

**Title:** Something nasty in the greenhouse  
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In the late 1930s when I was a student we knew that war was imminent, but there was no clear idea of what to do about it. As a young man I was naturally inclined to the Left in politics and followed the peaceful way, and thought that nothing could be worse than war; my views were shared by many, especially by old soldiers, with awful memories of the First World War. Even those on the Right said that Hitler was no danger; his natural enemy was Soviet Russia. This pacific dream world persisted until 1940 when suddenly the war became real.

I find a marked similarity between attitudes over 60 years ago and those now towards the threat of Global Change. Most of us think that something unpleasant may soon happen but we are as confused over what to do about it as we were in 1938.

Our response so far is just like that in 1938, an attempt to appease. The Kyoto agreement is uncannily like that of Munich with politicians out to show that they do respond but in reality bidding for time. We are tribal animals and the tribe does not act in unison until a real and present danger is perceived. This has not yet happened and as individuals we go our separate ways while the ineluctable forces of Gaia marshal against us. Battle will soon be joined and what we now face is far more deadly than any blitzkrieg. We are at war with the Earth itself.

Make no mistake, we will soon be faced with the greatest test humanity has ever had. Our chief scientist, Sir David King, was right when he said in the USA early this year that global warming was a greater threat than terrorism but I think he did not go far enough. Global warming is the response of our outraged planet to the harm that we have already done, and the consequences for humanity are likely to be far worse than any war.

The Earth is now acknowledged by scientists to be a self regulating system made up from all its life forms including humans and its material parts, the air the oceans and the surface rocks. The Earth system regulates its climate and chemistry. Because the Earth is like a living system and is responsive to what we do; adding greenhouse gases to the air has quite different consequences from doing the same thing on a dead planet like Mars.

The laws of Gaia imply that any species that makes changes in the composition of the air and the nature of the land surface risks altering the world to a state that will disfavour its progeny. This is how the Earth System discourages harmful species and in that sense we are Gaia's target now. But we are not just a pest on the planet to be eliminated; we are part of Gaia and its first consciously intelligent species. We are of great potential value, at the very least, we have held up a looking glass for the Earth and let her see how beautiful she is compared with other planets.

We have not yet awakened to the seriousness of global warming and as in 1938 proposals for action are vague and ill considered.. Some here and many in the USA deny the existence of global change and continue with business as usual and intend to enjoy warmer 21st century while it lasts. Others recognise the threat but

respond by taking the deep Green way: and eat nothing but organic food, use nothing but renewable energy and raw materials, and use alternative not scientific medicine. If we follow either of these responses it will allow Gaia eventually to return to her normal state of health but by eliminating the majority of humans and probably civilization as well.

The liberal middle road where we acknowledge global warming but do no more than make cosmetic gestures, like the Kyoto agreement, can only delay these consequences. We have to understand that already we have done so much damage to the Earth system that even if we immediately stopped burning fossil fuel we still leave an impoverished Earth as the legacy for our descendants. Every day that we go on fouling the air and taking natural ecosystems for farmland compounds the indebtedness. There is a consensus among climate scientists that we are fast approaching a threshold level of atmospheric carbon dioxide, beyond a level between 400 and 500 parts per million the Earth system is committed to irreversible overheating; we are now at 380 parts per million so there may be little time left to act.

There may be a way to come to terms with Gaia and survive and it is to take the high tech road. It would require us to embrace science and engineering, not reject them; we need their skills and inventions to lessen our impact on the Earth. In the 1940s we nearly starved on these islands and we were not saved by digging for victory but by the exquisitely crafted technology of radar that defeated the submarines.

Now once more we need the best technology. We need a portfolio of energy sources, with nuclear playing a major part, at least until fusion power becomes a practical option. If food can be synthesised by the chemical and biochemical industries from carbon dioxide, water and nitrogen, then let's make it and give the Earth a rest.

We must stop fretting over the minute statistical risks of cancer from chemicals or radiation. Almost a third of us will die of cancer anyway, mainly because we breathe air laden with that all pervasive carcinogen, oxygen. If we fail to concentrate our minds on the real danger, which is global warming, we may die even sooner, as did more than 20,000 unfortunates from overheating in Europe last summer.

We have to take global change seriously and immediately and then do our best to lessen the footprint of humans on the Earth. Our goal should be the cessation of fossil fuel consumption as quickly as possible and there must be no more natural habitat destruction anywhere. To attempt to farm the whole Earth to feed people, even with organic farming, would make us like sailors who burnt the timbers and rigging of their ship to keep warm. The natural ecosystems of the Earth are not just there for us to take as farmland; they are there to sustain the climate and the chemistry of the planet.

To undo the harm we have already done requires a programme whose scale dwarfs the space and military programmes in cost and size. No more sustainable development, what we need is a well planned sustainable retreat. Inevitably, we will make mistakes, especially when we are still so amazingly ignorant about the Earth system.

Renewable energy sounds benign and just what the Earth needs but imagine that the extraction of power by wind turbines became a major energy source; would it be entirely free of larger consequences? I don't lose sleep over the thought that eddies shed by a single butterfly's wing might be the progenitor of a tornado that blew down my house but I do wonder would a million giant wind turbines adversely affect the vorticity of the atmosphere.

I find it extraordinary that the one safe and proven energy source that has minimal global consequences, nuclear power, is so readily rejected. It is now as reliable as any human engineering can be and, according to a recent Swiss report, it has the best safety record of all large scale energy sources. France has shown that it can become a major national source of energy, yet governments are still fearful of grasping this one lifeline we can use immediately. We live at a time when emotions and feelings count more than truth and there is a vast ignorance of science. We have allowed fiction writers and Green lobbies to exploit the fear of nuclear energy and of almost any new science, in the same way that the churches exploited the fear of Hell fire not so long ago. We must be vigilant and make sure that the sensible remedial proposals we make at this meeting are not smothered by the dead hand of puritanical rejection.

We are like passengers on a large aircraft crossing the Atlantic Ocean who suddenly realise just how much carbon dioxide their plane is adding to the already overburdened air. It would hardly help if they asked the captain to turn off the engines and let the plane travel like a glider by wind power alone. We cannot turn off our energy intensive fossil fuel powered civilization without crashing, but we need something much more effective than the Kyoto agreement.

My hope lies in that powerful force that takes over our lives when we sense that our tribe or nation is threatened from outside. In wartime we accept without question the severest of rationing and will readily offer our lives. Perhaps when the catastrophes of the intensifying greenhouse become frequent enough we will pull together as a global unit with the self restraint to stop burning fossil fuel and abusing the natural world. Astronauts who have had the chance to look back at the Earth from space have seen what a stunningly beautiful planet it is; they often talk of the Earth as home.

I am and have long been a Green. I ask all Greens to put aside their baseless fears and obsession with human rights alone, let us be brave enough to see that the real threat comes from the harm we do to the living Earth, of which we are a part and which is indeed our home.

Preface to James E. Lovelock, *Gaia: Medicine for an Ailing Planet* (London: Gaia Books, 2005), pp. 6-9.