Sustainable Humanity, Sustainable Nature: Our Responsibility
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The Influence of Virtuous Human Life in Sustaining Nature[1*]

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1. Introduction and motivation

"Can philosophical ethics still offer a way out of the ecological crisis?" – the German philosopher P. Kampits asked himself in 1978. Up to the present time environmental ethics, in their various forms (ecological, utilitarian, Rawlsian, the ethics of rights), have demonstrated with mixed results how and why humanity's relationship with the environment may reasonably be held to be also a moral problem, a problem that implies a redefinition or extension of the concepts of duty and responsibility, and an alteration in the very image humanity has of itself and its relationship with nature. Effective in dismantling the barrier of indifference that until now mankind has placed between itself and nature, and breaking through the limitations of a claustrophobic anthropocentricity deaf to the problems of environmental integrity, environmental ethics remain impotent over establishing adequate criteria to choose an order of priorities for concrete issues.[1] Indeed, if the ethical perspective does not manage to affect the foundations of scientific economic thinking, not much can be expected of it. It is not hard to see why. For good or ill, for at least a couple of centuries, it is economic thought – with its double function of representation of reality, and provision of models of intervention to change that reality – that directs the choices of the various economic actors, and that guides decision-making in politics.

It must be recognized that the ecological problem is first of all a problem of public *ethos*, hard to solve without bringing into dispute certain ways of organizing society, without questioning ourselves on the ways we live together and on the values held in civil society. In this precise sense, we should realize at once that economic theory is still quite inadequate to fully deal with questions like the environment. At the heart of this inadequacy lies the formalistic conception, that is still prevalent in economic discourse, with its claim to be able to solve every conflict and controversy by separating

[1] For a historical excursus into ethical thinking on environmental matters, and for a convincing defence of the thesis that the environment has to be included in the realm of ethics as such and not just insofar as it is a system of resources for humanity, see C. Vigna (2001).

form and content and putting itself forward to seek laws and institutions that are "neutral", i.e. that do not presuppose any adherence to values or cultural assumptions, and are thus acceptable to all actors independently of the historical context in which they are operating.

But formalism is not just this. It is also the idea that a society can find its cohesion and identity in efficient "rules of the game", concerning the spheres of both income distribution and the formation of collective choices. One of the false necessities a certain tradition of thought has got us accustomed to is to see the terms describing independence and belonging, efficiency and justice, self-interest and solidarity, as alternatives: a strengthening of the sense of belonging is seen as a reduction of the subject's independence; progress in efficiency is seen as a threat to justice; improvements in the individual's interest as an enfeebling of solidarity. These antinomies have to be eliminated, because they are false. While need, equality, efficiency and entitlement may arguably be described as competing criteria during the Industrial age, these have become necessary conditions for each other in the post-industrial era. In the new regime in which human capital has become the source of value and wealth creation, need satisfaction, distributive justice, efficiency and entitlement turn out to be complementary elements of a necessary comprehensive approach to sustainability.

It is remarkable, but not to be wondered at, that it is precisely the subject of sustainable development that today forces the economist to rediscover the centrality of values in his/her scientific work. Which, it should be carefully noted, is never just a mere instrument to help us know reality, for if it is true, as I believe it is, that our beliefs concerning human nature contribute to the formation of human nature itself, and if it is likewise true that what we think of ourselves and our possibilities helps to determine what we aspire to become, then our economic theories on human behaviour lead to changes in the ways we behave, and hence contribute to a greater or lesser extent to modify reality itself. The recent work by Dasgupta (2012) proceeds in such a direction. I find the following statement remarkable: "Economic evaluation requires data, to be sure, but it also requires a conception of the good. More tellingly, without a conception of the good we wouldn't know what data we should seek to study" (p. 5).

In what follows, I shall first be examining the way in which economics "discovers" the environment question. I shall then discuss the link between intergenerational fairness and sustainable development, with the intention of showing how the lack of a holistic approach to environmental matters explains the systematic alternation of the official positions so far taken, which has certainly not helped the birth, over the last three decades, of an

adequate critical consciousness. Finally, I shall try to defend the thesis that the struggle against poverty and for sustainable development are two sides of the same coin. Which is to imply that the projects and strategies of intervention based on the separation between poverty and environmental quality are doomed to fail. The essay closes with a proposal to set up a World Organization for the Environment, an agency deemed necessary to overcome the limits of unilateral measures as well as the objective difficulties of putting international treaties into practice.

2. Economics "discovers" the environment

Right from its beginnings as an independent scientific discipline, economics has focused on two central questions: how the social product is formed, and how it is distributed. The most important problems discussed by economics as a science over the last two centuries all lead, directly or indirectly, back to these two central themes. The new phase of economic development, concerning the transition from industrial to post-industrial society, has led to the gradual emergence of new, more urgent and decisive problems. Among these, the one most macroscopically obvious today involves the ecological limitations that weigh on the process of production, which was able to advance until some decades ago in a way substantially free from constraints. Nature was never actually presented as an absolute limitation: the scarcity of resources was of course a factor influencing the forms and rhythms of development, but the economic system, through its own mechanisms, managed to overcome the scarcity (of fertile lands, of certain minerals etc.), thanks to an intense flow of technological innovations that removed the bonds of scarcity via productivity increases. For this reason, looking back to the process of industrialization, one almost has the impression of a dizzy growth towards unlimited plenty, as if nature was not hostile and niggardly, as the ancients thought.

The contemporary picture is completely altered. Industrial growth involves "external" effects on the environment that if held to be negligible at the beginnings of the process (and economists almost completely did neglect them), later showed to be devastating in their development: some indispensable natural resources such as air and water have been degraded to an extent that has led to fears that the equilibrium of the biosphere itself may turn out to have been definitively altered by irreversible processes. We only have to think of the greenhouse effect, the gaps in the ozone layer, the effects on climate of the disappearance of the rain forests, the regulation of the chemical composition of the atmosphere, the fixation of solar energy and the conversion of raw materials: the great services the ecosystems provides, continuously, for the normal functioning of natural systems, are today at risk.

It is not just a question of decreasing returns, as some people insist on thinking. Without a more rigorous control of the effects of pollution caused by the economic system overall, the human race will risk extinction. Starting from the second half of the twentieth century, humanity's capacity for destruction has become a "biocide" phenomenon in the sense that for the first time, humanity sees itself as able to bend nature to its own ends, able not just to control it but to manipulate it. The moment has arrived to recognize that an ever-increasing production of goods and services is incompatible (*given* the known productive techniques, the present organization of the economy and the rate of increase of the population) with the safeguarding of the natural and urban environment. Above all, the moment has arrived to recognize that when humanity modifies the environment too rapidly (for example transforming the seas of oil from the earth's crust into gas in the atmosphere) it creates a situation in which the speed of these changes is superior to the speed of its own adaptation to them.

We should be asking ourselves whether the challenge of ecology does not only direct us, today, towards a politics of restructuring of the present methods of production, but above all towards finding new categories of thinking for a discipline – economics – which for too long has been extraneous to this problematic field. Indeed, when public opinion began to be aware of the environmental question at the beginning of the sixties – the influence of Rachel Carson's *Silent Spring*, published in 1962, will certainly be remembered – the economists felt they were able to face up to the problem by using their own specific ways of thinking. However, the more influential subjects for the formation of public opinion were not quite up to focusing adequately on this, and hence passed on the idea that economics was synonymous with pollution, and the destruction of nature. Economics and ecology were thus seen as alternatives, as opposite poles, despite the fact that the common root of the two words links respectively government (the economy) and knowledge (ecology) of what happens in an *oikos*, i.e. in a "house", in a territory. Yet, since the good management of anything has to be based on knowledge, the conflict between the two disciplines conceptually should not be possible.

What are the reasons for misunderstandings of this kind? In my opinion, the most significant one is that when the economists believed (starting from the end of the sixties of last century) they should be getting involved in ecological problems, they thought they could make use of the instruments of analysis specifically designed for the branch of the discipline known as public economics, in its turn born of the merging of the older welfare economics and the younger theory of social choice. What is there, the econo-

mists thought, at the bottom of the environmental issue? There is that, beyond the great variety of individual cases, resources are involved (land, air, water, species of animals, forests) that have some basic characteristics in common, whatever unit of measurement is applied to them. To be precise, these are resources that: 1) can be regenerated naturally; 2) are often common property; 3) their over-use can lead to irreversible damage, in the sense of their total exhaustion; 4) the existing stocks of these resources, and not only their flows, directly influence people's well-being; 5) the impact of economic activities on these resources is often cumulative and can be seen only after a certain stretch of time; 6) the environmental consequences of economic activities are basically uncertain ("hard" uncertainty in the sense that environmental uncertainty cannot be dealt with by using the tools of the familiar theory of probability).

Now, the treatment at an analytical level of the problems in which resources of this kind appear, could be carried out – the economist thought – by starting from the two central notions of public economics: externality and public good. The economist could thus conclude that the much deprecated damage to the environment caused by economic activities was in the final analysis to be imputed to a typical "market failure", i.e. to the fact that in the presence of environmental resources market mechanism no longer guarantees, on its own, the achievement of that result of allocative efficiency that, from Adam Smith onwards, had been considered its most important virtue. Whence the recommendation to intervene to remedy the need, through a suitable system of taxes and subsidies, as C. Pigou (the inventor of welfare economics) had already suggested (see P. Dasgupta's contribution to this volume).

Until recent times, economic theory has developed two main lines of research to deal with the environmental question. The first one aims at devising allocative mechanisms which are both not manipulable and efficient. According to this line, environmental goods are treated as factors of production. The advantage of such an approach is that an externality, e.g. pollution, is merely an unaccounted-for consumption of a scarce good. This means that those inflicting an externality on others are consuming society's resources without redistributing the therewith-connected rent. As long as the good is scarce, hence depletable, its consumption should be accounted for. The fact that it is not accounted for implies a sub optional situation. This view of the problem of pollution is reminiscent of Frank Knight's statement in his article "Some fallacies in the interpretation of social cost" (1924) that reads: "The point is that any opportunity, whether or not it represents a previous investment of any sort, is a productive factor if there is

sufficient demand for its use to carry into the stage of diminishing returns the application to it of transferable investment" (p. 23).

Is the Pigouvian proposal a satisfactory remedy to the problem of international externalities? Not at all, since Pigouvian taxes have never appealed to politicians or the general public. Let's understand why. Robert Hahn (1989), for one, provided an interesting explanation based on the recognition of the fact that "the theoretical structure underlying environmental economics … often emphasizes elegance at the expense of realism" (p. 95). A careful examination of the emission charge and marketable permits schemes reveals that they are rarely, if ever, introduced in their textbook form. Virtually all environmental regulatory systems, using charges and marketable permits, rely on the existing permitting system. They are not implemented from scratch; rather they are grafted onto regulatory systems in which permits and standards play a dominant role.

The consequence of these hybrid approaches is that the level of cost savings resulting from implementing charges and marketable permits is generally far below their theoretical potential. Polluters have not been induced to search for a lower cost mix of meeting environmental objectives as a result of implementation of charge schemes. The experience in marketable permits is similar. In other words, in order to function the economist's proposals presuppose both that a competitive set-up actually exists and that it is possible to easily monitor and enforce a system of permits and taxes. Since this is not the case, firms will prefer emission standards to emission taxes because standards result in higher profits. Emission standards serve as a barrier to entry to new firms, thus raising firms' profits. Charges, on the other hand, do not preclude entry by new firms, and also represent an additional cost to firms (see Hintermann, 2013).

The second line of research is concerned with the design of political institutions that are both feasible and efficient. An institution saves on the costs of economic transactions. Therefore, rational agents, in the sense of *homo oeconomicus* rationality, will devise mechanisms in order to overcome the pitfalls of the prisoners' dilemma. Without some regulatory entity, the only alternative would be rent dissipation, leaving temporary gains to the quickest and most inefficient users. If one further assumes that the set-up cost of this entity does not use up all the captured rent – i.e. it is assumed that the "internal" transaction costs of the agency are lower than those of all single agents bargaining among each other – *and* if there is some room for repayments in the form of non-distorting lump-sums, then one can conclude that the existence of an authority raises welfare in the presence of environmental goods.

Well, it is not easy to escape the feeling that we are faced with a sort of "tin-opener" argument: suppose we have the best solution to the problem, then the problem will be solved! The truth of the matter is that it is not enough to have discovered the Pareto-improving character of the institution to be certain that it will come into existence automatically. Ascertaining the conditions for the bringing into existence of such an institution is the key question.

The point I would like to stress is that the conceptualization of the environmental problem in terms of a problem of externalities conceals a serious theoretical gap, briefly summed up as follows: the notion of externality, as the effect of the action of an economic agent on the welfare of other individuals that is not captured by the price system, is not a primitive notion. It depends, in fact, on the definition of economic actor and on the existence of markets. For example, if two companies operate in a way that the one damages the other – the foundry that through its emissions of smoke damages the company nearby – an eventual merging of the two will mean that what were external effects beforehand now becomes a question raised within the same decision-making unit: the externality is internalized, but the pollution is still there!

It follows that we can speak of externalities only after an explanation has been provided for the number of economic actors and markets in existence. And since the number of firms and markets depends on very precise economic factors (non-convexity of production sets; transaction costs; access to information etc.), it turns out that only an analysis of general equilibrium that, starting from market fundamentals, determined endogenously the number of firms and markets, could be a conceptually satisfying way of dealing with the question of externalities. Which it isn't, given that the two conditions that allow us to identify the existence of externality are put forward axiomatically. To give an extreme example, if only one firm existed in the economy, there could be no externality. And yet, if this firm polluted and destroyed non-renewable resources the integrity of the environment would turn out to be damaged just the same. Among other things, this simple consideration allows us to understand why in the countries of the ex-Soviet block, where there was certainly no market economy, the destruction of the environment was not at all inferior to that of western countries. A new and promising approach, within economics, to the sustainability question is that of Arrow and Dasgupta (2010) who develop a theoretical framework for assessing whether economic growth is compatible with sustaining well-being over time.

The conclusion has to be that economic science must, at the level of its very foundations, rethink the relationship between humanity and nature,

leaving behind the idea of a "humanity without constraints" that leads us to believe that any devastation is legitimate, in homage to certain anthropomorphic myths of omnipotence.[2] Rather, what is needed is the recovery of the basic recognition that humanity is part of nature, is internal to it, and has a cognitive exchange with nature, which is its necessary term. The relationship is of being born into it, and also of orderly change, because humanity, as part of nature, changes it: something inevitable and also useful. But this must not mean destruction. Neither extreme anthropocentrism – which visualizes the human being as a predator – nor ecological pantheism – according to which the human species is an element of disturbance for the environment – are the solutions to the present crisis. The ideology of man the predator, according to which knowledge is used only to produce more, and more quickly, should be removed from the cultural horizon of economics.[3] The anthropological foundation of environmental responsibility that the present writer favours is based on the concept that the human being is the only moral subject who has responsibility for mankind, nature and future generations.

3. Intergenerational fairness and sustainable development

I set out from the by now familiar idea of sustainable development – a notion, however, not without its conceptual ambiguities. Whereas sustainability is a term that refers us to the idea of conservation of a particular state of nature, development is a term that implies the transformation into one form or another of that state. It is not without interest to recall that the expression "sustainable development" was originally chosen for reasons of political rhetoric. Today, it would be better to speak of intergenerational solidarity. Leaving aside questions of semantics, what I want to bring out here is that the plurality of meanings attributed to the notion of sustainable development is itself a symptom of a profound sense of unease at the conceptual level.

As is well known, it is in the famous Brundtland Report of 1987 that this notion received what we may call its official formulation: "We mean by sustainable development a development capable of satisfying the needs

[2] See A. Stres, 2000, for an excellent treatment of the specifically cultural roots of environmental questions.

[3] An important line of philosophical and theological thinking on the subjects discussed here is K. Golser, 2001. Referring to St. Bonaventura, Golser argues that the realities of creation were in the first place created for the glory of God and only secondly for humanity's benefit. That is why before being *useful*, these realities are *good*.

of the present without compromising the capacity of the future generations to satisfy their own". But already a few years afterwards, Nobel laureate Robert Solow published an essay (1993) in which he claimed that sustainability is a generic moral obligation of the present generation to future ones. He writes: "Insofar as it is a moral obligation, sustainability is a generic obligation, not a specific one. It is not an obligation to preserve this or that. It is rather the obligation to preserve the welfare capacity of those who come after us" (p. 187). From this it can be deduced that the destruction of natural resources is acceptable insofar as it is compensated for by investments capable of generating other goods or services able to increase welfare. In fact, this position of Solow goes back to 1974, the year in which the American economist, inserting a non-renewable resource into a standard model of inter-temporal growth, fixed a result that would afterwards become a basic reference point for the entire literature on sustainable development: a level of sustainable consumption can be guaranteed, in principle, every time it turns out to be technologically possible to guarantee a sufficient degree of substitutability between natural resource and physical capital.

For other writers, on the other hand, sustainability has to do with the property rights of future generations, an idea rendered by the phrase: "We have not inherited the earth from our parents; we are borrowing it from our children". This emotional phrase is often attributed to Ralph Waldo Emerson, though in actual fact its origin is by no means clear (cf. Keyes, 1992). In any case, this point of view is firmly shared by Howarth (1992) and Norgaard (1992) who, though accepting Solow's idea of sustainability as a question of equity between generations, do not accept its reduction to a problem of substitutability between natural resources and produced goods such as capital goods. They start here from a consideration it is easy to share, that the fact that two goods are perfect substitutes for the present generation does not imply that they are so for future generations also.

Again for other scholars, sustainability would not involve considerations about issues of distribution between generations, but considerably more traditionally, questions of economic efficiency. Starting from the premise that most environmental goods admit two alternative uses – one destructive, according to which the environment is converted into a private good enjoyed by the present generation; and one as a public good, to be used also by future generations – Silvestre (1994) develops a model in which sustainability may be defined only in terms of the allocation of resources between generations. The interesting conclusion of the model is that, if future generations are considered as being part and parcel of present-day society, allocative efficiency requires that environmental resources be maintained in

their state of nature for a rather high number of decades. And all this, ignoring the principle that the living should inherit the earth from their parents, or that they borrow it from their children.

Well, whatever the approach one believes should be adopted, the relevance of sustainability to the wider question of the conflict between generations due to global environmental change will be obvious to everyone. Indeed, if the scarcity of natural resources and environmental degradation did not for one reason or another, constitute a serious threat to the well-being of future generations – as is postulated by the notion of sustainability – economists could happily ignore questions of fairness among generations and concentrate their attention just on problems of efficiency of inter-temporal allocations. The great flowering of scientific publications in the seventies and eighties on the subjects of externalities and, more in general, of the market failures caused by the presence of environmental goods owes its raison d'être precisely to that.

A radical change of perspective can be noticed starting from the end of the eighties, as the awareness spread that environmental problems were global in scale, pervasive in their effects, and above all generators of important consequences for future generations. Global climate change, the reduction of the ozone in the atmosphere, and irreversible damage to bio-diversity, presented features that made the even quite elaborate approaches to sustainability up until that moment useless. This was for the simple reason that the actions of today determine potential costs for future generations that are inherently unforeseeable, given the dynamics and complexity of ecological systems. For example, climate change can jeopardize subsistence agriculture in many areas of the world, just as it may increase the frequency and dangers of tropical storms. Again, the gaps in the ozone layer could noticeably increase the risk of skin cancer after exposure to ultraviolet rays, etc. Faced with perspectives of this kind, it does not make sense to speak of sustainability of development in terms of generic guarantees offered to future generations, so that these can satisfy their needs.

We thus succeed in explaining why, in recent years, it has become obvious that the theoretical apparatus environmental economics had set out with was inadequate to deal with the "new" questions. Not only is Solow's model, and before that Hotelling's famous model of 1931 (according to which competitive markets would be able to induce firms to administer the stocks of non-renewable resources in such a way as to maximize the present value of profits), based on the assumption of perfect foresight. What is worse is that these models, as well as the literature on the so-called optimal growth, do not face up to the question of the institutional mechanisms nec-

essary to realize a sustainable future. What institutions would be able to make private and social discount rates correspond so as to bring about Hotelling's equivalence result? More in general, what policies would be necessary to ensure that a path of sustainable development could be implemented? In addition, it is by now obvious that social and environmental problems are closely inter-linked. To be solved satisfactorily they must be dealt with together; so the assumption of *ceteris paribus* that characterizes the whole of the analysis of partial equilibrium turns out to be of very dubious usefulness (Norgaard, 1993).

This is the context of the ongoing debate on sustainable development today, starting from a different perspective from that of the quite recent past. Some economists continue to believe that sustainability can be adequately talked about while remaining within the apparatus of cost-benefits analysis. For them, the institutions needed to ensure the internalization of environmental externalities, the efficient management of common property resources and the efficient inter-temporal allocation of resources are also sufficient to guarantee the rights of future generations. But a moment of reflection is sufficient to convince us that this is not the proper way to go about thinking of these things.

Cost-benefits analysis is very useful when we need to identify potential Paretian improvements – opportunities to improve the welfare of all without worsening the welfare of anyone. But – as we know – the prices and shadow prices on which the analysis in question is based depend on the initial endowments possessed by each agent. If these are assigned in a markedly distorted way, efficiency by no means guarantees the sustainability of the development – it may even make it worse. The objective of sustainability, in other words, requires a good deal more than improvements in efficiency in the Paretian sense. It requires the carrying out of policies that enable the realization of the transfer of goods and resources from one generation to another. See Dasgupta (2008): caring for future generations is not an altruistic concern only. Improving the position of future generations enhances the future of the present generations too.

Two important consequences derive from this. In the first place, what makes the sustainability objective difficult are not just the familiar market failures, but also and above all the various forms of distributive unfairness. Secondly, the way out cannot derive from cost-benefit analysis, precisely because it possesses the tools for solving problems of efficiency but not of fairness. So the pursuit of an objective like sustainable development also means taking into consideration political and ethical aspects. To put it another way, the horizon of efficiency is not wide enough to contain the

issues raised by sustainability, which is first of all a problem of the definition of the rights of different generations. A proposition of this kind involves quite a weighty problem that has not yet received the attention it deserves. Let me clarify.

The vast literature on the subject under discussion, aside from the differences between individual writers, is founded on a shared theoretical scheme that runs as follows. On the one hand, it is assumed that all individuals are selfish, having self-interested preferences; on the other hand, that questions of fairness between generations are the concern of institutions or collective agents whose task is basically to operate transfers of resources from the present to the future generations. However, a framework of this type contains a paradox: since the social choice function on whose basis decisions at a collective level are taken is rooted in individual preferences, why should the public decision-maker, let us say a government, take responsibility for the welfare of future generations if the individuals (of which that government is the expression, and to which it answers electorally) couldn't care less about it? On the other hand, if the economic actors had solidaristic preferences towards the generations to come, what need would there be for the intervention of a government to carry out transfers of resources to future generations?

As is well known, in economics the traditional way to dissolve paradoxes of this kind is to assume that the members of present and future generations are linked to each other by bonds of a family kind that guarantee the actual transfer of goods from "parents" to their immediate descendants, i.e. their "children" (Barro, 1974). This is so whenever the welfare of the children enters positively into the utility function of the parents. A way out of this kind, however ingenious, is not a great help when it comes to the problem of sustainable development, for an obvious reason. In the long term, that is the temporal perspective needed to deal with the issue at stake, it is not very useful to restrict ourselves to considering only two consecutive generations. As Daly and Cobb wrote (1989): "Families last in time only by fusing and mixing their identities by means of sexual reproduction. They are thus not independent or clearly defined over the period of time embracing more than two generations. Your great-great-grandchildren will also be the great-great-grandchildren of fifteen other people belonging to the present generation, whose identity is unknown. Presumably, the welfare of your great-great-grandchildren will depend on the inheritance of each of these fifteen other individuals as much as yours. This is why it doesn't make much sense that you worry overmuch about your descendants" (p. 39).

As will be readily understood, the paradox discussed here cannot be re-

solved in the way Barro suggests, because it is inconceivable that the families of the present-day generation can organize among themselves an adequate transfer of resources for the welfare of their children, who in turn will set up families of their own in the future. The simple reason for this is that the more important transfers between generations have to be carried through before the children have reached the stage of personal independence. It will thus be evident that it is on society as a whole that the burden falls of ensuring to future generations what is necessary to satisfy their needs. And this is also the case where living individuals show altruistic preferences towards their distant descendants. Indeed, in circumstances of this kind, the welfare of future generations would take on the features of a public good and the individual transfers, in the absence of some kind of mechanism of a collective nature, might generate suboptimal results for the future generations, or even unfair ones, as Sen (1982) has persuasively demonstrated.

The argument sketched above exposes a serious shortcoming in economic theory, which while it busies itself *ad abundantiam* with individual behaviour and its consequences, shows no interest at all in the beliefs and motivations that lie behind human action. This gap is sometimes concealed by the consideration that, since in a market economy the consumer is sovereign and hence free to express any kind of preference, including altruistic ones, there would be no reason to worry about the motivations behind his or her choices (it should be noticed in passing that this is the commonest justification in economics of consequentialism as an ethical doctrine). That things do not stand like this is shown by the realization that caring for the needs of others (sympathy in Adam Smith's sense – the spirit of solidarity) is not an innate virtue in the human being. It is rather the result of a slow and systematic process of education. This is why the argument on lifestyles that respect Creation is so centrally important for a sustainable development.[4]

As long as a culture founded on the models of a consumeristic society prevails, especially among the young, it is obvious that politics will not be able to do otherwise than respond to this kind of signal and translate it into choices that are a logical consequence of it: increasing the levels of productivity to diminish the prices of goods and services to further increase their production and consumption, etc. C.F. Weizsacher's words to the Seoul ecumenical assembly of 1990 are relevant here: "I know some politicians who want to do the really necessary things, but who know that as soon as they

[4] See A. Giordano's provocative text, *La spiritualità e gli stili di vita sostenibili*, mimeo, May 2001. The treatment of this subject in Keenan, 2000 is quite effective.

do something reasonable they will lose the next elections. It is for this reason that I am against the idea that politicians are mainly responsible, the most guilty of all. No, it is we [citizens] who are the guilty ones".[5]

As will easily be realized from the above, the turbulent history of theoretical positions on environmental issues is characterized by the systematic alternation of quite markedly different points of view and lines of action. It is a history of steps forward and steps backwards, of often apparently unmotivated swings from radical innovation to conservative retreat, as if the terms of what was at stake were not clear to everyone. The fact is that without a holistic vision of the environmental issue, capable of making us realize that the environment is not simply a question of degradation or of exhaustion of resources, and without overcoming the limitations of a scientific research that is too "sector-oriented" and too little transdisciplinary, the "new alliance" between mankind and nature – to use the ichastic expression of I. Prigogine – will never be able to be carried through.

The struggle against poverty and sustainable development

Where do we begin if we wish to go beyond what is still the most common, i.e. dichotomous, way of facing the crucial central problem of sustainable development? I would not hesitate to indicate the reduction of the welfare gap between the North and South of the world as the *primum movens* of a strategy of this kind. Let us see if we can make this clearer.

It is a well-known fact that there are three main causes of environmental degradation: the inefficient allocation of resources; the iniquitous distribution of wealth and income; the disproportion between population and capacity of the environment to sustain it. Whereas in rich countries the first of these causes is operative, poor countries are mainly afflicted by the other two causes. Through their structural characteristics, these countries tend to specialize in the production and export of goods with a high intensity of environmental degradation. Even now, 2/3 of Latin America's exports are made up of natural resources – Africa's percentage is even higher – resources that are imported and consumed in the countries of the North. These data, though crude, are already sufficient to have us understand why the question of sustainable development cannot be separated from the reform of the rules of international trade. When we discover that the South exports goods of a high intensity of environmental degradation, though it is not true that the

[5] Quoted in *One World* (Monthly Magazine of the World Council of Churches), 155, May 1990, p. 16.

South disposes of higher quantities of these goods compared to the North, we may realize why commercial policies based on the Ricardian principle of comparative advantage are a serious threat to sustainability. If we then consider that most developing countries are located in the region known as the "vital zone", characterized by highly unstable ecological equilibriums and by a marked capacity to influence the atmosphere, we realize why if we continue to force these countries to use their *natural* capital to substitute for an insufficient *physical* and *human* capital, environmental degradation will inevitably suffer a rapid acceleration.

There is still more to it than this. In a document published some years back (in 1992), the World Bank thoroughly detailed the relationship existing between some indicators of environmental quality and levels of GNP per head. A relation emerged that could be shown through a curve in the form of a U turned upside down: environmental degradation grows with the increase of average income when the latter is at low levels, whereas it decreases with the increase of average income when the latter has gone above a certain threshold. Basing their work on this rich empirical material, Grossman and Krueger (1994), through econometrics, find that the level of the critical threshold of average income, beyond which the abovementioned curve begins to decrease, stands at around $8,000 per head income a year (dollars of 1985). The curve in question is known in the literature as the "Environmental Kuznets curve", (EKC) from the name of the Nobel prize-winner for economics who first studied its characteristics with reference however to the relation between levels of GNP per-capita and variations of an indicator of the inequality of income within a specific population. The empirical evidence in support of the EKC is still today insufficiently robust to recommend its use for the purposes of environmental policies. It is nevertheless possible to extract from the EKC the following broad indications: some indicators of environmental degradation (emissions of CO_2; solid urban waste) increase, i.e. get worse, with the increase of pro-capita income; others (the lack of clean water; hygiene indicators) diminish, i.e. improve, with the increase in per-capita income; still others (emissions of sulfur trioxide and nitrates) first increase and then diminish with the increase in per-capita income.(6)

What lessons can be learned from the EKC literature? Since Northern countries are to the right of the value of the critical threshold mentioned above, whereas most Southern countries are still a long way off this goal, and

[6] A useful critical review of the more recent literature on the subject is in S. Borghesi, 1999.

since the environmental problems that worry us the most today are the global ones, it is evident we shall have to intervene urgently on the rules of international economic activities. In particular, we must realize that in the context of an increasingly globalized economy, environmental regulation and commercial regulation have to be integrated and harmonized, exactly the opposite of what has happened up until now in the WTO (cf. Pearson, 2000).

It is well known that international trade tends to separate production from consumption. An increase in the demand for tropical wood in the North translates into a corresponding reduction in tropical forests in Amazonia. It is a fact that international trade throws a long, dark shadow over the environment. Without adequate rules and without forms of close cooperation between the agencies that concern themselves with trade and the environment, the growing volume of commercial exchanges (in itself positive and a hopeful sign for the future) will translate into increases in environmental degradation.

The second and more important message is that the problem of sustainable development, in present-day historical conditions, characterized by the phenomenon of globalization, is intrinsically linked to the problem of poverty, both absolute and relative. It would be naive to imagine we can solve the former problem separately from the second, or worse still, in opposition to it. Efforts to improve or conserve the quality of the environment in the North will be of very little use unless at the same time there is an urgent and comprehensive program of action against poverty to allow the countries of the South to get beyond the critical threshold identified by the ECK. Clearly, there will have to be a program of redistribution on a global scale, since policies on a national scale are no longer adequate for the purpose. If we stop and think for a moment, we find ourselves faced with a specific, yet remarkable case, in which the defence of justice serves also to improve efficiency (here identified with sustainable development). Let me elaborate a bit more on this issue (for an original contribution investigating the links between poverty and degradation of the local environmental – resource base and civic disconnection in poor countries, see Dasgupta, 1998).

It is certainly true that globalization is a positive sum game that increases aggregate wealth. But it is also true that it exacerbates the contrast between winners and losers. This fact is linked to the emergence of a new form of competition, unknown until recently: positional competition, according to which the "winner takes all and the loser loses everything" – the so-called "superstar effect" in the sense of Shermin Rose. Why is it that literature on the subject is so hotly divided? A credible answer comes from the recent

work by Milanovic (2011) who distinguishes between *world* and *international* inequality. The latter considers the differences in the average incomes of various countries, unweighted ("Concept 1 inequality" in Milanovic's sense) and duly weighted to account for the size of the population ("Concept 2 inequality"). The former, on the contrary, takes into account also the inequalities in income distribution within the individual countries ("Concept 3 inequality"). It is world or global inequality which is increasing as a consequences of globalization.

In fact, in order for concept 3 inequality to diminish, two conditions should be met: i) poor and densely populated countries must grow at a faster rate than rich countries; ii) this must occur without an increase in inequality within the country. Now, while the first condition is more or less satisfied, the second condition is virtually absent. In fact, over the last quarter of a century, the growth rate of the poorest countries has been higher than that of the richest countries (4% versus 1.7%). Why should one worry about the growth of global inequality? Since it is a principal cause of conflict and ultimately of civil war. As wisely indicated by Polachek and Seiglie (2006), conflict can be defined as "trade gone awry": if a country's gains from trade are not as high as it thinks it should receive, this becomes a major determinant of conflict, which might in the end jeopardize peace itself. That is why the search for a socially responsible trade integration regime, capable of taking into consideration also the "pains from trade" (Verdier, 2005), is a duty that the economist cannot escape or forget about.

A related, but different, aspect is the one concerning the relationship between globalization and poverty. In the last couple of decades, poor countries have increased their participation in world trade, so much so that today they can be said to be more globalized than rich countries. Yet, there is very little evidence on that relationship and even the scanty evidence available only deals with the indirect link between globalization and poverty. A notable exception is the recent work by Harrison (2006) who provides a novel perspective on how globalization directly affects poverty in developing countries. Three general propositions deserve special attention: a) contrary to the Heckscher-Ohlin theory of international trade, the poor in countries with a lot of unskilled labour do not typically gain from trade expansion; b) globalization generates both winners and losers among the poor and this creates social instability insofar as it destroys social capital: c) the poor segments of population obtain the largest benefits from globalization when national governments endeavour to implement welfare policies aimed at improving the *capabilities* of life of their citizens, rather than their *conditions* of life.

It might be of interest to recall what Adam Smith wrote in *The Wealth of Nations* on the consequences of the discovery of America and the passage of the Cape of Good Hope – "The two greatest and most important events recorded in the history of mankind" (Smith, 1950, vol. 2, p. 141). Dealing with the consequences of these events, Smith remarked: "What benefits or what misfortunes to mankind may hereafter result from those great events, no human wisdom can foresee. By uniting, in some measure, the most distant parts of the world... their general tendency would seem to be beneficial. To the native, however, both of the East and West Indies, all the commercial benefits which can have resulted from those events have been sunk and lost in the dreadful misfortunes which they have occasioned... At the particular time when these discoveries were made, the superiority of force happened to be so great in the side of the Europeans, that they were enabled to commit with impunity every sort of injustice in those remote countries. Hereafter, perhaps, the natives of those countries may grow stronger, or those of Europe may grow weaker and the inhabitants of all the different quarters of the world may arrive at that equality of courage and force which... can alone overawe the injustice of independent nations into some sort of respect for the rights of one another. But nothing seems more likely to establish this equality of force than the mutual communication of knowledge and of all sorts of improvements which an extensive commerce from all countries to all countries naturally, or rather necessarily, carries along with it" (Ib. p. 141).

I consider this passage a remarkable and fascinating anticipation of the argument according to which nowadays we need a more balanced (and wise) approach in order to acknowledge both the gains and losses from cross-border exchange. To this regard, a cautionary word on the notion of "green growth" is in order. This is a new term that has become the focus of much interest among policy makers concerned with enhancing both nearer-term economic progress and longer-term environmental sustainability. However, green growth differs from sustainable development in a subtle but important respect (Toman, 2012). In particular, it is not always true that green growth is good for the poor and the poor should not be asked to pay the price for sustaining growth while greening the planet. (Dercon, 2011).

At this point, a question that naturally arises is: would the "happy degrowth" thesis, advanced in recent times by Serge Latouche, be the proper paradigm to tackle the sustainability question? I don't think so, and for good reasons. The proposal of happy degrowth has an illustrious precedent: the theory of the stationary state initially developed by the great British philosopher and economist J.S. Mill halfway through the 19th century. Mill used the expression 'stationary' state to project a situation where the *net* growth

rate of the economy is equal to zero. Other economists and thinkers propounded analogous hypotheses in his wake. Among them I would venture to recall Nicholas Georgescu Roegen and his "bioeconomy" programme in the 1970s. Therefore, we shouldn't be surprised if concerns over sustainability and the future of the planet every so often compel scholars of diverse cultural backgrounds (e.g. J.S. Mill was a resolute liberal) to advance proposals like that of happy degrowth. The position of the Social Doctrine of the Church (SDC) stands aloof and differs from this degrowth hypothesis not so much in terms of diagnosis – many are the points on which there may be concurrence, and which are nowadays accepted by one and all – but rather as regards the therapy. Remaining within this medical metaphor, it would be tantamount to saying: there is a serious illness, but instead of trying to treat the root causes – certainly possible, even if difficult – people just give in to the patient's more or less slow euthanasia.

Indeed, the SDC neither does nor could accept such an approach. Let's see why. First of all we have to specify that the concept of development has very little in common with that of growth. Etymologically speaking, development means "liberation from constraints" which curtail the freedom of the individual and the social aggregations in which he/she expresses him/herself. This notion of development was formulated in full at the time of civil humanism in the 15th century, and decisive in that regard was the contribution of the school of Franciscan thought: seeking the ways of development means loving liberty. Three are the dimensions of human development, as are the dimensions of liberty: the quantitative-material dimension, corresponding to which is freedom *from;* the social-relational dimension, corresponding to which is freedom *to;* the spiritual dimension, corresponding to which is freedom *for.* My point is that eliminating growth (quantitative) doesn't necessarily ensure more development (qualitative).

It is obviously true that as conditions stand today the quantitative-material dimension overrides the other two, but this by no means bestows legitimacy on the conclusion that reducing (or nullifying) growth – which regards the material dimension – would foster progress on the part of the other two dimensions. In fact, it can be demonstrated that exactly the contrary is true. This is why the Social Doctrine of the Church (and especially *Caritas in Veritate*, CV) speaks about integral human development, about development which must maintain harmony and mutual equilibrium among the three dimensions. This take place through a change in the *composition* – and not the *level* – of the basket of consumer goods: fewer material goods, more relational goods, more immaterial goods. Is this possible? Certainly it is, as the civil economy school of thought indicates.

Therefore, the antidote to the current consumeristic model is not degrowth, but rather the civil economy, a typically Italian programme of research and thought dominant throughout Europe until the end of the 18th century, and since then over clouded by the programme of political economy. Take note of the differences: while the civil economy pursues the common good, the political economy pursues the total good. While the latter considers it possible to resolve problems in the economic-social realm on the basis of the principles of the exchange of equivalents and redistribution driven by the state, the civil economy flanks these two principles with the principle of reciprocity, which is the practical precipitate of fraternity. The remarkable newness of *Caritas in Veritate* is that it restored to fraternity (cf. chapter III) that central role in the economy which had been completely wiped out by the French revolution and Bentham's utilitarianism.

Humanize the market, don't demonize it: this is the slogan that describes the challenge confronting us today. As paradoxical as this may appear, the thesis of degrowth does nothing more than add a minus sign to the standard paradigm of political economy, but in no way constitutes progress beyond or above it. This is why it cannot be considered a solution for the many and grave problems now afflicting our respective societies. If people keep on demonizing the market it really will turn into Hades. The real challenge is the humanization of the market. The Social Doctrine of the Church will never be able to accept any regression at all: those who cultivate the concept of time as *kairos*, and not merely as *chronos*, know that difficulties are surmounted by changing one's outlook towards reality – and not with operations that would wind the clock of history backwards. While comprehensible is the temptation to return "to yesteryear", it certainly cannot be justified by those who embrace in full a person-oriented anthropology, which, while refusing individualism, cannot jump over to the opposite side of communitarianism. In both cases the final outcome would be nihilism.

Towards a World Environment Organization

S. Pastel wrote some years ago: "The world economic system seems incapable of facing up to the problem of poverty and the protection of the environment. Seeking to cure the ecological ills of the earth separately from the problems linked to situations of debt, commercial imbalances, gross inequalities in income levels and in patterns of consumption, is like trying to cure a heart disease without struggling against the obesity of the patient and his diet rich in cholesterol" (quoted in L. Brown, 1992). But to what should we ultimately impute this evident incapacity? To the fact that the nature itself of the most important environmental goods is that of global

public goods. While a single global economy does not yet exist – notwithstanding the great debate on globalization – we find ourselves having to deal with a single climatic system, with a single ozone layer, etc. These are global public goods: the use of these by one country does not diminish the amount available to other countries; on the other hand, no country can be excluded from making use of them (clearly, the emissions of polluting substances are global public "evils").

Now, as economic theory has known for some time, public goods give rise to one irritating consequence, typical of all the situations known as "the prisoner's dilemma". And if the public good is global the awful consequences will be global. In 1990 the Intergovernmental Panel on Climate Change showed that the emissions of greenhouse gas led to an increase in average temperatures, with all the well known consequences. And yet very few countries acted, unilaterally, to reduce their emissions. Similarly, the European Union proposed the introduction of a carbon tax in Europe, but having seen that their example was not imitated by other countries (especially the USA) it changed its plans. It is precisely the two characteristics recalled above, of the public good, that make unilateral policies wrong as a strategy of environmental politics.

Even if negotiations eventually produced some form of agreement or international treaty, the problem of how to carry it out would still have to be solved. We only have to think of the case of the Protocol of Montreal for the regulation of the use of chemical products (the CFC) that destroy the ozone layer, and the already mentioned Kyoto Protocol on climate change. Why did the former work, producing the desired effects, whereas the latter has mainly failed, as we saw above? The answer is that the Montreal Protocol contains an incentive mechanism that encourages the active participation and adherence of all the countries that signed it, a mechanism that means it is in the interest of all countries to keep to the agreed rules. The designers of the Kyoto Protocol were incapable of finding the right mechanism to ensure its self-enforcement (cf. Barrett, 2001).

Where do these reflections lead? They suggest the urgent need to set up a World Environmental Organization (WEO) along the lines of what happened some years ago, with the setting up of the World Trade Organization (WTO). It is the lack of institutions (not bureaucracies!) at the global level that makes so many problems of our age hard to solve, especially the environmental problem. While markets get globalized, the transnational institutional landscape is still that of the immediate post-war world. But the Bretton Woods negotiators of 1944 could never have imagined what the environmental issue would become. It will be objected: aren't there perhaps enough

international treaties, just as there are enough contracts at the domestic level to regulate relationships between individuals? The analogy is dangerously misleading, because contracts stipulated inside a country can be enforced by that country's state; but there is no transnational authority capable of enforcing treaties between states. This is why a WEO is needed. On the whole, it is hard to see how the present state of affairs can continue, while the market, in its great variety of forms, has by now become global, the governance set-up has stayed basically national or at the most international.

The legal status of such a WEO would be that of an International Governmental Organization (IGO) established by national governments (an example of an intergovernmental network of national regulators is the Basel Committee on Banking Supervision, which includes representatives of 27 national banking supervisory authorities). The fact that there is no single global and comprehensive legal order and no global government does not imply that it would be impossible to devise a global regulatory regimes made up of actors such as IGOs and NGOs (non-governmental organizations) dealing with those issues and problems that cannot be addressed or resolved by national governments alone. It is ironic that today while almost every human activity is subject to some form of global regulation, environmental control is still waiting for its own IGO (see Cassese, 2012).

History has shown that a new international order has always become established at the end of a war of hegemony. We can see the example of the Thirty Years War, the Napoleonic Wars, the Second World War. All these are events which, after destroying the old order, left behind *tabulae rasae*, on which the victorious powers were able to inscribe the rules of the new order. No such situation exists today. Firstly, there is no agreement on who actually won the Cold War (assuming that there was a winner). Secondly, there is no agreement on whether we are living in a unipolar or multipolar world, or on which countries should be counted among the great powers today (should military force or economic muscle be used as the yardstick for qualifying as a great power?).

Another major feature of this age is the number of *agents* that are seeking to play a major part in the process of building the foundations of a new international order. One might say that international affairs have become a 'participatory democracy' issue, which helps to explain why it is becoming increasingly difficult to rapidly reach agreement. Bretton Woods and the Uruguay Round are a case in point. Bretton Woods was completed in a few months by only two men (J.M. Keynes and H.D. White), while the Uruguay Round took ten years of bitter negotiations between a dozen major parties plus about 100 international governments in the background.

A third feature that is unambiguously typical of the present phase in our history is the radical change that has occurred in the international distribution of economic and military power. For over three centuries the international system had been dominated by the Western powers, with the centre of gravity in the North Atlantic. Even the Cold War was a struggle between two 'visions' belonging to the same European civilization. Today, economic power has shifted towards the Pacific and East Asia areas that are now becoming the centre of gravity of world history, for better or for worse. This means that the emerging Asian powers will increasingly demand a part in designing the international institutions. But these (take the United Nations Security Council, the World Bank, the IMF etc.) are dominated by the ideas and the interests of the Western powers who are doing nothing to redress a situation that has become untenable. As always occurs in international relations, where power and authority coincide, the emerging powers, dissatisfied with the status quo, are doing everything they can to change the situation.

The two tasks a WEO should give priority to are, in my judgement, the following. Firstly, interacting with the WTO, such an agency must seek to make the rules of free trade compatible with those set out for the protection of the environment, and it must also get them respected by all concerned. Secondly, the WEO must intervene, in a supplementary role, in all those increasingly frequent cases in which price signals are unable to anticipate irreversible environmental loss. As we know, it is by now proved that thresholds of environmental degradation exist, that to a certain extent economic activities do not block the regenerative functions of the environment, but beyond that point irreversible changes can take place due to the level of economic activity overwhelming the ecosystem's capacity to assimilate it. In situations of this kind, market mechanisms get jammed: hence the need for their support through the intervention of an *ad hoc* agency.

To sum up, the international community must not only pursue goals and undertake binding obligations to be implemented gradually. It must also acquire a tool that is essential to jointly govern global environmental issues. This is the idea behind a WEO capable of making decisions, under the aegis of the UN, and having appropriate financial resources to implement the decisions made. The international community must change its patterns and ways of thinking, inverting the increasingly strong tendency to renationalize international cooperation. Jean Monnet, one of the founding fathers of the European Union, wrote: "There is an unfathomable difference between negotiating an international agreement and facing a common issue. In the first case, each party brings its own issue to the negotiating table. In the second case, there is a single issue which is the same

for all parties, and everyone brings to the negotiating table not its own issue, but the wisdom to find a solution to the common issue".(7) The environment is such a common issue.(8)

In lieu of a conclusion

A question spontaneously arises: given the problems and difficulties in solving them, should we perhaps resign ourselves and let the processes occurring today go ahead according to their own internal logic? To think like this would be overwhelmingly irresponsible, because in actual fact there is no need, as some people suggest, to halt the process of growth or that of globalization. What is really needed, and urgently, is to work for the establishment of an economic and social order founded on the plurality of power centres, i.e. on polyarchy, which unlike pluralism, is not just a question of numerousness, but of diversity both of the modes of production and patterns of consumption. Above all, what is needed is to make up the sense of responsibility. It is true that the concept of responsibility finds, today, many difficulties in being accepted, let alone applied. On the one hand, globalization is increasing, in unprecedented ways, the distance between action and the ultimate consequences of the action. One thinks about the impact of processes of mergers and acquisitions on the phenomenon of "short-termism": firms fearing takeovers tend to pay scarce attention to all that does not have a return in the short-run – including social responsibility. On the other hand, the new technologies that connote the third industrial revolution tend to reduce the sense of responsibility insofar as they tend to increase the number and typology of unpredictable consequences of actions. The notion of responsibility is strictly connected to that of accountability. Responsible is s/he who knows how to manage situations, adequately evaluating their risks and results. But the current technological changes render this exercise ever more difficult, if not impossible.

That is why we find ourselves in need of turning to ethics. But which ethical theory is adequate to the purpose? My answer is the ethic of virtues, as Adam Smith, on the heels of the line of thought inaugurated by the civil humanists in the 15th century, elaborated in his fundamental work *The Theory Moral Sentiments (1759)*. The institutional structure of society – says

[7] Cited in T. Padoa-Schioppa, *La veduta corta*, Il Mulino, Bologna, 2009, p. 90.

[8] A different approach from the one here advocated is proposed by E. Ostrom (2009) who speaks in favour of a polycentric strategy to cope with climate change. Still another approach is the one suggested by Mattoo and Subramanian (2013).

Smith – must favour the dissemination of civic virtues among citizens. If economic agents don't already embody in their structure of preferences those values that they are supposed to respect, there isn't much to be done. For the ethic of virtues, in fact, the enforceability of the norms depends, in the first place, on the moral constitution of individuals; that is of their internal motivational structure, much before any system of exogenous enforcement. It is because there are stakeholders that have ethical preferences – that attribute, that is, value to the fact that the firm practices equity and works for the dignity of people *independently* of the material advantage that can be derived – that the ethical code could be respected *also* in the absence of the mechanism of reputation. And that there are subjects endowed with ethical preferences is, today, a fact documented by a dispassionate observation of reality, in addition to experimental research.

The point worth highlighting in particular is that the key to the ethic of virtues is in its capacity to resolve the opposition between self-interest and interest for others, between egoism and altruism, by moving beyond it. It is this opposition, child of the individualistic tradition of thought, that prevents us from grasping that which constitutes our own wellbeing. The virtuous life is the best not only for others – like the various economic theories of altruism would have it – but also for us. This is the real significance of the notion of common good, which can never be reduced to a mere sum-total of individual wellbeing. Instead, the common good is the good of being in common. That is, the good of being inserted into a structure of common action, which is exactly what is required in order to sustain nature.

Common is the action that, in order to be carried out, requires both the *intentional* coming together of many subjects (and of which all the participants are aware) and of inter-subjective relationships that lead to a certain unification of efforts. More precisely, there are three elements that distinguish a common action. The first is that it cannot be concluded without all those who take part being conscious of what they are doing. The mere coming together or meeting of many individuals is not enough. The second element is that each participant in the common action must retain title, and therefore responsibility, for what he does. It is exactly this element that differentiates common action from collective action. In the latter, in fact, the individual's identity disappears and with him also disappears the personal responsibility for what he does. The third element is the unification of the efforts on the part of the participants in the common action for the achievement of the same objective. The interaction among many subjects in a given context is not yet common activity if they follow diverse or conflicting objectives (for an elaboration, see Zamagni, 2014).

Now we can appreciate the specific value that the ethic of virtues offers, that of liberating us from the obsessive Platonic idea of good, an idea that says there is an *a priori* good from which an ethic is extracted to be used as a guide to our actions. Aristotle – the initiator of the ethic of virtues – in total disagreement with Plato, indicates for us instead that the good is something that happens, that is realized through activities. As Lutz (2003) puts it, the most serious problem with the various ethical theories stemming from the individualistic tradition of thought is that they are not capable of offering a reason for "being ethical". If it's not good for us to behave ethically, why do what is recommended by ethics? On the other hand, if it is good for us to "be ethical", then why would it be necessary to offer managers incentives for doing that which is in their own interest to do? The solution to the problem of moral motivation of decision makers is not that of setting constraints (or providing incentives) for acting against their self-interest, but to offer them a more complete understanding of their own wellbeing. Only when ethics becomes part of the objective-function of the agents does moral motivation cease to be a problem, because we are authentically motivated to do that which we believe is best for ourselves. This is why cultivating civic virtues is the undeniable task not only from the point of view of citizenship – something known for a long time – but also from the point of view of sustaining nature.

The difficulties and risks inherent in the practical carrying-out of a strategy as the one here indicated are obvious to everyone. It would be ingenuous to think that the diversity of the interests involved do not mean high levels of conflict. But the task is unavoidable if we wish to overcome the affliction of a rhetoric at all costs (a rhetoric that often ends up appearing nihilistic), as well as a clear-eyed optimism of those who see in technical, scientific and economic progress a sort of triumphal march of humanity towards its fulfilment. The responsible person cannot fall victim of traps of this kind.

Economics is inextricably part of ethics because humans are not aloof islands of exchange; rather, they live, work and thrive in social settings. Humans have innate dispositions *for* self, *for* others, and *against* others that serve useful functions, yet whose claims must be internally adjudicated by a moral agent. Understanding individual and social conceptions of "right" and "wrong" is essential for the environmental problematic. There is nothing to marvel at here. When one acknowledges the looming crisis of our civilization one is practically obliged to abandon any dystopic attitude and dare to seek out new paths of thought. As T.S. Eliot once observed, you can't build a tree; you can only plant one, tend it and wait for it to sprout in due time.

You can, however, speed up its development with proper watering. For, unlike animals, which live in time but have no time, human beings have the ability to alter their times.

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