

# THE NEED FOR AN AMBITIOUS INNOVATION OF THE WORLD ORDER

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## 1. What makes the need for a more organized world order so urgent?

There is a wide discrepancy between the intensity with which evil forces shaping our common future—or no-future—are operating and the intensity of the forces needed instead. Designers, producers, and dealers of armaments are more active than ever, Western politicians involved in the preparation of new forms of international cooperation lack the willingness to give up old structures. These politicians, as well as their voters and commentators, are skeptical about any innovation; they lack imagination and instead concentrate on the defence of established structures, especially the nation-state and non-competitive industries. Destructive forces, including the senseless overkill capacity of weaponries, physical and psychological pollution, an increasing adherence to doctrinaire instead of innovating thought, an appalling neglect of the interests of young children by the too easy attitudes of parents with so-called modern ideas, are spreading, often without any other base than some sort of vogue.

Preponderant among the evil forces is the pursuit of *polarization* by the ideologically formulated *geopolitical desires* of a few actual or

prospective superpowers. Such polarization, combined with the present “state of the art” in matters of armament, can only be propagated by stupid or by criminal ideologists. Preponderant among the skeptical and unimaginative politicians are those sticking to national autonomy which is supposed to maintain independence—a non-existing “ideal” in a world of rapidly growing interdependence from which nobody can escape. This rush towards disaster can only be stopped if the constructive programmes available are carried out with the energy shown by today’s “evil forces.” Among other things the situation requires that nobody considers himself an onlooker to the world’s drama, but, on the contrary, that everybody feels involved, as in fact we are, and acts accordingly.

## 2. The World looked at from a management scientific point of view

Since business has been much more successful in overcoming narrow national points of view than have governments, most politicians and the general public, it may be useful to look at the world from a *management scientific* viewpoint. This implies that we try to answer the question, how the activities necessary to provide mankind with the goods and services needed for maximum welfare have to be organized without the *precondition* of the existence of nation-states. In the answer we will find of course that nation-states nevertheless are among the institutions needed, but with a *few tasks less* than they have claimed on accidental historical grounds, tasks which are now threatening human values of a higher order than *nationalist* values (in contra-distinction to *national* values).

As a matter of fact the organization of transnational enterprises (TNEs) has been remarkably successful in avoiding the sort of silly frictions between persons of different nationality, which have almost completely paralyzed an efficient solution of an increasing number of major international problems. If transnational enterprises are able to avoid these frictions in order to solve production and trade problems, governments, whose tasks are often felt to be of a "higher order," should certainly make a considerable effort not only to look critically at, but also to learn from, transnational enterprises. The general intellectual framework needed for efficient performance of large numbers of people is exactly the concern of management science. The overwhelming part of the applications of management science does deal, of course, with business problems, but the approach is equally applicable to more general problems. Put in some more detail, the main problems to be dealt with are what *activities*, to be carried out by what *institutions* with what competences, so as to maximize *world welfare*, that is the balance of positive satisfaction from needs fulfilled and of dissatisfaction connected with the efforts needed for that fulfilment. In the further elaboration an important distinction can be made, namely, the one between qualitative and quantitative aspects of the social order defined by the institutions required and their tasks.

The central question arising in the *qualitative* part of the analysis may be called the question of the *optimal level of decision making* needed for the attainment of optimum welfare. This question may be restated as one of needed *hierarchy trees*, complete with horizontal *cross-connections*

between vertical and hierarchical lines. The complex organizational structure just described is sometimes called a *matrix organizational structure*, which essentially means a two-dimensional organizational structure. We must keep open the possibility that more than two-dimensional structures are needed which we may call *tensor structures*. The concrete elaboration depends, first of all, on the concrete nature of human welfare, as expressed in what socio-economists call a *welfare function*. It specifies the needs of the people as well as the positive or negative value attached to the efforts that have to be made in the processes of production and distribution. Next, the concrete elaboration of the optimum order depends on the nature of these *processes of production and distribution*, described by socio-economists with the aid of what they call production functions.

Thus, if among the human preferences the *need for participation* in decisions plays a significant role, this need will require that many decisions are taken at low hierarchical levels—such as the levels of the person, the family, the shop floor, the enterprise, the municipality and so on. In short, the need for participation will require a good deal of *decentralized decision making*, characterized by small units of production, small geographical political units and so on. We come back to this qualitative aspect in Section 3.

The quantitative aspect of the optimum social order deals with such questions as the volumes of production and consumption of goods and services relevant for the satisfaction of the world's population, their *rates of growth* over time, and the distribution of the efforts of production and the welfare derived from consumption over the world's population. In the socio-economist's lan-

guage, the macro-aspects of these concepts are often referred to as the level and rates of growth of income, total and per capita, and the distribution over geographical areas and social groups. These quantitative aspects will be discussed in more detail in Sections 4, 5 and 6.

### 3. Limits to decentralization; where centralization is crucial

We mentioned the importance of decentralization in decision making for human beings who desire participation in the decisions which affect their present and future welfare. Generally such a desire is one of the basic human features and shows up in the preference for autonomy in many areas of life. This desire also grows with a rising level of education and is stronger in advanced than in “backward” cultures. On the other hand it is less easy to be satisfied in “modern” cultures since these have developed very complicated processes of production and distribution, characterized by technologies not easily understood even by relatively educated individuals. There are *technological* and *natural forces* at work in today’s world which set limits to the social effectiveness of decentralized activities. Examples are not only to be found in some of the most recent phenomena which mankind has to face, such as *pollution*, *over-fishing* or *nuclear energy*. There are also a number of long-standing, natural and technical phenomena which impose limits to human autonomy, such as erosion and *desertification* and the development of *manufacturing industry*. The common element in all these phenomenon is that decisions made by person A, municipality B, or nation C do not only affect the welfare of A, B or C, but also that of outsiders D. If

A’s decision creates pollution which also reaches D’s environment, something tends to go wrong. Similarly, if person A works on the shop floor of a factory and produces parts which D must compose into a more complicated tool, if municipality B cuts a forest and causes erosion to the detriment of D’s welfare, or if nation C prevents D’s products from entering C’s market, outsider D is affected by A’s, B’s or C’s decisions and yet cannot raise his voice: participation is refused to D if we preserve A’s, B’s or C’s autonomy. Already *in the name of democracy*, we must organize processes of decision making in which D participates: that is, decisions made at a higher, more centralized level. On top of that, this centralization may be needed to insure optimum welfare. So the rule of maximum decentralization *does not apply here*. Centralization even *beyond the national level* may be necessary and the optimal social order may require centralization at the *world level*. The criterion, which determines when centralization is part of our optimum decision process, is whether lower level decisions have significant effects on outsiders, or, again in the socio-economist’s language, whether there are *external effects*.

Thus, the management scientific approach to our present world problems teaches us that, dependent on the *objective nature of the problems* we have to solve in order to attain maximum human welfare, decisions can be made at low levels if external effects are virtually absent, but have to be taken sometimes at very high—supranational—levels if important external effects exist.

The crucial question then is to identify the problem groups whose nature is such that decisions at the world level—or as close to the world

level as attainable—are part of the optimal social order. In the RIO report (Tinbergen et al., 1976) ten such problem groups are identified. Space does not permit us to detail why these groups have external effects; they will only be briefly listed here, together with some international institutions which deal with them at present, although not necessarily to a sufficient degree of efficiency, and often to a low degree:

- (i) monetary problems: International Monetary Fund;
- (ii) financing of investment and income redistribution: World Bank Group, Organization of Economic Co-operation and Development, Council for Mutual Economic Assistance;
- (iii) food production and distribution: Food and Agricultural Organization, Organization of Economic Co-operation and Development, Council for Mutual Economic Assistance;
- (iv) industrialization, international trade: United Nations Industrial Development Organization, General Agreement on Tariffs and Trade, United Nations Conference on Trade and Development;
- (v) energy, ores: International Atomic Energy Agency;
- (vi) transfer of technology: various United Nations agencies;
- (vii) transnational enterprises: a centre of information at United Nations headquarters;
- (viii) environmental problems: United Nations Environmental Programme, Organization of Economic Co-operation and Develop-

ment, Council for Mutual Economic Assistance;

- (ix) ocean management problems: United Nations Conference on the law of the seas;
- (x) problems of armaments reduction: United Nations disarmament conference.

The necessity of an order in which a number of important problems have to be dealt with in a centralized way excludes, as a viable order, one where the only power is exerted by some 150 autonomous nation-states and a considerable number of TNEs. No efficient management is possible with such an organizational structure. Some *political superstructure* is needed for the handling of problems with external effects. Within this superstructure a *rule of thumb* for proper management must be applied, namely that an efficient council has a number of members of the order of ten rather than of a hundred. In other words, a council of some ten to fifteen members should be the top executive for world management in each of the fields mentioned, but also in a *coordinating body of the necessary matrix or tensor structure*, that is, with the necessary cross-connections. The ten to fifteen council members should represent an equal number of regions, such as Latin America, the Arabic region, China or Western Europe. The same degree of urgency we see for the solution of the world's most pressing problems (cf. Section 1) applies to the question of integrating Western Europe, not only for the sake of its external problems but even more for the contribution to the solution of today's world problems.

If the communist-ruled regions, such as Eastern Europe (including the Soviet Union) or China, are

not willing to join in such a world superstructure, we must do it without them. It would be far more attractive, of course, if they were to join.

The coordinating body referred to should simultaneously contain experts in each of the ten *subject* areas and this, then, reflects the *matrix structure* previously mentioned. If, on top of that, still other aspects of world society need to be reflected, a tensor structure is called for, as mentioned in Section 2.

#### **4. What geographical differences in welfare will be acceptable around the decade of 2010–2020?**

Let us now turn to some of the most important *quantitative* aspects of the optimal world order some forty years from now. These have been dealt with in a few reports or books; among them the Leontief *et al.* study for the United Nations (1977), the Doubling the World Population study by Linnemann *et al.* (1976), the RIO report (Tinbergen *et al.*, 1976) and the Bariloche Foundation (Herrera *et al.*) report to the Club of Rome. This list is not complete. Perhaps the RIO report has based its views in the clearest way on some explicit attempts to answer this vital question. This does not necessarily imply that these attempts are the most realistic ones for the forty year period. These attempts started from the conviction, expressed in Section 1, that around 2010 to 2020 the world must be a *well-organized community* in order to survive various threats (wars, famines, pollution, shortages of energy, and some vital non-renewable resources). Next the RIO report attempted to view the density or intensity of *information and communication* ties between the

world's peoples in comparison to what they were around 1970. The impression that led the authors of the RIO report is that by the years 2010–2020 the inhabitants of the world will know as much of each other as might the inhabitants of a large country know about their own citizens in 1970. Travel, television and migrant workers are the carriers of this information. Travel by rich tourists demonstrates a high level of living to the poor of Asia and Africa; television acts like movies, although the peoples shown are real, not theatre actors. Migrant workers observe in the most penetrating way the gap between incomes in their home countries and the "host" countries, where the dirtiest, the hardest and the most uncomfortable jobs are left to them. Fascinating examples of these reductions in distance are given by McHale (1969).

This being so, we may conclude tentatively that the *geographical differences in well-being* between the various regions of the world in 2010–20 are comparable with the differences tolerated within well organized countries around 1970. We happen to have some figures about such regional differences for a number of industrialized countries around 1970, and for two of them—the United States and France—a century ago. By geographical income differences we mean income differences for people of comparable status in different geographical areas; not income differences between people in the same town with different occupations. The latter are far larger than the former and their reduction may be of greater importance for people's welfare. We will come back to that question in Section 6.

The ideal method to measure geographical

differences is to collect figures about income for identical occupations in different regions. These are hardly available for the past century; but we have average incomes for the states of the United States and for the "départements" in France. The measure chosen to express the degree of geographical income inequality is called *decile ratio*. It is the ratio of the average income of the upper decile to that of the lowest. Each decile contains ten per cent of the country's population; the upper decile starting with the geographical unit (state or departement) showing the highest income, followed by the one with the next highest income, until 10 per cent of the country's population is included. A similar procedure for the lowest geographical decile starts with the unit showing the lowest average income, and so on. The assumption implied in taking this measure is that the economic structure of the units does not differ too much. The measure is misleading if, for example, the lowest average income units are entirely rural and the highest urban; unfortunately this tendency will exist.

The results obtained have been given elsewhere (Tinbergen, 1978); they can be summarized by the statement that the *geographical decile ratio is well below three* for the USA, Germany (F.R.) and France around 1970, in contradistinction to (i) the USA and France around 1870 and (ii) the European Community of the Six around 1970, where it was also around three.

Consequently, the RIO report considers a desirable goal for the decade 2010–20 to be a *geographical decile ratio for the world at large of 3*; for 1970 it is estimated to be 13, after two corrections in the official income figures given by the

*World Bank Atlas* (Washington D.C., 1973), described in Tinbergen (1976).

To reduce the *geographical decile ratio from 13 to 3 in forty years is a very ambitious goal*. Recognizing this, the RIO report also shows projections in which a reduction from 13 to 6 is taken as the target. Leontief's Scenario X attains a comparable figure of 7 in the year 2000. This scenario also appears to be ambitious in that it implies that developing countries as a group have to invest some 30 to 40 per cent of their income (both taken gross).

One conclusion imposes itself: the quantitative aspect of the world's "problématique" is frightening; and the strength of the "forces needed" in international politics (as indicated in the first sentence of this essay) is completely out of line with this statement. Whatever the latter's value or credibility, it is at least provocative! If better figures can be derived in a different way, let these be formulated.

##### **5. The feasibility of a five per cent annual growth in per capita income as an average over countries over the forty-year period.**

Development of the developing countries over a forty-year period is not only determined by the target discussed in Section 4, namely the reduction of the geographic decile ratio from 13 to 3 or 6. More important determinants will be discussed in Section 6. Within rather wide limits, the RIO report comes to the conclusion, however, that the average rate of growth of *per capita* income of all developing countries over the whole forty-year period must be about five per cent per annum. This is just another way of saying that an ambitious

target has to be fulfilled. How ambitious? That we are now going to discuss.

Our argument is that the figure is less ambitious than it seems to be, although it is a high figure in comparison to what has been reached so far. Some of the exceptions to the low figure may help to find the ways and means to attain the five per cent. First, there is the category of the *oil countries*, before as well as after the oil price increase of 1973. Before 1973 some of them, for instance Libya, already showed a very high rate of growth. The price rise of 1973 made all oil exporting countries exceptions. They would seem to illustrate that the discovery of some *new resource* or the increased *scarcity* of others—natural as well as organized scarcity—are among the factors which make for a better performance. An appropriate *population policy*, if adopted within the next decade, may create a relative scarcity of manpower, which would be a step in the right direction. Mrs. Ghandi's somewhat abrupt action in this field presents an example of what is possible.

Another set of exceptions to the rule of slow growth are the well-known examples of South Korea, Singapore, Taiwan and Brazil. In an earlier half century Japan was an example, with which the Korean and the Taiwanese examples have some relationship. It must be admitted that Taiwan is a special case since its population contains a disproportional number of enterprising refugees from the mainland. Korea and Taiwan were an exception in that they received *financial assistance* of some seven per cent of their national income over a *prolonged period*. Although dependent on a better financial assistance policy of the developed countries, this exception may be made a rule. The

Brazilian case constitutes an example of forceful, capitalist policy. For Asian agriculture, Myrdal (1968) makes just that recommendation.

That brings us to a third example of quick growth, namely *communist* rule, especially in Eastern Europe. This is an alternative to Brazil, and one that may develop with some automatism *if the policies of the middle-of-the-road are kept so unambitious*—both in the developing and in the developed countries, the latter as their real “partners” in the sense of the Pearson report (Pearson et al., 1969).

In fact this is a crucial question to the more tolerant countries: do we have to admit that tolerance and high performance are incompatible, or, in other words, that the Western type of society cannot mobilize the forces needed to survive? Is this “*testimonium paupertatis*”—a test of *lack of imagination*—the end of our type of society, the American “liberal” or the European democratic socialist type? I refuse to believe that, but their performance in international co-operation and integration is clearly much below what is needed. Among our blunders are our lack of co-operation with the Indian Congress before it turned authoritarian, the lack of co-operation with Arab socialism of various types or with Latin American democrats in the fifties and the early sixties—we were too inward looking.

My conclusion tends to be that a “great coalition”—notwithstanding the negative connotations the word has for many of us—of all tolerant progressive forces from North American liberals (and radicals, maybe—cf. Bowles and Gintis, 1976), via Western European socialists (and perhaps “Eurocommunists”) with Latin American

democrats, Arab socialists and the innovated Indian Congress—if that can be innovated—is the “movement” that can make the world a better place to live, with the five per cent as its goal.

#### 6. The need for slower material growth in the rich countries.

There are some *limits* to the world's *material growth*. They are related to the Meadow's “limits”, although we may escape some of these limitations. For the time being, the *food limit*, as shown by the Linnemann report, is the most visible and urgent one. The nature of the food limit is socio-political, however, rather than physical or biological; at least so it seems to us today. It is also *psychological* in the sense that the rich countries have become *too materialist*. The better distribution of welfare still needed in the rich countries does require some further growth; and so do the *partnership obligations* the rich countries have to fulfill vis-a-vis the developing world. Slower material growth of the developed nations as a whole implies a reduction in real income of the highest-income groups, especially the intellectual and managerial *elites* (cf. Tinbergen, 1977). This reduction can be attained with the aid of market forces: a relative increase in the supply of intellectuals and managers in comparison to the demand of them is likely to continue.

Slower growth in material welfare will have to be compensated for, at least partly, by increased non-material welfare, for instance more satisfaction from work and education and improved quality of products.

The distribution of growth in the next forty years over *time* and over *developed* and *developing* countries should be co-ordinated. In the early

part of the period, the rate of growth of developed countries should be raised as a means to further the growth of developing countries. Step by step, however, the dependence of the developing economies upon developed nations should be loosened. One way of attaining this lower degree of dependence is the expansion of the production of *capital goods* in countries such as India, Brazil, Venezuela and others. This will enable developing countries to buy these goods without having to earn the amounts needed from exports to developed countries. At the same time raw material producing countries will *process a larger part of their raw materials* to earn more from exports to developed countries, even if the latter reduce their growth. In the latter phases of the forty-year period, the rates of growth in the developed countries should be falling and those of the developing countries rising. The figure of five per cent growth per annum by the latter is conceived as an average over the forty-year period, as set out in Section 5.

Many economists believe that *slow growth* is an *impossible requirement*. They fear that some of the essential prime movers of an economy will tend to be weakened if a low rate of growth is adopted as a political goal. I do not share this vision. Theoretical arguments to the contrary are that, whatever an economy's rate of growth, it remains a community of *continually changing generations*. Older people are retiring and younger generations have to take their places. This implies the maintenance of *incentives* for the younger. Slow material growth does not prevent competition between *qualities* of various products, both between and within product groups.



An empirical test of these theoretical arguments seems to support the latter. Such a test is also given in Tinbergen (1978), where an attempt is made to estimate the impact of the rate of growth of per capita income on the level of efficiency of developed countries, including as other independent variables physical capital per capita and the level of education. While the latter two independent variables show highly significant regression coefficients, the regression coefficient of the rate of growth is not significantly different from zero. The measure of efficiency (the dependent variable) chosen is income per capita.

We did agree (cf. Section 4) also in favour of a reduction of income inequality *within* countries, in the sense of smaller differences in incomes between people with different occupations. These differences are too large to be satisfactory to a clear majority in most, if not all, countries. The subject is not included in this essay, since it constitutes a problem outside the range of subjects listed in Section 3. It might have been included, however, since countries with a more equal distribution of personal income do experience some external effects from countries with a more unequal personal income distribution: high-income people may try to emigrate from the former to the latter, sometimes to avoid taxes, sometimes to profit from a labor market situation more favourable to them.

Let us finish this essay by a brief *summary*.

We see an urgent need for innovation in the international socio-economic order. We base this view on the technical and natural forces which have made the world much more interdependent. This is not only true for some novel phenomena such as environmental pollution and the levels of

production of all sorts of goods needed for a growing population or required by the relatively well-to-do who produce with the aid of technologies not known before. The increased interdependence is also due to phenomena with which we have long been familiar, but whose expansion has created increased interdependence, such as the demand for food, energy and raw materials in short supply. This increased interdependence requires a management scientific approach. This approach has qualitative and quantitative aspects. Among the qualitative aspects, the questions of optimal decision levels and the size and structure of executive boards are pertinent. Decision levels must be as low as possible, but high enough to avoid external effects which are undemocratic. Boards must be of a manageable size and co-ordinating cross-connections require a matrix or even a tensor structure (more than two-dimensional cross-connections). Quantitative aspects require a distribution of growth over the various parts of the world such that political stability can be attained. It is possible that forty years from now information and communication will have spread to such a degree that only drastic reductions in geographical income differences can "keep the world together". Some very tentative estimates have been made of the required growth rates; constructive criticism is invited.

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