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GLOBAL WARMING, EQUITY AND FUTURE GENERATIONS

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ABSTRACT. The phenomenon of global warming, the anthropogenic theory of its genesis and some of the implications of that theory are introduced as a case-study of a global environmental problem involving issues of equity between peoples, generations and species. We should favor the proportioning of emission quotas to population, if the charges of anthropocentrism and of discrimination against future generations can be avoided. It is argued that these charges can be replied to satisfactorily, if emissions totals are set low enough for the likely needs of other species and other generations. There should also be limits to the inter-state trading of quotas to ensure that all countries retain enough of their quotas to satisfy basic needs. The anthropogenic theory might instead be held to favor tying emissions quotas to aggregate historical emissions of the last two centuries. But intergenerational equity requires a sustainable international regime, based on universal principles rather than history.

KEYWORDS. Greenhouse emissions, Contraction and Convergence, Millenium Development Goal, sustainability, equity between generations.

I shall argue for one particular international approach to global warming, the one which proportions emission quotas to population. I will assume that the phenomenon of global warming is genuine, and that the anthropogenic theory of its genesis must be accepted, all this on the basis of successive reports of the Intergovernmental Panel on Climate Change. These assumptions raise issues of equity between peoples, generations and species. They also place heavy responsibilities on those knowingly responsible for carbon emissions and capable of reducing global warming, and of sponsoring adaptations to it such that human needs can continue to be met. For polluters should pay, where they knowingly pollute and could have avoided polluting; failure to take precaution to avert disasters that one could well be causing is culpably negligent and reckless; and it is those capable of action to avert such disasters who can be expected to undertake it.

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A fundamental principle concerning entitlements to emit greenhouse gases is that each person has as much entitlement to generate such emissions as everyone else. This principle is defensible on the basis that emissions entitlements should not be based on one's distinctive merit or on any other differentiating quality of persons, but on the human worth which most if not all ethical systems recognize in all human beings. This granted, then all human beings have an equal entitlement to satisfy their needs through use of the absorptive capacities of the atmosphere. Maybe the principle could be criticized if it could be shown that some rival principle would produce greater benefits overall; but in fact the leading consequentialist philosopher Peter Singer, in his book *One World*, treats this principle as optimal where benefits and costs are concerned (Singer 2000).

Once this principle is accepted, there is already a case for sharing total allowable greenhouse gas emissions equally among the global human population, for in this way provision is made for meeting the needs of all those with needs in the present that may or may not be satisfied. Possible objections to this concern the needs of future generations and the needs of non-human species; indeed if this principle were to undermine provision for the needs of future generations, whether human or non-human, then there would be a strong case for modifying it in the direction of restricting the equal sharing of the total of allowable emissions to some large fraction of this total, rather than to this total in its entirety.

However, if a sustainable system could be put in place such that emissions never exceed whatever may be the allowable total for a given year, then the needs of every generation will be provided for; and, as long as this largely involves the continuing intactness of natural ecosystems, then the needs of future members of non-human species will be provided for as well. Such a sustainable system is envisaged when the equal sharing of emissions entitlements is embodied in the system widely known as 'Contraction and Convergence' (Meyer 2000), in which allowable totals are annually contracted to prevent too great an increase in average global temperatures ('Contraction'), and in which the entitlements of humanity are gradually adjusted until parity is reached ('Convergence'). Accordingly, implementation of the equal sharing of emissions among current humanity need not conflict with equity between generations, or embody discrimination between generations.

The remaining objection concerns the needs of current members of non-human species. To provide for these needs, the calculation of allowable totals for humanity has to take into account the emissions of other species, and the importance of allowing them to continue. Anyhow, no calculations would be satisfactory if it failed to take these factors into account, for both the oxygen and the carbon dioxide emitted by trees and

other plants comprise the very framework of the entire problem, while the emissions of wild animals can and must be similarly provided for. As for the emissions of domestic animals (including farmed animals), these are included among human emissions, as they are subject to human control and responsibility. Hence, implementation of the equal sharing of emissions across the human population need not conflict with equity between species, or incur charges of unjustified anthropocentrism.

Issues of equity between peoples remain, but are in part tackled if sharing total allowable greenhouse gas emissions equally among the global human population is understood to imply dividing total allowable emissions between countries in proportion to their human populations (as at some agreed date). Admittedly this involves regarding countries as acting on behalf of their peoples, for there are cases where the real world falls far short of this ideal. But in the absence of any other basis for the representation of peoples, there is probably no alternative. It should also be acknowledged that this model embodies no measures such as to rectify the poverty of poor countries with small populations, and that other measures would need to be devised to tackle this problem (such as measures to implement the Millennium Development Goals, independently of systems introduced to tackle greenhouse gas emissions). It should also be recognized that the proportionate division of emission entitlements would embody a very significant redistributive effect, for poor countries with large populations not yet in a position to take up their emissions quota would be free to trade it with richer countries seeking to emit in excess of their own quotas. If a satisfactory form of such trading can be found (and so far the record of carbon trading is not encouraging), then some of the international issues of equity would have been addressed.

There would be a danger, however, that under pressure of market forces poor countries might trade too much of their emissions, and be left with insufficient emission entitlements for the needs of their own population to be met. To avert this danger, a ceiling should be placed on permissible emissions trading, so that emissions related to basic needs would be untradable. Otherwise, in situations of heavy international indebtedness, countries could well be tempted to sell off the new asset comprising their emissions quotas, and then suffer the collective wrath of the global community when their population went on to emit more than the entitlement remaining. The ceiling just mentioned would seem indispensable if issues of equity between countries are to be fully tackled rather than fragmentarily gestured at.

Allowable total emissions would, as mentioned, need to take into account background ecological factors, and would also need to ensure that an average temperature rise of no more than two centigrades takes place, for the sake of preserving systems on which humans and non-human

creatures alike depend. As some critics of the system described above contend, this may mean that a ceiling of 400 parts per million of carbon dioxide or equivalent would have to be observed, and this in turn would mean that allowable totals would have to decrease so early and so sharply that a system of Contraction and Convergence would soon cease to allow of significant trading of surplus quotas. Thus, separate attention would in any case have to be devoted to rectifying the underdevelopment of poor countries, including populous ones; Moreover, in such circumstances, these countries might be reluctant to participate in any system that could in time curtail their own development. Even so, the system of Contraction and Convergence would still be significantly redistributive in its early stages, and there would be nothing to prevent simultaneous international efforts to remedy poverty and attain the Millennium Development Goals as well. Hence, while Contraction and Convergence would not solve everything, and would need to be supplemented, these objections do not show that it is either ungrounded or not a large move in the right direction.

There are, in any case, severe problems in basing international policies not on emissions quotas but (as has been suggested) instead on requiring developed nations and wealthy individuals to pay both for development, for mitigation and for adaptation for climate change. Here the risks of large-scale non-compliance (in what would have to be an intense and global program of action introduced with little prior notice) are so large that it would be hazardous to make the entire future of humanity depend on its success.

Another alternative approach might seem to comprise a system in which policies would be grounded in historical responsibilities for greenhouse gas emissions, from (say) the beginning of the industrial revolution. The big historical polluters would be required to fund international schemes of mitigation and of adaptation (also of development, if possible). This approach, however, is probably inoperable, as well as being arguably inequitable. Its inoperability could be illustrated through the emissions of Poland, once partitioned between Austria, Prussia and Russia; who would now be responsible for the emissions of that period? Examples of parallel problems could readily be multiplied. Further, its inequity could be illustrated by noting how the countries with a record of large emissions are not always the ones with the capacity in the present to fund adaptation and mitigation costs. Russia, for example, has such a record, but may possibly lack a matching capacity for large-scale overseas aid in the present. Even if Russia could now afford such aid, it may well be that Ukraine and Kazakstan cannot.

The real objection to such proposals is that concern for the future of humanity and of other species requires a system answering to current capacities and capable of being extended indefinitely into the future, in

other words, sustainability; thus, the approach based on historical responsibilities cannot match these requirements. The system needed would have to be based on universal principles, including current prosperity, and cannot be derived from the particularities of history.

This reasoning strongly points to a system based on Contraction and Convergence, even though it would need to be supplemented by a massive system to combat poverty and underdevelopment. The latter could well need to be introduced simultaneously, in the cause of securing universal agreement about and compliance with the system of proportionate emissions quotas.

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