

NATURAL CAPITAL AND CRITICAL LIMITS – THE WRONG QUESTION?

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What has lately become the conventional wisdom, conventional at any rate in what I may call our shared field, the field of concern of everyone here, is that according to which the environmental economist's question whether we are approaching critical natural capital limits acquires great urgency – so that, if the answer is “yes”, that clearly gives us an objective *benchmark of unsustainability* against which to judge and by which to motivate the policy process. It's that conventional wisdom that I want to look at critically – in the other sense of critical – this morning.

A benchmark of unsustainability? Let's start by recognising that benchmarks, humanly speaking, always come with a tendency to shift. One of the things we most typically do with our standards is to float them to suit our needs. I can best introduce this thought by recalling a scorching article which Paul Ekins wrote for the *Guardian* a couple of months back¹. In this, he exposed what he called the “Alice-in-Wonderland economics” informing government cost-benefit calculations around the proposed airport expansion at Heathrow. These calculations purport to show the expansion yielding a net annual benefit of nearly £6bn – but they only do so because of how the costs of emitting 180m extra tonnes of CO₂ between 2020 and 2080 are arrived at. These costs are calculated using a “shadow price of carbon” – the estimated costs of damage from the associated climate change – of £15.50 per tonne of CO₂. But that damage-cost estimate in its turn depends on the assumption that the world will be able to hold its atmospheric CO₂ concentration to a pretty challenging 550 parts per million (which will need emissions across the whole globe to stabilise in the next ten years, and then reduce, with countries like Britain having to achieve cuts of 60% at minimum to contribute). The Treasury and the Environment department, which are pushing the Heathrow project, help themselves to these figures *merely because the government has announced a policy commitment to them*, and then use them to justify

¹ “Path of least resistance” *Guardian*, 13th February 2008.

a major expansion in air traffic which will unquestionably make that commitment massively more difficult to deliver. This, says Ekins very justly in his article, is “a cake-having-and-eating strategy if ever there was one, intended to permit the government both to claim to be committed to climate change mitigation and to have all the aviation expansion it wants.”

Or to take a slightly different example of the same kind of strategy: recall how the policy process was ebbing and flowing in the latter part of 2007 around the target of getting 20% of energy from renewables by 2020. This was a European Union aspiration to which Tony Blair had signed Britain up in the spring of that year. The prospect of contributing meaningfully to it clearly places challenging expectations on a country where the proportion of such energy amounts at the moment to around 2%, as compared to an EU average of 7% (with Germany, currently leading the drive on this issue, on somewhere over 9%). Indeed the new Department of Business, Enterprise and Regulatory Reform was already insisting (in leaked documents seen by the *Guardian*²) that anything approaching the 20% target would be just too ambitious for Britain. Meeting it would face severe practical and cost difficulties, ranging from funding the necessary increased R&D for wave and tidal power to persuading the MoD to accept the necessary offshore wind-farms. So it was being suggested in those quarters that the Government should now be working behind the scenes with other more sceptical or less progressive governments, to reduce the required overall percentage before it had to be consolidated into binding national commitments. Voices from still elsewhere, meanwhile, were suggesting how any renewables target would in practice be treated once it started to bite. Another leaked briefing paper originating in the former Department of Trade and Industry³ was found to have asked ministers to examine what options there were for statistical interpretation of the target that would make it easier to achieve. Possible wiggle-room, for example, could come from including nuclear power as a form of renewable, or counting in solar farms being supported by UK investment in Africa – an idea which hasn’t gone away even as a result of that exposure, and was only just recently back in the news.

² “Labour’s plans to abandon renewable energy targets”, *Guardian* 23rd October 2007.

³ “Revealed: cover-up plan on energy target”, *Guardian*, 13th August 2007.

What I want to suggest to you is that the kind of doublethink illustrated in these two examples is not, actually, a *perversion* of the economic sustainable development model – an aberration from its proper working out as policy. It is not something from which we can *guard* sustainable development policy, if we take sufficient care. Rather, the fact that sustainable development thinking subverts itself in that way is deeply *inherent in the conceptual structure* of the idea. It is not just a question of reluctance to give up one particular flagship development, nor of evasiveness chargeable merely to one pusillanimous government. Its lending itself so readily to such shiftiness is built into the sustainable development model itself

And the issue before us today, that of critical limits, limits defined by levels of critical natural capital – how we define and identify them – is very much to the point in terms of that suggestion.

Consider an analogy. It's September 1st 1939, and Hitler has just invaded Poland – to whom we in Britain have a treaty commitment, though we also had obligations of sorts to Czechoslovakia which we abandoned to its fate at Munich a year earlier. But suppose we are not now just at the mercy of popular feeling and mere politics – or statesmanship – here. Suppose we have available a cunningly-contrived theoretical apparatus for quantifying *European security capital* – a set of equations into which we can factor various kinds of measurement, of comparative reliability of treaty undertakings, comparative sizes and readiness of land, air and sea forces, geographical factors of distance and accessibility and so on – and suppose that, to guide us objectively and scientifically under the stress of these great events, we can deploy that apparatus to yield a decision as to whether “security capital” has actually been critically diminished by the attack on Poland. Would Chamberlain's government have at last gone to war two days later? – or would it have spent months arguing over the bases and interpretation of the figures, until it was too late, and the public mood for action had evaporated once more?

Well, that's an unanswerable question, no doubt, like all historical might-have-beens – but you will, I'm sure, see the point of the analogy. Human beings are very good at *displacement* when it offers the opportunity to avoid doing something that they don't want to do. And there is no more effective form of displacement than shifting

attention from the question of how to make ourselves act, to that of whether the case for action has been fully, indisputably, objectively and scientifically made out. That's because argument over the figures always offers plenty of scope for a characteristically modern, scientific form of bad faith – tacitly choosing the figures, or the basis of measurement, which yields us “objective” confirmation of what we wanted to be told. And this process is of course what supports the strategy of having it both ways, the cake and the eating – of getting the various benefits of making a commitment without incurring the costs of actually having to do what it entails – which we have been noticing.

Now bad faith of this kind is a fundamental human temptation, one which we simply have to recognise and struggle against in important matters. But arming ourselves with the *sustainable development model*, and in particular with its economistic framework of quantified natural capital assessment, is giving ourselves weapons which will bend in our hands as soon as we try to engage in that struggle.

I have such limited time this morning that I can really offer you no more than a punch-line or two in support of that claim. (That's why it is not *mere* self-advertisement on my part to have had included in your delegate packs that flyer for my forthcoming book, where I try to argue the case in proper detail.) The point is threefold:

- (1) long-term prediction of the behaviour of ecological systems and of the local or global economic effects of that behaviour is always inherently uncertain – and, if offered as anything less than inherently uncertain, dangerously hubristic;
- (2) we all really know this, and rely on knowing it to float the standards (expressed as targets and indicators) which are supposed to be benchmarking our remedial action; because
- (3) we all tacitly recognise that the underlying “stewardship” model of ethical obligation has no force to constrain us from doing this.

Any quantum that gets produced in the predictive scientific and economic modelling so central to sustainable development discourse inevitably exhibits the characteristic duality of being determinate, insofar as *any* quantum is determinate (that is, just by being *this* quantum rather than that); but also having all the essential open-endedness

of the highly contingent kinds of “archaeology” which we have been examining. Correspondingly – and this is the key point – such figures always *lend themselves* to being regarded as hard data under some circumstances, and soft data under others. Sustainability standards so conceived are inherently liable to get floated under pressure, to constrain us only when and as far as it suits us to be constrained.

Sustainable development, that is, makes fairness to the future depend on quantification which is indefinitely arguable in detail, in ways which give us all the opportunities we need for being covertly unfair to the future. The grip of impartiality between our needs and those of the future is always slipping because we in the present must determine the bases and interpretation of the figures, with no criterion for whether we are doing this fairly, except its leaving future people the objectively equivalent quanta of critical natural capital which we are supposed to be determining.

Just to offer one more example of this process in operation, consider the new debate over nuclear energy, with global warming now perceived as a serious threat in a way it wasn't during earlier phases of this long-running controversy. (And recall in this context the IISS assessment of the consequences of warming, as something like a slow-motion nuclear holocaust.⁴) We can agree that acting impartially towards the future rules out consciously entailing climate catastrophe on our descendants – but can we agree whether or not it rules in moving swiftly and seriously to reactivate the nuclear programme (as powerfully advocated by James Lovelock, for instance⁵), at least as part of our new energy portfolio? Suppose we hand on to the people of the mid- to late 21st century a climate and biosphere still on the hither side of catastrophic step-changes, *but* we also hand on a new generation of reactors with their associated wastes and the dangers they pose to ecological capital and human health. Suppose also that by so doing we buy time for something like present technological society to continue for a while longer, so that there is at least a possibility of finding out how to manage these wastes, or perhaps of finding other kinds of new technological solution

⁴ See the Strategic Survey 2007 from the International Institute for Strategic Studies – details at: www.iiss.org/publications/strategic-survey-2007/

⁵ James Lovelock, *The Revenge of Gaia* (London: Allen Lane, 2006).

to the effects of warming. *Could* that count as handing on undiminished critical natural capital, and thus treating the future fairly?

On the sustainable development model, we always need to answer that sort of question before we can act positively in any direction against global warming or any other environmental threat. But we just can't know whether what we do now will result in any specific set of consequences that far into the future, so we can't be sure how to aim for this kind of balance, nor what specific combination of costs and benefits to future people would constitute its having been struck. Consequently, all we can do is to *invent* – as responsibly as we can. And that means that even if we address the question scrupulously, without making consciously self-serving assumptions or neglecting the best science, we can still encounter no firm distinction between finding an answer under pressure from our own present interests and finding one impartially as between ourselves and the future. The whole model of “dealing fairly with the future”, that is, although it can be seen to make sense in broad general terms of ruling out gross intergenerational negligence, can't support the following crucial kind of practical decision: we must do A, which is just outside our present-lifestyle comfort-zone, rather than B, which is just within it. And that means, of course, that once we are contemplating B, it can't support either any robust distinction between doing *that*, and doing something else C which would be even a bit less demanding... (So what will in fact almost certainly happen – is, indeed, already happening – in the energy case, is a recommitment to nuclear power, on the tacit basis that it offers the least uncomfortable solution in terms of changes to the present Western lifestyle.)

The crucial point here is about *motivation*. Confronted with our own reluctance to do what we know we really ought to do, although doing it will be hard, we can often find the inner strength to press on. But reluctance to do what we know, tacitly, that our obligation to do is really no more objectively robust than an obligation to do something else a good bit easier, is very much harder to overcome. If sustainability is a matter of longer-term consequences, the grip of its obligations on present action can only be as firm as those consequences are determinate – that is, not very firm at all – and *we can't help but be aware of this*, even as we offer to rely on the model for stiffening our resolution in the present.

The heart of the problem is that sustainable development configures our ecological responsibility unimpeachably at the level of theory. That is why it has proved such a good banner, under which the advocates of that responsibility have been able to march so rapidly, historically speaking, from the margins to the centre ground. But for all its solemn impressiveness at that level, it can't be effectively operationalised. The danger is not really that as a society we will crudely elect to prefer present consumer satisfactions over avoiding the desertification of sub-Saharan Africa, the flooding of half Bangladesh and so forth. Put like that, in the sustainable-development abstract, governments and public opinion could hardly refuse to endorse ecological responsibility. The far more insidious danger is that we will resort, tacitly but increasingly, to the multiple opportunities of equivocation between hard and soft quanta which the model provides – and in particular, which assessing critical natural capital limits provides – so as to ensure that “acting responsibly”, for which we will continue to claim credit, always stops short of any unduly painful changes. (The offset calculations will always allow us to keep flying...)

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So if “Are we approaching critical limits?”, the question to which an economic sustainable development model naturally leads us, is the wrong question – what's the right question?

Let's come at this from another angle. After all, *we know what has to be done*. We have to ration carbon. There is no way round this. We have to ration CO₂-emitting consumption by every individual, every firm, every department of government and activity of the state, in this country and everywhere else in the Northern world, and we have to do it within the next decade. The overwhelming scientific consensus is that if we don't cut emissions dramatically, it will soon be too late to prevent runaway global warming of 6⁰C and beyond, driven by ramifying positive feedbacks. And we also know, thanks to science, roughly to what sort of overall level we have to ration emissions if we are to give ourselves even a chance of avoiding that future scenario. We have to structure a rationing system so that atmospheric CO₂ equivalent is kept from rising above something between 400 and 550 parts per million by around the

year 2050 – otherwise, sooner or later, flooding, drought, disease and famine on a worldwide scale hitherto unknown and barely imaginable.

We know what we have to do, and thanks to environmental economics we also know in broad terms how to go about doing it. It's not rocket science, nor is it even wacky politics. When he was still at Environment, for instance, the present Foreign Secretary floated the idea of a system of individual carbon allowances for emissions associated with consumers' use of energy for domestic and travel purposes (currently estimated at about 44% of total UK emissions)⁶. The allowances would be based on national targets for cutting CO₂ emissions and would be the same for every citizen, although they would also be tradable. If you didn't need all your carbon points you could sell them on, if you needed more you could acquire them – at a cost. The scheme would thus build in a strong incentive as well as a regulatory limit – personal energy efficiency would become, if not the new road to riches, at least in everyone's immediate financial interest. Allowances would be “spent” by simply swiping or debiting a card at the point of purchase, as is now the way with so much of our actual money.

The proper role – the indispensable and invaluable role – of science and economics, is to help us learn our way forward practically along that course of action. It is to fill in the constantly evolving details of what the nation needs ongoingly to be, how to estimate its expenditure in terms of the differential carbon implications of consumption, and how changing patterns of consumption might be expected to pan out macro-economically in the fairly short term. But their role is *not* – and this is absolutely crucial – to try to *ground* or *justify* that course of action, in terms of critical thresholds crossed, or nearly crossed, or soon to be crossed..., or any other quantificational methodology to be argued over as a way of displacing the sheer bloody struggle of *just doing it*.

⁶ David Miliband MP, Audit Commission Annual Lecture given on 19 July 2006 (see <http://www.defra.gov.uk/corporate/ministers/speeches/david-miliband/dm060719.htm> for the text).

But what then does justify that course of action? How do we explain *why* we must ration CO₂ emissions, in a way that doesn't immediately take us back into disputes over quantification of the threats to critical natural capital worldwide?

Mark Lynas has an image which is very telling in this connection:

“...if you doubt the scale of the enterprise that human society is currently involved in, go and stand by the side of a busy motorway, and then look up at the sky. Remember that the breathable atmosphere extends a mere 7,000 metres above your head. Then think of how many other motorways there are criss-crossing the globe, from Bangkok to Berlin, each chock full of cars and trucks...and remember that this situation goes on day and night, 24/7, across the whole of the globe.”⁷

In context this is meant to emphasise how human creatures are by no means too small to impact on such a big thing as a planet. But one's recoil needn't be, and surely initially isn't, from the gathering natural-capital consequences in which that impact consists. It is directly and immediately from the travesty of human living, the insult to human embodiment and the ruining of human life-space represented by this roaring insanity, this poisoned, insect-like mechanical scurrying. But very many people now live on the edges of motorways, or in similar man-made environments – indeed, that scurrying is a prominent part of the daily context for countless millions. What on Earth – what, on Earth – is to be done about what we have done to ourselves?

We know that a life of craving consumption is empty and a radical betrayal of our humanity. We know that it renders present life – not some future life, for some coming generation, but *our* lives – essentially *meaningless*, and merely intensifies itself in the constant struggle to find surrogate meaning in movement and activity which themselves always involve yet more craving consumption. (“One is always nearer by not keeping still.”)

This is old news – we might have had to package it in science and economics for the political class, and yes, that was worth doing to get sustainability concern onto the

⁷ In his *Six Degrees: Our Future on a Hotter Planet* (London: Fourth Estate, 2007), p. 254.

mainstream policy agenda – but the real challenge now is getting a working majority for serious action in this country and others like it within ten years. But no carbon rationing that isn't positively welcomed is going to achieve this. It is of vital practical importance to admit that and face up to it. Not only is the necessary practical machinery going to have to be complied with and incorporated across large tracts of life on a daily basis, but before that the rationing model is going to have to start making a powerful appeal to the public mind, and its introduction to win widespread support as a policy. Then politicians who pledge (credibly) to implement it must campaign successfully enough on that platform to be voted into government. The idea that all this will happen while people at large remain reluctant or resentful about the whole notion is simply implausible. A rationing regime can only hope to succeed if it comes pretty swiftly to carry a very strong positive sign.

For that to happen, we have to wrest the language of sustainability so that it is not looking ahead to critical thresholds in prospect, but talking overtly about the present – so that it expresses the recognition that if we are hazarding the biosphere – seriously risking a manmade holocaust of life on Earth – nothing we do *today or tomorrow* can retain its human meaning. And we are hazarding it, and know we are. We are like Faustus, selling his soul for twenty years of fun – except that Faustus when he struck the deal didn't believe that the Devil would really come for him, and we know – with already quite as much confidence and scientific warrant as we need – that the Devil will come – that we are preparing a literal hell on Earth. – and that the twenty years of fun can only be vacuous and destructive even as we indulge ourselves in them.

Here it is very helpful to have an eminent contemporary to call in evidence:

“The climate crisis...offers us the chance to experience what very few generations in history have had the privilege of knowing: a *generational mission*; the exhilaration of a compelling *moral purpose*... *the opportunity to rise*...When we do rise, it will fill our spirits and bind us together. Those who are now suffocating in cynicism and despair will be able to breathe freely. Those who are now suffering from a loss of meaning in their lives will find hope.”

That is Al Gore, in the book of the film⁸ – and a politician’s, or perhaps a statesman’s, rhetoric. There is truth and inspiration in it for all that.

The right question *is*, in its way, a question about limits. But it is not about some objectively-characterisable state of biogeophysical systems. It is a question to address, challengingly and directly, to individuals – directly to oneself: “Can you *really* be complicit in risking life on Earth, for *this*?”

Now that sustainability is a language which people at large are beginning to recognise, an appeal at that level just might work. It is, in any case, our only real chance. Such an appeal would certainly have to have a distinctly revivalist and even missionary zeal to it, as opposed to the tones of earnest popular-scientific elucidation with which environmentalism has now got far too comfortable. But here I return to the point (it can’t really be repeated too often): we must gain a working majority for far-reaching and irreversible change *within a decade*, or the cause is lost. In face of that stark urgency, it is surely clear that only something with the effect of a spiritual revival is going to do the job. Of course it must not be factitiously quasi-religious, which would be the kiss of death. But it must engage people at that kind of depth – speaking to their passions, fears, self-doubt, recoil from emptiness and capacity for life-hope, as well as their reason and conscience – if it is really to move them to action. Only the release of such elemental forces has the chance of generating the moral energy we now need. We must articulate all these issues at the level where such forces await release. And questions about critical natural capital limits are, in that perspective, a distraction.

⁸ *An Inconvenient Truth: the planetary emergency of global warming and what we can do about it* (London: Bloomsbury, 2006), p.11