

five policy recommendations for a sustainable economy

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Two months after his Feasta lecture, Herman Daly returned to Europe to receive the \$100,000 Sophie Prize for 1999 which he shared with Fr Thomas Kocherry, a leader of the fisher people in India. The prize was established in 1997 by Jostein Gaarder, the author of Sophie's World, a novel about the history of philosophy, to honour individuals and organisations who have pointed to alternatives to the present economic system in a pioneering or a particularly creative way and/or have put such alternatives into practice. This is the text of the speech professor Daly gave on receiving the award in Oslo on 15 June 1999.

The five following policy suggestions are in sequence, starting with the least controversial and moving to the most controversial. Since even the least controversial proposals have not yet been adopted one might reasonably ask -- Why not just focus on, say, the two or three least controversial proposals and forget for now the more controversial ones? This would be a reasonable strategy, except for the fact that the three least controversial policies are national policies that would be undercut by global economic integration, and logically require the fourth and more controversial policy of resisting global integration if they are to be effective. The fifth suggestion is a kind of "meta-policy" of facing up to what A.N. Whitehead called the "lurking inconsistency" - "This radical inconsistency at the basis of modern thought", he said, "accounts for much that is half-hearted and wavering in our civilisation." It enfeebles purpose itself, and consequently policy which necessarily presupposes purpose. My fifth suggestion is, you might say, like an invitation to Sophie Amundsen's "philosophical garden party"!

(1). Stop counting the consumption of natural capital as income.

Income is by definition the maximum amount that a society can consume this year and still be able to consume the same amount next year. That is, consumption this year, if it is to be called income, must leave intact the capacity to produce and consume the same amount next year. Thus sustainability is built into the very definition of income. But the productive capacity that must be maintained intact has traditionally been thought of as manmade capital only, excluding natural capital. We have habitually counted natural capital as a free good. This might have been justified in yesterday's empty world, but in today's full world it is anti-economic. The error of implicitly counting natural capital consumption as income is customary in three areas: (1) the System of National Accounts ; (2) evaluation of projects that deplete natural capital ; and (3) international balance of payments accounting.

The first area of error (national accounts) is widely acknowledged and efforts are underway to correct it--indeed, the World Bank played a pioneering role in this important initiative, and then seems to have lost interest.

The second (project evaluation) is well recognised by standard economics which has long taught the need to count "user cost" (depletion charges) as part of the opportunity cost of projects that deplete natural capital. Bank best practice counts user costs, but average Bank practice ignores it. Uncounted user costs show up in inflated net benefits and an overstated rate of return for depleting projects. This biases investment allocation toward projects that deplete natural capital, and away from more sustainable projects. Correcting this bias is the logical first step toward a policy of sustainable development. User cost must be counted not only for depletion of nonrenewables, but also for projects that divest renewable natural capital by exploiting it beyond sustainable yield. The sink or absorptive services of natural capital, as well as its source or regenerative services, can also be depleted if used beyond sustainable capacity. Therefore a user cost must be charged to projects that deplete sink capacity, such as the atmosphere's ability to absorb CO₂, or the capacity of a river to carry off wastes. It is admittedly difficult to measure user cost, but attempting to avoid the issue simply means that we assign to depleted natural capital the precise default value of zero, which is frequently not the best estimate. Even when zero is the best estimate it should be arrived at not by default, but by reasoned calculation based on explicit assumptions about backstop technologies, discount rates, and reserve lifetimes.

Third, in balance of payments accounting the export of depleted natural capital, whether petroleum or timber cut beyond sustainable yield, is entered in the current account, and thus treated entirely as income. This is an accounting error. Some

portion of those non-sustainable exports should be treated as the sale of a capital asset, and entered on capital account. If this were properly done, some countries would see their apparent balance of trade surplus converted into a true deficit, one that is being financed by drawdown and transfer abroad of their stock of natural capital. Reclassifying transactions in a way that converts a country's balance of trade from a surplus to a deficit would trigger a whole different set of IMF recommendations and actions. This reform of balance of payments accounting should be the initial focus of the IMF's new interest in environmentally sustainable development. Instead they seem interested only in pushing for liberalisation of the capital account as well as the current account, thereby, as will be argued later, subverting their basic charter.

John Ruskin, back in 1862, must have presciently been thinking of modern GDP when he wrote, "That which seems to be wealth may in verity be only the gilded index of far-reaching ruin.....". Growth in GDP, so-called economic growth, has for some countries literally become uneconomic growth because it increases unmeasured costs faster than it increases measured benefits. Consequently, many policies justified mainly by their contribution to GDP growth, such as global economic integration, suddenly and loose their rationale. Maybe that is why the World Bank lost interest in correcting the national accounts.

(2). Shift the tax base from value added (labour and capital income) and on to resource throughput (that to which value is added).

In the past it has been customary for governments to subsidise resource throughput to stimulate growth. Thus energy, water, fertiliser, and even deforestation, are even now frequently subsidised. To its credit the World Bank has generally opposed these subsidies. But it is necessary to go beyond removal of explicit financial subsidies to the removal of implicit environmental subsidies as well. By "implicit environmental subsidies" I mean external costs to the community that are not charged to the commodities whose production generates them.

Economists have long advocated internalising external costs either by calculating and charging Pigouvian taxes (taxes which when added to marginal private costs make them equal to marginal social costs), or by Coasian redefinition of property rights (such that values that used to be unowned and thus not valued in markets, become private property whose values are protected by their new owners). These solutions are elegant in theory, but often quite difficult in practice. A blunter, but much more operational instrument would be simply to shift our tax base away from labour and capital income on to throughput. We have to raise public revenue

somehow, and the present system is highly distortionary in that by taxing labour and capital in the face of high unemployment in nearly all countries, we are discouraging exactly what we want more of. The present signal to firms is to shed labour, and to develop technologies that increase the throughput of energy and materials. It would be better to economise on throughput because of the high external costs of its associated depletion and pollution, and at the same time to use more labour because of the high social benefits associated with reducing unemployment.

Shifting the tax base on to throughput induces greater throughput efficiency, and internalises, in a gross, blunt manner the externalities from depletion and pollution. True, the exact external costs will not have been precisely calculated and attributed to exactly those activities that caused them, as with a Pigouvian tax that aims to equate marginal social costs and benefits for each activity. But those calculations and attributions are so difficult and uncertain that insisting on them would be equivalent to a full-employment act for econometricians and prolonged unemployment and environmental degradation for everyone else. Politically the shift toward ecological taxes could be sold under the banner of revenue neutrality. However, the income tax structure should be maintained so as to keep progressivity in the overall tax structure by taxing very high incomes and subsidising very low incomes. But the bulk of public revenue would be raised from taxes on throughput either at the depletion or pollution end, though mainly the former. The shift could be carried out gradually by a pre-announced schedule to minimise disruption. This shift should be a key part of structural adjustment, but should be pioneered in the North. Indeed, sustainable development itself must be achieved in the North first. It is absurd to expect any sacrifice for sustainability in the South if similar measures have not first been taken in the North. The major weakness in the World Bank's and IMF's ability to foster environmentally sustainable development is that they only have leverage over the South, not the North. Some way must be found to push the North also. The Nordic countries and the Netherlands have begun to lead the way without being pushed.

While it is true that land and natural resources exist independently of man, and therefore have no cost of production, it does not follow that no price should be charged for their use. The reason is that there is an opportunity cost involved in using a resource for one purpose rather than another, as a result of scarcity of the resource, even if no one produced it. The opportunity cost is the best forgone alternative use. If a price equal to the value of the opportunity cost is not charged to the user, the result will be inefficient allocation and waste of the resource--low priority uses will be satisfied while high priority uses are not. Efficiency requires

only that the price be paid by the user of these "free gifts of nature" --but for efficiency it does not matter to whom the price is paid. For equity it matters a great deal to whom the price is paid, but not for efficiency.

To whom, then, should the price be paid? Since we cannot pay nature directly, we pay the owners of nature. But who is the owner? Ideally ownership of land and resources should be communal since there is no cost of production to justify individual private ownership "by whomever produced it". Each citizen has as much right to the "free gifts of nature" as any other citizen. By capturing for public revenue the necessary payment to nature, one serves both efficiency and equity. We minimise the need to take away from people by taxation the fruits of their own labour and investment. We minimise the ability of a fortunate few private land and resource owners to reap a part of the fruits of the labour and enterprise of others. Land and resource rents (unearned income) are ideal sources of public revenue. In economic theory "rent" is defined as payment in excess of supply price. Since the supply price for land is zero, any payment for land is rent. If we paid no rent the land would not disappear.

(3). Maximise the productivity of natural capital in the short run, and invest in increasing its supply in the long run.

Economic logic requires that we behave in these two ways toward the limiting factor of production--i.e. maximise its productivity and invest in its increase. Those principles are not in dispute. Disagreements do exist about whether natural capital is really the limiting factor. Some argue that manmade and natural capital are such good substitutes that the very idea of a limiting factor, which requires that the factors be complementary, is irrelevant. It is true that without complementarity there is no limiting factor. So the question is, are manmade capital and natural capital basically complements or substitutes? Here again we can provide perpetual full employment for econometricians, and I would welcome more empirical work on this, even though I think it is sufficiently clear to common sense that natural and manmade capital are fundamentally complements and only marginally substitutable. In the past natural capital has been treated as superabundant and priced at zero, so it did not really matter whether it was a complement or a substitute for manmade capital. Now remaining natural capital appears to be both scarce and complementary, and therefore limiting. For example, the fish catch is limited not by the number of fishing boats, but by the remaining populations of fish in the sea. Cut timber is limited not by the number of sawmills, but by the remaining standing forests. Pumped crude oil is limited not by manmade pumping capacity, but by remaining stocks of petroleum in the ground. The natural capital

of the atmosphere's capacity to serve as a sink for CO₂ is likely to be even more limiting to the rate at which petroleum can be burned than is the source limit of remaining oil in the ground.

In the short run raising the price of natural capital by taxing throughput, as advocated above, will give the incentive to maximise natural capital productivity. Investing in natural capital over the long run is also needed. But how do we invest in something which by definition we cannot make? If we could make it, it would be manmade capital! For renewable resources we have the possibility of following investments, or more generally "waiting" in the Marshallian sense--allowing this year's growth increment to be added to next year's growing stock rather than consuming it. For nonrenewables we do not have this option. We can only liquidate them. So the question is how fast do we liquidate, and how much of the proceeds can we count as income if we invest the rest in the best available renewable substitute? And of course how much of the correctly counted income do we then consume and how much do we invest?

One renewable substitute for natural capital is the mixture of natural and manmade capital represented by plantations, fish farms, etc., which we may call "cultivated natural capital". But even within this important hybrid category we have a complementary combination of natural and manmade capital components--e.g. a plantation forest may use manmade capital to plant trees, control pests, and choose the proper rotation-- but the complementary natural capital services of rainfall, sunlight, soil, etc. are still there, and eventually still become limiting. Also, cultivated natural capital usually requires a reduction in biodiversity relative to natural capital proper.

For both renewable and nonrenewable resources, investments in enhancing throughput productivity are needed. Increasing resource productivity is indeed a good substitute for finding more of the resource. But the main point is that investment should be in the limiting factor, and to the extent that natural capital has replaced manmade capital as the limiting factor, our investment focus should shift correspondingly. I do not believe that it has. In fact, the World Bank's failure to charge user cost on natural capital depletion, noted earlier, surely biases investment away from replenishing projects.

(4). Move away from the ideology of global economic integration by free trade, free capital mobility, and export-led growth -- and toward a more nationalist orientation that seeks to develop domestic production for internal

markets as the first option, having recourse to international trade only when clearly much more efficient.

At the present time global interdependence is celebrated as a self-evident good. The royal road to development, peace, and harmony is thought to be the unrelenting conquest of each nation's market by all other nations. The word "globalist" has politically correct connotations, while the word "nationalist" has come to be pejorative. This is so much the case that it is necessary to remind ourselves that the World Bank and the IMF exist to serve the interests of their members, which are nation states, national communities-- not individuals, not corporations, not even NGOs. The Bretton Woods institutions have no charter to serve the one-world without borders cosmopolitan vision of global integration --of converting many relatively independent national economies, loosely dependent on international trade, into one tightly integrated world economic network upon which everyone depends for even basic survival. If the World Bank and the IMF are no longer committed to serving the interests of their members, then whose interests are they serving?

Globalisation, considered by many to be the inevitable wave of the future, is frequently confused with internationalisation, but is in fact something totally different. Internationalisation refers to the increasing importance of international trade, international relations, treaties, alliances, etc. Inter-national, of course, means between or among nations. The basic unit remains the nation, even as relations among nations become increasingly necessary and important.

Globalisation refers to global economic integration of many formerly national economies into one global economy, mainly by free trade and free capital mobility, but also by easy or uncontrolled migration. It is the effective erasure of national boundaries for economic purposes. International trade (governed by comparative advantage) becomes, with the introduction of free capital mobility, interregional trade (governed by absolute advantage). What was many becomes one. Where there had been a guarantee of gain from trade to each nation, now there is only a gain to the world as a whole, with the possibility that some nations may lose as others gain.

The very word "integration" derives from "integer", meaning one, complete, or whole. Integration is the act of combining into one whole. Since there can be only one whole, only one unity with reference to which parts are integrated, it follows that global economic integration logically implies national economic disintegration. By disintegration I do not mean that the productive plant of each country is annihilated, but rather that its parts are torn out of their national context

(dis-integrated), in order to be re-integrated into the new whole, the globalise economy. As the saying goes, to make an omelette you have to break some eggs. The disintegration of the national egg is necessary to integrate the global omelette.

The model of international community upon which the Bretton Woods institutions rests is that of a "community of communities", an international federation of national communities co-operating to solve global problems under the principle of subsidiarity. The model is not the cosmopolitan one of direct global citizenship in a single integrated world community without intermediation by nation states. Who conferred upon these institutions the right to unilaterally change the very reason for which they were created?

To globalise the economy by erasure of national economic boundaries through free trade, free capital mobility, and free, or at least uncontrolled migration, is to wound fatally the major unit of community capable of carrying out any policies for the common good. That includes not only national policies for purely domestic ends, but also international agreements required to deal with those environmental problems that are irreducibly global (CO₂, ozone depletion). International agreements presuppose the ability of national governments to carry out policies in their support. If nations have no control over their borders they are in a poor position to enforce national laws, including those necessary to secure compliance with international treaties.

Cosmopolitan globalism weakens national boundaries and the power of national and sub national communities, while strengthening the relative power of transnational corporations. Since there is no world government capable of regulating global capital in the global interest, and since the desirability and possibility of a world government are both highly doubtful, it will be necessary to make capital less global and more national. I know that is an unthinkable thought right now, but take it as a prediction--ten years from now the buzz words will be "denationalisation of capital" and the "community rooting of capital for the development of national and local economies", "minimum residence times of foreign investments", "Tobin taxes", etc., not the current shibboleths of export-led growth stimulated by whatever adjustments are necessary to increase global competitiveness. "Global competitiveness" (frequently a thought-substituting slogan) often reflects not even a real increase in resource productivity, but rather a standards-lowering competition to reduce wages, externalise environmental and social costs, and export natural capital at low prices while calling it income.

(5). Facing the Lurking Inconsistency.

-- To serve the purposes of ending poverty and conserving the biosphere (sustainable development) we must first rescue the idea of purpose itself from the nether world of illusion and epiphenomena to which it has been banished by mechanist philosophers and neodarwinist biologists. If purpose is not causative in the real world then all policy is nonsense, and all theory on which policy is based is useless.

The term "lurking inconsistency", as well as its meaning, is taken from Alfred North Whitehead (Science and the Modern World, 1925) :

"A scientific realism, based on mechanism, is conjoined with an unwavering belief in the world of men and of the higher animals as being composed of self-determining organisms. This radical inconsistency at the basis of modern thought accounts for much that is half-hearted and wavering in our civilisation.....It enfeebles [thought], by reason of the inconsistency lurking in the background.....For instance, the enterprises produced by the individualistic energy of the European peoples presuppose physical actions directed to final causes. But the science which is employed in their development is based on a philosophy which asserts that physical causation is supreme, and which disjoins the physical cause from the final end. It is not popular to dwell on the absolute contradiction here involved."

The directly experienced reality of purpose and final cause must, in the view of mechanism, be an "epiphenomenon"---an illusion which itself was selected because of the reproductive advantage that it chanced to confer on those under its influence. It is odd that the illusion of purpose should be thought to confer a selective advantage while purpose itself is held to be non causative--but that is the neodarwinist's problem, not mine. The policy implication of the mechanistic dogma that purpose is not causative is laissez faire beyond the most libertarian economist's wildest model. The only "policy" consistent with this view is, "let it happen as it will anyway". Is it too much to ask the neodarwinist to speculate about the possibility that the survival value of neodarwinism itself has become negative for the species that really believes it? Could this lurking inconsistency have lethal consequences?

Teleology has its limits, of course, and from the Enlightenment onward it is evident that mechanism has constituted an enormously powerful research paradigm for biology. The temptation to elevate a successful research paradigm to the level of a complete world view is perhaps irresistible. But mechanism too has its limits.

To deny the reality of our most immediate and universal experience (that of purpose) because it doesn't fit the research paradigm is profoundly anti-empirical. To refuse to recognise the devastating logical consequences that result from the denial of purpose is anti-rational. That people already unembarrassed by the fact that their major intellectual purpose is the denial of the reality of purpose itself should now want to concern themselves deeply with the relative valuation of accidental pieces of their purposeless world is incoherence compounded.

If purpose does not exist then it is hard to imagine how we could experience the lure of value. To have a purpose means to serve an end, and value is imputed to whatever furthers attainment of that end. Alternatively, if there is objective value then surely the attainment of that value should become a purpose. Neodarwinist biologists and ecologists, who do not accept the reality of purpose, owe it to the rest of us to remain silent about valuation--and conservation as well.

Economists, unlike biologists, do not usually go to the extreme of denying the existence of purpose. They recognise purpose under the rubric of individual preferences and do not generally consider them to be illusory. However, preferences are thought to be purely subjective, so that one person's preferences are as good as another's. Unlike public facts, private preferences cannot be right or wrong--there is, by assumption, no objective standard of value by which preferences can be judged. Nevertheless, according to economists, preferences are the ultimate standard of value. Witness economists' attempts to value species by asking consumers how much they would be willing to pay to save a threatened species, or how much they would accept in compensation for the species' disappearance. The fact that the two methods of this "contingent valuation" give quite different answers only adds comic relief to the underlying tragedy which is the reduction of value to taste.

Economics too suffers from the lurking inconsistency, but not to the extent that biology does. Purpose has not been excluded, just reduced to the level of tastes. But even an unexamined and unworthy purpose, such as unconstrained aggregate satisfaction of uninstructed private tastes-- GDP growth forever-- will dominate the absence of purpose. So, in the public policy forum, economists with their attenuated, subjective concept of purpose (which at least is thought to be causative) will dominate the neodarwinist ecologists who are still crippled by the self-inflicted purpose of proving that they are purposeless. Consequently GDP growth will continue to dominate conservation, as long as the lurking inconsistency remains unchallenged.

Whitehead's observation that, "it is not popular to dwell on the absolute contradiction here involved", remains true 75 years later. This wilful neglect has allowed the lurking inconsistency to metastasise into the marrow of modernity. The Enlightenment, with its rejection of teleology, certainly illuminated some hidden recesses of superstition in the so-called Dark Ages. But the angle of its cold light has also cast a deep shadow forward into the modern world, obscuring the reality of purpose. To conserve the biosphere we will first have to reclaim purpose from that darkness. What do you think about that, Sophie?



Biographical Sketch :

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