CONTRA BENDELL

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Jem Bendell has proposed a framework called Deep Adaptation. The basic principles seem to be

* Catastrophic climate-related changes are now **inevitable**
* If they cannot be prevented, they need to be **adapted to**
* Systematic and **strategic adaptation** is better than ad-hoc adaptation
* It is a **not a survivalist** *sauve qui peut*, although it is not clear who survives and who does not
* We should try to decide **what we most value**
* We should deal with the situation as **humanely** as possible
* Adaptation is complemented by ‘**bold mitigation’**

It will come as no surprise that I disagree both with Bendell’s analysis and his prescriptions, although I readily acknowledge that his approach is generous and humane, and resolutely post-academic: I hope I can claim as much.

The physical basis is that greenhouse gas emissions (GHGE) have risen steadily, more or less exponentially, *despite repeated international attempts to regulate them*. To describe it as ‘exponential’ is pushing it a bit, but the growth is at least linear, and its effects are possibly greater than we are commonly told. Bendell is particularly concerned about growing methane release in the arctic, and the prospect of an ice-free Arctic ocean in the summer, leading to exaggerated heating effects. And no doubt there will be even more nasty surprises, particularly feedback effects. Bendell is ready to entertain the most apocalyptic of climatic visions, even worst-case scenarios.

Figure Global \Greenhouse Gas emissions, 1970-2015. Source: EDGAR

I have no quarrel with Bendell’s apocalyptic visions, but I interpret them differently: if they are as bad as he expects, and there is any hope at all of avoiding them, then it’s All Hands on Deck; and if there are feedback effects, we must bend every sinew to prevent them cutting in.

Bendell is correct to draw attention to the *probabilities* in the official projections. To say that a particular pathway is ‘more likely than not’, say 66% chance to avoid a threshold, means there is still a 33% chance of failure. These are very poor odds, which any insurance company would laugh at. It is worth emphasising that standard reports do not dwell on this matter, content to leave the impression that if we pursue a recommended path, success is assured. It is not.

Using a graph that starts in 1750, Bendell draws in the necessary rates of decarbonisation, and they appear impossibly steep. If, however, we start in 2000, the required rates are still very steep, but not impossibly so. The rates of change and of investment are rather leisurely compared with the rates achieved during (for example) the second world war. This still does not guarantee success, and if we want better odds, we have to move quicker.

Figure : Plot of all GHG since 2000, in decades, leading to the IPCC's recommended global target of net zero in 2050. Note that countries like the UK might be expected to reach net zero much earlier.

I am saying this because I believe it is still possible to prevent the worst. It might not be likely, but it is *possible*. Bendell does not think so, and if this is the case, it is reasonable to consider non-preventionist programmes. Note that I am using the term ‘prevention’ rather than the more usual ‘mitigation’, because it is clearer.

The assumption is that if we cannot *prevent* irreversible outcomes, we can, perhaps should, *adapt* to the changes. Some climate effects are already apparent, and adaptation is already occurring, or is in prospect. It is worth making a distinction between *ad hoc* adaptation, responding as events occur (like sandbags against the door) and strategic adaptation (like raising flood walls or banning building in flood-plains). Bendell is very much in favour of intelligent, strategic adaptation.

It is common in climate-change discourse to speak of a balanced portfolio of measures, with both adaptation and ‘mitigation’. Bendell agrees, and speaks of ‘bold mitigation’. In some cases, the same measure serves both purposes, for example planting trees on catchment-sides both absorbs CO2 and lessens flood risks, so there are ‘no regrets’ policies acceptable all round. But if the battle is already lost, one might ask what is the point of any mitigation at all? We can assume that in Bendell’s view, its purpose is to *slow down* the process of climate change and give a better chance for adaptation measures.

If it is indeed true that the battle is lost, Bendell’s approach is rational and logically coherent. However, I do not believe that Deep Adaptation has fully engaged with the worst-case outcomes, or their ethical implications.

The reason that the IPCC has calculated its carbon-budgets and suggested decarbonisation trajectories, is that it believes we must not go beyond certain ‘guard-rail’ thresholds, or else risk triggering the feedback effects that Bendell already discerns emerging from the mists of the future. Such thresholds and discontinuities mark the CC problem as different from the ‘classical’ environmental problems of the recent past.

There seems to be a widespread mental image of climate change as a linear and reversible process like traffic congestion or air pollution. The situation gets worse and worse, until you can’t stand it any longer. Then you develop the technology, pass legislation, send in the inspectors and rein the problem in. Indeed, if you wish, you can reverse it and get rid of it all together. Job done, problem solved. Next!

Climate change is not like this: it is more chaotic, unpredictable and nonlinear. The late Wally Broecker compared it to a dangerous and ‘angry beast’ currently dozing, but which we are currently prodding enthusiastically. We already know many potential feedback processes or ‘tipping elements’ (Bendell mentions some) and the IPCC is very concerned that we do not activate them, because they are often irreversible and self-sustaining. It appears that Prof Bendell considers the overall ‘tipping point’ to have been reached, and that we are now committed to an accelerating slide into uncontrolled change. If this is right, he too is right.

However, it is possible to argue this is not yet a done deal: that there is still time to forestall the worst irreversible tipping elements, and pull things back from the brink. Why is this so important? It is because the difference between prevention and its failure could mark the greatest planetary disruption since the cataclysmic end of the Mesozoic era 65 million years ago. I am not trying to be melodramatic here, I am merely following the logic of the science, and Bendell’s own dire reading of the unfolding situation.

The problem is not simply that things are set to get worse; it is that they will soon become self-deteriorating, generating waves of further positive feedbacks and subsystem collapses. The deteriorations will be so rapid and widespread they will overwhelm attempts at adaptation. The goalposts never cease to move; as soon as one adaptation system is established, it will become irrelevant, and another will be hastily inaugurated, only to be swept away in its turn. Adaptation sounds sensible and humane, but is ultimately a fool’s errand.

We cannot ignore the fact that in any generalised collapse, billions of people will die and life in most presently-populated places will be chaotic. There is a serious question of who will die and who will not. This can be left to ‘chance’, and we usually feel more comfortable about this, because there is no immediate personal responsibility, especially if deaths occur in remote places. In effect, God decides, and the matter is out of our hands. But could we be considered *complicit*? Perhaps at that point such ethical niceties will be considered just that.

More likely the astute, the foresighted, the rich and the powerful will quickly retreat to safer enclaves where they can attempt to maintain their customary lifestyles. These enclaves are almost certain to be in high-latitude locations that at present are sparsely populated, often referred to as ‘the New North’ – Greenland, Canada, Siberia, Lapland, Alaska etc, but which of course also includes southern locations such as New Zealand, southern Chile and Argentina, islands in the Southern Ocean, and even the Antarctic Peninsula, that might be especially favoured as highly inaccessible.

This is one option likely to arise from Bendell’s proposals for humane adaptation. To his credit, he does not lay out plans for elite survival, but he does ask ‘what do we want to save?’. The answer must be the ‘best of humanity’ and this is almost inevitably an elite project. The elites always have lifeboats; they know how to save themselves, and in the words of one text, how to ‘sequester mortality in the lower classes’. Those left behind, fighting for scraps will have little time for niceties.

So there will be enclaves, ‘arks’, perhaps in the spirit of the Svalbard seed bank, or the monks of Lindisfarne, keeping many precious things intact. It will not be possible, however, for the super-rich to take everything with them, including servants and supply chains. Eventually their stocks and their entitlements will run down. They will end up monks as well, but vulnerable to raids from envious warlords – as the Lindisfarne community found. Or else they will become warlords themselves, able to survive only by compelling obedience in underlings.

I do think this sinister message is likely to be read between the lines of Deep Adaptation: get ready to be a warlord in the right place, or your family will not survive. It is inevitably linked to ‘Preppism’, and indeed Preppers will have a certain short-term advantage when things start to go sour. I am sure it is not intended, but Deep Adaptation acts as a dog-whistle to a deep-seated feeling in all of us that we are somehow special, and deserve to be among the Saved. Perhaps we all have a bit of *The* *Revelation* in us, and dream of clearing out the stables, when our enemies will be destroyed and we will be ushered into the Peaceable Kingdom of *people like us*. Although Bendell himself insists there is no *sauve qui peut* survivalism in his programme, when the chips are down, there will be sheep and goats. Mostly goats. I want to hear more about Bendell’s goats.

What we might call the **political economy of adaptationism** deserves comment. In his ground-breaking *Logic of Collective Action*, Mancur Olson distinguished two important patterns of cost and benefit, where

* Benefits are concentrated and costs dispersed
* Costs are concentrated and benefits dispersed.

These apply to the climate problem. Although this is a classic problem of collective action, individuals are bound to consider how it applies to them personally, or to their family or identity group. Adaptation matches the first of the pair: an individual gains a personal benefit, but the cost, in terms of failing to prevent irreversible change, is dispersed. An individual is able to free-ride on the efforts of others, while deriving a short-term benefit. Of course, it might be protested (as Bendell does) that such an individual pursues mitigation too. But there is an opportunity cost here: in strict terms, effort and resources dedicated to adaptation are not available for prevention, so there is inevitably an element of free-riding.

Contrast the strict preventionist, who encounters immediate costs but whose benefits are dispersed across the whole of the human population, now and far into the future, as well as the biosphere itself.

The contrast between the two is so stark that it is surprising there is any preventionism at all. Preventionists act on the basis of a kind of abstract universal ethic, on behalf of a vast realm of human and non-human beneficiaries, mostly yet unborn. Adaptationists need only neoliberal economic values, and everything falls into their lap. A vast transfer of resources is achieved from all those, human and non-human, who cannot defend them, to a small coterie of elite humans with the temporary power to scoop the pool. What I am asserting here is that there is vast asymmetry of personal interests that strongly favour adaptation over prevention. Given the choice, most people are bound to plump for the former, and they will.

Perhaps for this reason it is important for Preventionists to ignore the siren song of adaptation: it has everything going for it, will happen anyway, and will monopolise the lion’s share of resources. It might even prevent prevention itself, and will then accelerate the sequential collapses as it sucks the oxygen out of mitigation. For such reasons Adaptationism should be regarded as reprehensible. The two are simply incompatible.

Let me now return to what is likely to happen if thresholds *are* crossed. Note that in nearly all cases the weakest links are in the tropics and will snap first. The reason for this is that these are already the hottest places and the incidence of unsurvivable heatwaves will increase. In addition, infrastructure is weak and state institutions are prone to collapse. Political power will revert to control by clan chiefs and local warlords. There will be continual warfare and millions of refugees. Chaotic events will gradually expand from the tropics.

We should remind ourselves that under these circumstances the loss of political authority is very serious. Under stressful conditions, collective action effects are generally malign, and will serve to make matters worse, not better.

The physical situation will be bad enough, with droughts, floods, heatwaves and chaotic weather; the knock-on effects on ecosystem services will create even greater problems, with massive crop losses and widespread famine. The human effects will perhaps be worst of all, generating unstoppable waves of millions of desperate refugees. We have received many foretastes of such effects. For now, the international system and UN agencies can cope. Quickly, however, the need will outstrip the ability of the international community to respond effectively.

It seems likely that the globalised supply system will shrink and perhaps cease altogether, although smuggling and contraband will flourish. Functioning states will retreat into autarkic nations or defensive blocs with greatly strengthened means of repelling refugees. Public sentiment will doubtless conform, switching from a ‘help the needy’ *Guardian*-style ethic to a ‘we must look after ourselves’ *Daily Mail*-style ethic. The moral tenor of public life will be permanently changed.

Many strong states will survive, although perhaps forced down authoritarian paths. The UK is probably one. We are a high-latitude country that can easily tolerate – even welcome – higher temperatures. Food production would be more difficult, but probably adequate to feed everybody, and industrial production could continue to provide material necessities (energy, shelter, transport, household goods, clothes) in reasonable abundance, provided political order is maintained.

Principal problems for the UK might be political. Some are easily solved. Being an island, an enlarged force of gunboats and coastguards will address most of the refugee problem with considerable prejudice. But there will still be disgruntled minorities, many of them with millenarian and eschatological beliefs and in some sense ‘nothing to lose’. These are people who simply do not share the humane, internationalist, environmental perspective. They might be expected to mount regular terrorist attacks, and would need to be suppressed by intrusive surveillance that will affect everyone. *Stasi*.

Of most concern is nuclear material falling into the hands of ‘mad but competent’ terrorists of the 9/11 stamp, who would be able to blackmail states to accede to their demands. Security of nuclear material and weapons is of great concern in a world where political order is dissolving. It is probably only a matter of time before unscrupulous forces obtain control of nuclear weapons. Think about Daesh/IS on a very large scale. There is no limit to the threats posed by ‘rogue states’.

These problems aside, I imagine the UK will be one of a handful of nations where centralised political order will be maintained, perhaps indefinitely, while much the rest of the world undergoes political collapse. Others might be the USA, Canada, Japan, much of Europe, New Zealand, Australia, perhaps Russia and China – ironically, the nations that have historically contributed most to the problem.

Gradually, other climatic feedbacks will kick in, raising the temperature further. Once the process is unstoppable, there will be no incentive to limit fossil fuel use, and countries that have the resources will use them. There is plenty left. On the biosphere front, the much-heralded ‘sixth mass extinction’ will proceed unhindered; ocean acidification will affect shell-formation and health of coral reefs; wildfires will be routine, removing forest cover on a colossal scale, assisted by free-for-all logging. Hunting will clear out the large mammals. In fact there will be a great fire-sale of natural resources, as desperate populations consume anything that can help them survive in the here and now.

Would it end anywhere? Some climatologists have the view that, just as we identify two metastable climatic attractors at the present interglacial level and the -6°C of the glacial periods, there is another stable attractor at around +6°C, so the heating process might stop there. Meanwhile of course the human population would have been greatly reduced, so there would be relatively little extra forcing from greenhouse gas emissions. In some sense the earth would be a ‘smoking ruin’ but the ‘true’ biosphere of smaller-scale life would still be intact. If we look at the recovery of large-species biodiversity from previous mass extinctions, it appears that the level is restored within a million years, so we just need patience. Some commentators feel it is disagreeable for one species to inflict this on others, but perhaps adaptationists will find comfort in the understanding that the earth has seen worse, and will eventually recover.

One question is what happens to the Ice Age cycles? I understand the present interglacial is good for another few thousand years before we plunge into the next Ice Age, but what would be the effect on a +6°C planet? Would an ice age bring things back to the present temperature level? A curious and probably unanswerable question, but I expect some optimists will buy it.

These are very long-term perspectives. What about the medium-term, hundreds of years? Suppose that some benign forces survive, probably in protected enclaves, conserving the best of the past. They might need to keep a very low profile to evade attempts to stamp them out, for they will be considered prime enemies, as both Hitler and Stalin recognised. We can imagine an underground secret society, like the Templars or the Jedi, who would eventually emerge, and execute a slow ‘reconquista’.

It can all be painted in theatrical and romantic terms. Many novels and films use these tropes, and they work well as stories. But they tend to skate over the sheer horror and destruction behind the narrative, which would be real.

What is the Preventionist alternative? It is essentially to *avoid* the melt-down complex, to ‘get everyone through’, then to calm down, mop up and continue with the ‘maturation’ rather than growth, of humanity, by analogy with the transition people make from growing to growing-up, around the age of 18. The central task is to reduce GHGE to sustainable levels and protect critical features of the biosphere, on an emergency basis. Once the patient is, as it were, stable, then healing can begin. The best chance is a gradual strengthening of the UNCCC and largely *technical* measures of managing GHGE, not because they are better, but because they are quick and provoke the least resistance. They are, in Bendell’s words, ‘bold mitigation’. They can be followed by behavioural and institutional measures as we move into shared global post-modernism that might romantically be labelled *Sustainia*, admittedly a long shot, but an ethical imperative.

A helpful perspective might be gained from a hypothetical person living in the middle of the 22nd century. Imagine what they might think. Looking back, how would they interpret our actions? Would they applaud the efforts of Preventionists? Or would they understand that Adaptationists had no option?