Decades of steadily increasing economic prosperity have provided the populations of the Western industrial nations with a level of affluence that is unprecedented in its breadth. The material independence which has emerged with this development has laid bare the actual economic process itself - its goals, its methods and its effects.

The outcome has been a change by degrees, to be observed in many of these countries, in the values and attitudes which underly economic activity. Growth and the gross national product (GNP) in particular, long the unchallenged yardsticks of a nation's health, have become the object of contemplation and scrutiny.

More and more people are calling into question the very concept of economic growth. They want to know where it leads to if a society sets such great store by a steadily expanding GNP. What is more, they make the focus on growth responsible for the most diverse negative developments - ranging from the loss of traditional values to the problems besetting the environment.

Yet sweeping judgements are no help at all. In view of the manifold problems weighing ever more heavily upon us and on the generations to come, we must become involved in this debate ourselves; we must conduct it rationally and with arguments that lend themselves to a sober appraisal. The discussion forms part of the essential intellectual dispute on both the economic and the ecological bases for human existence in the present and in the future.
For the statistician, economic growth is the long-term increase in GNP, i.e. of the value of all the goods and services produced over a given period by domestic economic entities - companies, the state and private households.

It is debatable to what extent changes in GNP permit us to draw conclusions about changes in wealth and economic performance. Indeed, on conceptional grounds alone, only a loose connection can be expected between material wealth and GNP. Substantial segments of economic performance are not registered by GNP; in other cases, GNP exaggerates macroeconomic performance.

- GNP exclusively covers market activities (with the exception of the state which is represented in GNP by its costs). Consequently, many activities that increase welfare provision go unrecorded - including work in the home, voluntary and honorary activities, neighbourly help and, last but not least, the increase in (valuable) leisure time.

- GNP statistics similarly fail to register the shadow economy, which is probably advancing at an above-average rate. The economic activities that - for no matter what reason - are beyond the reach of statistical coverage have taken on sizeable proportions. Estimates put the scale of the "underground economy" at as much as 40% of official GNP.

- According to the operative method of computation, activities in the market lift GNP and statistically boost growth even when they are "defensive" in character, i.e. when they serve to avoid or remove the negative consequences of economic activity and thus represent costs. Examples here are the cover provided by liability and casualty insurances or the clearing-up of ecological damage.

- The costs of growth not visible in the market - for instance, in the form of environmental hazards - are not reflected in the computation of GNP.

Over the past few years, a number of attempts have been made to improve and complement the instruments used in national accounts statistics in order to arrive at more useful statements about the wealth effects of economic growth.

One potential, sensible complement to GNP as the yardstick of aggregate output is offered by the "satellite systems", which are currently being worked out in West Germany by the Federal Statistics Office.

This approach seeks to present additional computations for key areas - including work in the household, the shadow economy and the environment. The statistics collected on this basis are to provide information on what economic activities occur in these areas and/or what social costs arise there.

The amounts thus computed give some idea of the extent to which GNP has to be corrected in an upward or downward direction if these areas, whose existence is not noticed in the market itself, are taken into consideration.

However, it is not intended to replace GNP as a gauge of economic performance. After all, in the future too, there will probably be no other means available for measuring - approximately - material wealth, and for doing so without recourse to any more or less arbitrary, and thus contestable, value judgements.
industrial revolution. Our entire mode of production and our way of life have been dominated by this approach.

However, to draw the conclusion from this that growth is only possible at the expense of the environment is quite simply wrong. The experience of the past few years has shown, namely, that economic growth really can be combined with an easing of the ecological burden. This is underlined by the example of West Germany, where for years the pollution of the air by certain toxic substances has been steadily decreasing (see accompanying chart), and successes similar to those scored in this field are emerging in the area of water pollution control.

Primarily, therefore, the relationship between ecological problems and GNP is not a matter of natural-scientific laws. Rather, what is crucial here is the status which a given society accords to the environment - and how quickly and flexibly it can respond to mounting sensitivity towards environmental issues. It is no accident that states organized along market-economy lines have got much farther in terms of environmental protection than have social systems based on central planning and control.

There is no intention here to play down the problems facing environmental policy. But these call for precise diagnosis. The ecological issues besetting us today were not caused by growth as such. The fault lies primarily in an all too unthinking use of the natural resource "environment", which seemed to be available free of charge. This systemic defect must represent the starting point for future action if the "Spaceship Earth" is to be protected effectively from the collapse of its systems and from becoming overloaded with pollution. The goal must be to arouse the elementary self-interest of each individual - no matter whether he is a consumer or a producer - in a responsible treatment of natural resources. To this end, a clearly defined policy framework is necessary which rewards considerate treatment of the environment, puts a price on the use of the latter, and makes polluters responsible for the damage they cause.

**Competition-oriented economic order has neutral effect on growth**

The debate on growth is permeated with many misunderstandings. One of these is reflected in the widespread view that an orientation towards growth is a constituent element of market-economy systems. In reality, however, the core and the secret of the latter's success is to be found at another level - in the economic relationships entered into by responsible individuals in competitive markets.

By contrast, the state - above all by means of a policy framework which preserves competition - has first and foremost to ensure that this mechanism can function. The notion of a market-economy order does not place any onus on the state to see to it that an increase occurs over the long term in society's aggregate output - in other words: that growth takes place. To hold the political sphere responsible for "appropriate growth", namely, is not only at odds with the idea of an economic order that is neutral as regards growth. The state thus also arouses expectations which it ultimately cannot satisfy since it does not have the suitable instruments at its disposal.

**Growth remains desirable...**

While societies based on market-economy principles lack any systematically-induced constraint to produce ever stronger economic performance, they do not have any duty to impose political limitations on growth either. Demands of this kind, not infrequently linked with the claim that a general level of saturation has been reached, reveal at best - and especially in conjunction with the moral imperative to rein in consumption - the illiberal stance of their advocates. For one thing, even modern industrial societies are no land of plenty. The means at their disposal are not even sufficient to cover the existing needs. For another - put very briefly - in a society based on the principle of individual freedom, and within the market-economy order which corresponds to it, the citizens themselves decide as to their needs and wishes, subject only to the limitation that nobody's behaviour shall harm others or society in general. Any further encroachment upon a citizen's autonomy by either the state or third parties violates the freedom of the individual.

...to curb social conflicts...

More detailed scrutiny quickly reveals that, for other considerations as well, political curbs on growth are not a viable option. For if macroeconomic performance is held artificially at a constant level, society becomes a zero-sum game. Anyone who then wishes to put in more effort so as to improve their personal situation can either not do so at all or only at others' expense. Inevitably, paralysing conflicts then develop over the distribution of goods, and the state has to intervene forcibly in the life of the individual and in that of the group. It would be the same for the economy as a whole; the various sectors would be dependent upon each other to an unreasonable extent and the political domains would mutually paralyse one another.
Probably nothing is more difficult to realize in day-to-day politics, in which everyone is out for "more", than the expansion of one political domain at the expense of another. Higher spending on social security, for example, would mean at the same time and automatically: less environmental protection, less investment in other areas or less consumption.

...for environmental protection...

One thing is obvious: tackling the ecological problems is an expensive undertaking. The structural change necessary for truly effective anti-pollution measures - the systematic switch to environmentally safe production methods and products which are sparing in their use of natural resources - almost always requires a greater employment of capital and technological advance. The resources channelled into achieving ecological goals are thus no longer available for other purposes. If the environment is to be protected more efficiently, without other areas suffering as a result, a generally expanding GNP is essential.

...for the labour market...

In addition, growth can ease further adjustment processes in the economy and in society as a whole. This is quite evident in the labour market.

The most recent development underlines the fact that more growth has considerably improved the situation in the labour markets. Over the past few years, a large number of jobs have been created in nearly all the industrial nations. In both Britain and West Germany, for example, over a million more people are employed now than in 1983, and in the United States there are just over 13 million more people with a regular job today than at the start of the eighties. This refutes the above-mentioned claim that unrealistically high growth rates would be needed before any notable effect was registered on unemployment. This claim is even less true because the so-called growth thresholds - i.e. the GNP growth rates which, if exceeded, lead to an increase in employment - are lower when compared with earlier upswings.

The reason for this positive development is to be found in the structure of growth in the industrial nations. Since the start of the seventies, the service industries in these countries, and particularly those closely related to industrial production, have constantly expanded their share of aggregate output. Within the goods-producing sector as well, activities with a service character have become more significant. However, since services are exceptionally labour-intensive, relatively modest growth rates today can create a substantial increase in jobs.

...and for social security

Last but not least, the much expanded social security systems - and above all, the state pension and health insurance schemes with the millions of people they serve - are facing problems which, without economic growth, can in many instances no longer be solved in a manner acceptable to all concerned.

Basically, the disturbing demographic trend over the coming decades, with its ominous social-political consequences, is already mapped out today. It will compel most European states to devote an ever greater share of their national income to those no longer gainfully employed, because the number of pensioners will rise dramatically compared with those in regular employment. In West Germany, for

### Emission of pollutants per unit of real gross domestic product in the Federal Republic of Germany

<table>
<thead>
<tr>
<th>Year</th>
<th>Sulphuric Dioxide</th>
<th>Nitric Oxides</th>
<th>Dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>120</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>1974</td>
<td>120</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>1978</td>
<td>120</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>1982</td>
<td>120</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>1986</td>
<td>120</td>
<td>100</td>
<td>40</td>
</tr>
</tbody>
</table>

Sources: Federal Statistics Office; West German Government's fourth report on protection against immissions, 1988
instance, the ratio for the two groups will have more than doubled by 2030.

The demands made on GNP by those no longer gainfully employed will only be satisfied without causing serious conflicts between the generations if wage and salary earners are still assured an adequate income. Yet this presupposes that the pie to be shared out will go on expanding.

Rules for a growth-oriented policy

Even though growth may not, therefore, be the prime goal of a market-economy system, it remains desirable for a number of good reasons. Consequently, a growth-oriented economic policy is legitimate and sensible. However, it can only be successful if both its potential and its limitations are borne in mind. Here two aspects, which are constantly open to misunderstanding, are of key importance.

1. A growth-oriented policy cannot replace policies dealing with substantive issues. Admittedly, in many areas growth can help alleviate a problem even when the problems do not basically stem from a lack of growth. But in such cases more rapid GNP growth cannot do more than cure the symptoms. A rigorous therapy, by contrast, depends on political attention being focused on the underlying causes of the problems. Part of the solution is to tackle negative developments at the point where they arise.

   This holds especially true for environmental protection, which is increasingly absorbing resources. If a healthier environment is not to be bought at the expense of other areas, more growth is necessary. Yet more growth does not automatically imply a more sparing use of natural resources. Consequently, it is imperative to have an environmental policy which encourages producers and consumers alike to treat natural resources in a responsible manner.

   Whether environmental protection is economically efficient and, on balance, leads to an increase in wealth and a quantitative improvement of the overall situation fundamentally depends on the instruments selected by ecological policy. It is decisive that the political domain creates the right incentives to encourage everyone to avoid causing ecological harm and to opt for environmentally friendly production methods and products. Such incentives are generated by a market-oriented environmental policy, which imposes the "polluter-must-pay" principle and charges for the use of natural resources. This has been demonstrated in practical terms by the West German example of the waste water levy, which can in principle be applied in a variety of other cases.

   Another demonstration that, even when an economy is expanding, sound policies are required for individual areas, which tackle issues in the right place, is the labour market. Unemployment is above all a consequence of ill-organized labour markets and these structural deficiencies cannot be compensated for by more growth either.

   The connection between growth and employment, which has frequently eased the situation in past years, is by no means stable enough to serve as a basis for a solid labour-market policy - neither through the attempt to boost employment by means of higher growth rates, nor through a shortening of the individual time worked with the goal of redistributing the "available" volume of work, such that more people can earn a living for themselves - a plan primarily favoured by the West German trade unions. Each of these notions assumes a mechanical functioning of the aggregate labour market which does not exist in that form.

   Whether the individual work contract is concluded or not is hardly a matter of mathematical differences between the GNP growth rates, the time worked and productivity; the sole decisive issue is whether the overall conditions permit employer-employee relationships that are acceptable for both sides. For this to be the case, a number of preconditions have to be met; these relate to labour legislation as well as to the agreements concluded between employers' organizations and unions, the labour costs created as a result, no less than to companies' earnings expectations. For this reason, the prime concern here is to rectify the structural weakness of the labour markets and correct negative developments where they prevent an increase in employment. This approach should be adopted in the labour-market policy pursued within the future Single European Market. Nothing would be more detrimental to the goal of high employment levels than the attempt - as part of a misguided harmonization - to extend to the entire European Community the restrictive regulations of individual member countries, which curtail the flexibility and adaptability of the labour markets.

2. Growth-oriented policies must above all be based on market-economy principles. Despite all the negative experience, calls for the state to "take some money" in order to stimulate economic growth, and use it to lift demand are still popular in many quarters. The only drawback is that growth-oriented spending programmes
Economie policy arguments

can help get the economy nicely ticking over again at best if demand is fundamentally weak - and only then.

By contrast, sustained growth requires priorities completely different from a policy of short-term expansion. The state can only promote growth in the long run if it restricts its spending to what is necessary and reasonable, and if it ensures that such spending has a solid financial basis.

In a free society, it is then ultimately left up to the people themselves whether growth is actually achieved. Only if they really want to guarantee and increase their own wealth and that of their neighbours will growth occur. It is on this basis alone that the willingness arises to rein in consumption for a time in order to channel funds into investment instead - so as to boost research and development, to raise both the level of qualification and the productivity of the workforce, and to create more job openings. Without this readiness, without this urge to put in more effort, growth is not to be had. Political action can do no more than improve the underlying conditions in order to prevent this willingness to invest more effort from being smothered or channelled in the wrong direction. Last but not least, these general conditions decide whether an environmentally friendly structural change is possible or not.

The more economic policy succeeds in creating extensive competition and in ensuring that the markets function, all the more smoothly will it fulfil its basic task of encouraging people to use the available resources in a way that is efficient from the macroeconomic standpoint. Anyone seeking to hold their own in the face of competition must operate efficiently; where competition is missing, however, the wastage of scarce resources becomes the rule - counter to all economic and ecological reason.

Conclusion

■ At root, our economic order is neutral in terms of growth. Nevertheless, growth is desirable as it facilitates the solution of many pressing economic and social-political problems and holds options open.

■ Consequently, growth-oriented policies are legitimate and sensible; yet they do not replace special policies designed to tackle individual problems.

■ Economic growth does not stand in the way of effective protection of the natural bases of life. What is needed, though, is a market-oriented environmental policy which obliges people to treat scarce resources in a responsible manner.

■ Growth cannot be "made", and certainly not by boosting government spending. Growth-oriented policies must in the final analysis restrict themselves to creating the market framework within which the forces of growth generated by the desire to preserve and transmit wealth are set free.

Outlook

Economic and ecological considerations are inseparable. This time-honoured insight was long obscured. Now, in view of the problems generated as a result of this neglect, the once obvious derivation of both words from the common root oikos - the inhabited house - has become evident again. Consequently, the question of growth has regained its significance.

In short: we do not need growth at any price. Yet the limit has to be set by a society that is fully aware of what forms the basis of its existence, which has learned to appreciate individual freedom and personal responsibility, and above all recognizes the task of the individual as a citizen, consumer or producer. If the much-cited change in values is meant seriously, this will be reflected in the nature, scale and quality of growth.

At the same time, this maps out the path and establishes the boundaries for a government-steered growth policy. The latter must organize the underlying conditions for economic growth in such a way that it makes possible competition to achieve the best, most acceptable solution and the human striving for greater wealth becomes compatible with the interest in a healthy environment. Growth opportunities arising under such conditions benefit humanity - the individual as much as society as a whole.