied to primary goods, which man has to win from nature, and secondary goods, which presuppose the existence of primary goods and are manufactured from them. All goods are treated the same, because the point of view is fundamentally that of private profit-making, and this means that it is inherent in the methodology of economics *to ignore man's dependence on the natural world.*

Another way of stating this is to say that economics deals with goods and services from the point of view of the market, where willing buyer meets

willing seller. The buyer is essentially a bargain hunter; he is not concerned with the origin of the goods or the conditions under which they have been produced. His sole concern is to obtain the bat value for his money.

The market therefore represents only the surface of society and its significance relate to the momentary situation as it exists there and then. There is no probing into the depths of things, into the natural or social facts that lie behind them. In a sense, the market is the institutionalisation of individualism and non-responsibility. Neither buyer nor seller is responsible for anything but himself. It would be 'uneconomic' for a wealthy seller to reduce his prices to poor customers merely because they are in need, or for a wealthy buyer to pay an extra price merely because the supplier is poor. Equally, it would be 'uneconomic' for a buyer to give preference to home-produced goods if imported goods are cheaper. He does not, and is not expected to, accept responsibility for the country's balance of payments.

As regards the buyer's non-responsibility, there is, significantly, one exception: the buyer must be careful not to buy stolen goods. This is a rule against which neither ignorance nor innocence counts as a defence and which can produce extraordinarily unjust and annoying results. It is nevertheless required by the sanctity of private property, to which it testifies.

To be relieved of all responsibility except to oneself, means of course an enormous simplification of business, We can recognise that it is practical and need not be surprised that it is highly popular among businessmen. What may cause surprise is that it is also considered virtuous to make the maximum use of this freedom from responsibility. If a buyer refused a good bargain because he suspected that the cheapness of the goods in question stemmed from exploitation or other despicable practices (except theft), he would be open to the criticism of behaving 'uneconomically'. which is viewed as nothing less than a fall from grace. Economists and others are wont to treat such eccentric behaviour with derision if not indignation. The religion of economics has its own code of ethics, and the First Commandment is to behave 'economically' - many case when you are producing, selling, or buying. It is only when the bargain hunter has gone home and becomes a consumer that the First Commandment no longer applies: he is then encouraged to 'enjoy himself' in any way he pleases. As far as the religion of economics is concerned, the consumer is extraterritorial. This strange and significant feature of the modern world warrants more discussion than it has yet received.

In the market place, for practical reasons, innumerable qualitative distinctions which are of vital importance for man and society are suppressed; they are not allowed to surface. Thus the reign of quantity celebrates its greatest triumphs in 'The Market'. Everything is equated with everything else. To equate things means to give them a price and thus to make them exchangeable. To the extent that economic thinking is based on the market, it takes the sacredness out of life, because there can be nothing sacred in something that has a price. Not surprisingly, therefore, if economic thinking pervades the whole of society. even simple non-economic values like beauty, health, or cleanliness can survive only if they prove to be 'economic'.

To press non-economic values into the framework of the economic calculus, economists use the method of cost/benefit analysis. This is generally thought to be an enlightened and progressive development, as it is at least an attempt to take account of costs and benefits which might otherwise be disregarded al- together. In fact, however, it is a procedure by which the higher is reduced to the level of the lower and the priceless is given a price, It can therefore never serve to clarify the situation and lead to an enlightened decision. All it can do is lead to self-deception or the deception of others; for to undertake to measure the immeasurable is absurd and constitutes but an elaborate method of moving from preconceived notions to foregone conclusions; all one has to do to obtain the desired results is to impute suitable values to the immeasurable costs and benefits. The logical absurdity, however, is not the greatest fault of the undertaking: what is worse, and destructive of civilisation, is the pretence that everything has a price or, in other words, that money is the highest of all values.

Economics operates legitimately and usefully within a 'given' framework which lies altogether outside the economic calculus. We might say that economics does not stand on its own feet, or that it is a 'derived' body of thought - derived from meta- economics. If the economist fails to study meta-economics, or, even worse. If he remains unaware of the fact that there are boundaries to the applicability of the economic calculus, he is likely to fall into a similar kind of error to that of certain medieval theologians who tried to settle questions of physics by means of biblical quotations. Every science is beneficial within its proper limits but becomes evil and destructive as soon as it transgresses them.

The science of economics is 'so prone to usurp the rest' - even more so today than it was 150 years ago, when Edward Copleston pointed to this danger - because it relates to certain very strong drives of human nature, such as envy and greed. All the greater is the duty of its experts, the economists, to understand and clarify its limitations, that is to say, to understand meta-economics.

What, then, is meta-economics? As economics deals with man in his environment, we may expect that meta-economics consists of two parts - one dealing with man and the other dealing with the environment. In other words, We may expect that economics must derive its aims and objectives from a study of man, and that it must derive at least a large part of ifs methodology from a study of nature.

In the next chapter, I shall attempt to show how the conclusions and prescriptions of economics change as the underlying picture of man and his purpose on earth changes. In this chapter, I confine myself to a discussion of the second part of meta- economics, i.e. the way in which a vital part of the methodology of economics has to be derived from a study of nature. As I have emphasised already, on the market all goods are treated the same, because the market is essentially an institution for unlimited bar- gain hunting, and this means that it is inherent in the methodology of modern economics, which is so largely market-oriented, to ignore man's dependence on the natural world. Professor E.H. Phelps Brown, in his Presidential Address to the Royal Economic Society on 'The Underdevelopment of Economics', talked about 'the smallness of the contribution that the most conspicuous developments of economics in the last quarter of a century have made to the solution of the most pressing problems of the times', and among these problems he lists 'checking the ad- verse effects on the environment and the quality of life of industrialism, population growth and urbanism',

As a matter of fact, to talk of 'the smallness of the contribution' is to employ an euphemism, as there is no contribution at all; on the contrary, it would not be unfair to say that economics, as currently constituted and practised, acts as a most effective barrier against the understanding of these problems, owing to its addiction to purely quantitative analysis and its timorous refusal to look into the real nature of things.

Economics deals with a virtually limitless variety of goods and services, produced and consumed by an equally limitless variety of people. It would

obviously be impossible to develop any economic theory at all, unless one were prepared to disregard a vast array of qualitative distinctions. But it should be just as obvious that the total suppression of qualitative distinctions, while it makes theorising easy, at the same time makes it totally sterile. Most of the 'conspicuous developments of economics in the last quarter of a century' (referred to by Professor Phelps Brown) are in the direction of quantification, at the expense of the understanding of qualitative differences. Indeed, one might say that economics has become increasingly intolerant of the latter, be cause they do not fit into its method and make demands on the practical understanding and the power of insight of economists, which they are unwilling or unable to fulfil. For example, having established by his purely quantitative methods that the gross National Product of a country has risen by, say, five per cent, the economist-turned-econometrician is unwilling, and generally unable, to face the question of whether this is to be taken as a good thing or a bad thing. He would lose all his certainties if he even entertained such a question: growth of GNP must be a good thing, irrespective of what has grown and who, if anyone, has benefited. The idea that there could be pathological growth, unhealthy growth. disruptive or destructive growth is to him a perverse idea which must not be allowed to surface. A small minority of economists is at present beginning to question how much further 'growth' will be possible, since infinite growth in a finite environment is an obvious impossibility: but even they cannot get away from the purely quantitative growth concept, Instead of insisting on the primacy of qualitative distinctions, they simply substitute non-growth for growth, that is to say, one emptiness for another.

It is of course true that quality is much more difficult to 'handle' than quantity, just as the exercise of judgment is a higher function than the ability to count and calculate. Quantitative differences can be more easily grasped and certainly more essay defined than qualitative differences: their concreteness is beguiling and gives them the appearance of scientific precision, even when this precision has been purchased by the suppression of Vital differences of quality. The great majority of economists are still pursuing the absurd ideal of making their 'science' as scientific and precise as physics. as if there were no qualitative difference between mindless atoms and men made in the image of God.

The main subject matter of economics is 'goods'. Economists make some rudimentary distinctions between categories of goods from the point of view of *the purchaser,* such as the distinction between consumers' goods and

producers' goods; but there is virtually no attempt to take cognisance of what such goods actually are; for instance, whether they are man-made or Godgiven, whether they are freely reproducible or not. Once any goods, whatever their meta-economic character, have appeared on the market, they are treated the same, as objects for sale, and economics is primarily concerned with theorising on the bargain hunting activities of the purchaser.

It is a fact, however, that there are fundamental and vital differences between various categories of 'goods' which cannot be disregarded without losing touch with reality.

There could hardly be a more important distinction, to start with. than that between primary and secondary goods, because the latter presuppose the availability of the former. An expansion of man's ability to bring forth secondary products is useless unless preceded by an expansion of his ability to win primary products from the earth. for man is not a producer but only a converter, and for every job of conversion he needs primary products. In particular, his power to convert depends on primary energy, which immediately points to the need for a vital distinction within the field of primary goods, that between non-renewable and renewable. As far as secondary goods are concerned, there is an obvious and basic distinction between manufactures and services. We thus arrive at a minimum of four categories, each of which is essentially different from each of the three others.

The market knows nothing of these distinctions. It provides a price tag for all goods and thereby enables us to pretend that they are all of equal significance. Five pounds' worth of oil (category 1) equals five pounds' worth of wheat (category 2), which equals five pounds' worth of shoes (category 3) or Eve pounds' worth of hotel accommodation (category 4). The sole criterion to determine the relative importance of these different goods is the rate of profit that can be obtained by providing them. If categories 3 and 4 yield higher profits than categories 1 and 2, this is taken as a 'signal' that it is 'rational' to put additional resources into the former and withdraw resources from the latter.

I am not here concerned with discussing the reliability or rationality of the market mechanism, of what economists call the 'invisible hand'. This has endlessly been discussed, but invariably without attention to the baric *incommensurability* of the four categories detailed above. It has remained

unnoticed, for instance - or if not unnoticed, it has never been taken seriously in the formulation of economic theory - that the concept of 'cost' is essentially different as between renewable and non-renewable goods, as also between manufactures and services. In fact, without going into any further details, it can be said that economics, as currently constituted, fully applies only to manufactures (category 3), but it is being applied without discrimination to all goods and services, because an appreciation of the essential, qualitative differences between the four categories is entirely lacking.

These differences may be called meta-economic, inasmuch as they have to be recognised before economic analysis begins. Even more important is the recognition of the existence of 'goods' which never appear on the market, because they cannot be, or have not been, privately appropriated, but are nonetheless an essential precondition of all human activity, such as air, water, the soil, and in fact the whole framework of living nature.

Until fairly recently the economists have felt entitled, with tolerably good reason, to treat the entire framework within which economic activity takes place as given, that is to say. as permanent and indestructible. It was no part of their job and, indeed, of their professional competence, to study the effects of economic activity upon the framework. Since there is now increasing evidence of environmental deterioration, particularly in living nature, the entire outlook and methodology of economics is being called into question. The study of economics is too narrow and too fragmentary to lead to valid insights, unless complemented and completed by a study of meta-economics.

The trouble about valuing means above ends - which, as confirmed by Keynes, is the attitude of modern economics - is that it destroys man's freedom and power to choose the ends he really favours; the development of means, as it were, dictates the choice of ends. Obvious examples are the pursuit of supersonic transport speeds and the immense efforts made to land men on the moon. The conception of these aims was not the result of any insight into real human needs and aspirations, which technology is meant to serve, but solely of the fact that the necessary technical means appeared to be available.

As we have seen, economics is a 'derived' science which accepts instructions from what I call meta-economics. As the instructions are

changed, so changes the content of economics. In the following chapter, we shall explore what economic laws and what definitions of the concepts 'economic' and 'uneconomic' result, when the meta-economic basis of western materialism is abandoned and the teaching of Buddhism is put in its place. The choice of Buddhism for this purpose is purely incidental; the teachings of Christianity, Islam, or Judaism could have been used just as well as those of any other of the great Eastern traditions.

Four

Buddhist Economics

'Right Livelihood' is one of the requirements of the Buddha's Noble Eightfold Path. It is clear, therefore, that there must be such a thing as Buddhist economics.

Buddhist countries have often stated that they wish to remain faithful to their heritage. So Burma: 'The New Burma sea no conflict between religious values and economic progress. Spiritual health and material wellbeing are not enemies: they are natural allies.'' Or: 'We can blend successfully the religious and spiritual values of our heritage with the benefits of modern technology.'' Or: 'We Burmese have a sacred duty to conform both our dreams and our acts to our faith. This we shall ever do.'"

All the same, such countries invariably assume that they can model their economic development plans in accordance with modern economics, and they call upon modern economists from so-called advanced countries to advise them, to formulate the policies to be pursued, and to construct the grand design for development, the Five-Year Plan or whatever it may be called. No one seems to think that a Buddhist way of life would call for Buddhist economics, just as the modern materialist way of life has brought forth modern economics.

Economists themselves, like most specialists, normally suffer from a kind of metaphysical blindness, assuming that theirs is a science of absolute and invariable truths, without any presuppositions. Some go as far as to claim that economic laws are as free from 'metaphysics' or 'values' as the law of gravitation. We need not, however, get involved in arguments of

methodology. Instead, let us take some fundamentals and see what they look like when viewed by a modern economist and a Buddhist economist.

There is universal agreement that a fundamental source of wealth is human labour. Now, the modern economist has been brought up to consider 'labour' or work as little more than a necessary evil. From the point of view of the employer, it is in any case simply an item of cost, to be reduced to a minimum if it cannot be eliminated altogether, say, by automation. From the point of view of the workman, it is a 'disutility'; to work is to make a sacrifice of one's leisure and comfort, and wages are a kind of compensation for the sacrifice. Hence the ideal from the point of view of the employer is to have output without employees, and the ideal from the point of view of the employee is to have income without employment.

The consequences of these attitudes both in theory and in practice are, of course, extremely far-reaching. If the ideal with regard to work is to get rid of it, every method that 'reduces the work load' is a good thing. The most potent method, short of automation, is the so-called 'division of labour' and the classical example is the pin factory eulogised in Adam Smith's Wealth of Nations.' Here it is not a matter of ordinary specialisation, which mankind has practised from time immemorial, but of dividing up every complete process of production into minute parts, so that the final product can be produced at great speed without anyone having had to contribute more than a totally insignificant and, in most cases, unskilled movement of his limbs.

The Buddhist point of view takes the function of work to be at least threefold: to give a man a chance to utilise and develop his faculties; to enable him to overcome his egocentredness by joining with other people in a common task; and to bring forth the goods and services needed for a becoming existence. Again, the consequences that flow from this view are endless. To organise work in such a manner that it becomes meaningless, boring, stultifying, or nerve-racking for the worker would be little short of criminal: it would indicate a greater concern with goods than with people, an evil lack of compassion and a soul-destroying degree of attachment to the most primitive side of this worldly existence. Equally, to strive for leisure as an alternative to work would be considered a complete misunderstanding of one of the basic truths of human existence, namely that work and leisure are complementary parts of the same living process and cannot be separated without destroying the joy of work and the bliss of leisure.

From the Buddhist point of view, there are therefore two types of mechanisation which must be clearly distinguished: one that enhances a man's skill and power and one that turns the work of man over to a mechanical slave, leaving man in a position of having to serve the slave. How to tell the one from the other? 'The craftsman himself.' says Ananda Coomaraswamy, a man equally competent to talk about the modem west as the ancient east, 'can always, if allowed to, draw the delicate distinction between the machine and the tool. The carpet loom is a tool, a contrivance for holding warp threads at a stretch for the pile to be woven round them by the craftsmen's fingers; but the power loom is a machine, and its significance as a destroyer of culture lies in the fact that it does the essentially human part of the work.'" It is clear, therefore. that Buddhist economics must be very different from the economics of modem materialism, since the Buddhist sees the essence of civilisation not in a multiplication of wants but in the purification of human character. Character, at the same time, is formed primarily by a man's work. And work, properly conducted in conditions of human dignity and freedom, blesses those who do it and equally their products. The Indian philosopher and economist J. C. Kumarappa sums the matter up as follows:

'If the nature of the work is properly appreciated and applied, it will stand in the same relation to the higher faculties as food is to the physical body. It nourishes and enlivens the higher man and urges him to produce the best he is capable of. It directs his free will along the proper course and disciplines the animal in him into progressive channels. It furnishes an excellent background for man to display his scale of values and develop his personality.-"

If a man has no chance of obtaining work he is in a desperate position, not simply because he lacks an income but because he lacks this nourishing and enlivening factor of disciplined work which nothing can replace. A modern economist may engage in highly sophisticated calculations on whether full employment 'pays' or whether it might be more 'economic' to run an economy at less than full employment so as to ensure a greater mobility of labour, a better stability of wages, and so forth, His fundamental criterion of success is simply the total quantity of goods produced during a given period of time. 'If the marginal urgency of goods is low,' says Professor Galbraith in *The Affluent Society,* 'then so is the urgency of employing the last man or the last million men in the labour force." And again: 'lf ... we can afford some unemployment in the interest of stability - a proposition, incidentally, of

impeccably conservative antecedents - then we can afford to give those who are unemployed the goods that enable them to sustain their accustomed standard of living.'

From a Buddhist point of view, this is standing the truth on its head by considering goods as more important than people and consumption as more important than creative activity. It means shifting the emphasis from the worker to the product of work, that is, from the human to the sub-human, a surrender to the forces of evil. The very start of Buddhist economic planning would be a planning for full employment, and the primary purpose of this would in fact be employment for everyone who needs an 'outside' job: it would not be the maximisation of employment nor the maximisation of production. Women, on the whole, do not need an 'outside' job, and the large-scale -employment of women in offices or factories would be considered a sign of serious economic failure. In particular, to let mothers of young children work in factories while the children run wild would be as uneconomic in the eyes of a Buddhist economist as the employment of a skilled worker as a soldier in the eyes of a modern economist,

While the materialist is mainly interested in goods, the Buddhist is mainly interested in liberation. But Buddhism is 'The Middle Way' and therefore in no way antagonistic to physical well-being. It is not wealth that stands in the way of liberation but the attachment to wealth; not the enjoyment of pleasurable things but the craving for them. The keynote of Buddhist economics, therefore, is simplicity and non-violence. From an economist's point of view, the marvel of the Buddhist way of life is the utter rationality of its pattern - amazingly small means leading to extraordinarily satisfactory results.

For the modern economist this is very difficult to understand. He is used to measuring the 'standard of living' by the amount of annual consumption, assuming all the time that a man who consumes more is 'better off' than a man who consumes less. A Buddhist economist would consider this approach excessively irrational: since consumption is merely a means to human well-being the aim should be to obtain the maximum of well-being with the minimum of consumption. Thus, if the purpose of clothing is a certain amount of temperature comfort and an attractive appearance, the task is to attain this purpose with the smallest possible effort, that is, with the smallest annual destruction of cloth and with the help of designs that involve the smallest possible input of toil. The less toil there is, the more time and