



‘As the garden withers, the desert grows’

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In his inaugural homily as Pope, Benedict XVI used the metaphor of the desert to link ecological destruction and the moral exploitation and spiritual vacuity of materialism and consumerism; as he put it ‘The external deserts in the world are growing, because the internal deserts have become so vast. Therefore the earths treasures no longer serve to build Gods garden for all to live in, but they have been made to serve the powers of exploitation and destruction.’ This linkage between spiritual poverty and ecological destruction not only hints at a greater ecological awareness than was evident in many of the utterances of his predecessor, but is also reminiscent of Prophetic ecological utterances from the Old Testament: it was Jeremiah who first linked desertification and local climate change with spiritual and moral decay in Israel in the sixth century BC.

The region of ancient Mesopotamia was once known as the ‘fertile crescent’ because it was the first in human history to develop settled agriculture and hence to have the capacity to establish urban populations which could support cults of monumental proportions, such as those at Ur or Solomon’s Temple. However the fragile soils of this region were prone to salinisation and with over use and excessive irrigation the region suffered declining fertility and desertification. From the eighth century onwards salts rose from the bedrock, soil fertility and vegetation cover declined, and the local climate changed such that, as Jeremiah rhetorically remarks, ‘Does the snow of Lebanon vanish from the rocky crags? Do the proud waters run dry, so coolly flowing?’ (Jeremiah 18.14).¹ The demands on land and people of Israel’s foreign wars, and the alien cults and luxurious living of growing urban elites, incurred the wrath of the Hebrew Prophets. They argued that declining soil fertility, dried up rivers and climate change had come upon Israel because she had abandoned the just laws of Yahweh, and gone after other gods. As Jeremiah again put it ‘your wrongdoing has upset nature’s order, and your sins have kept from you her kindly gifts’ (Jeremiah 18.15). For the Hebrew Prophets, as for Benedict XVI, ecological breakdown was a sign of spiritual and moral decay in human society.

Ancient Mesopotamia was not alone in experiencing this kind of ecological calamity. In his new book *Collapse: How Societies Choose to Fail or Survive*² Jared Diamond charts the collapse of a number of ancient civilisations. He shows how the long term effects of poor agriculture, excessive demands of rising populations on soil and biomass, and ambitious elite projects such as vast temples or statues often precipitated ecological collapse. Easter Island and the Mayan civilisation are two of the best known examples. But there is a crucial difference between these historical examples and the present threat to industrial civilisation: these ancient ecological collapses were confined to particular bioregions whereas the looming calamity represented by modern climate change is truly global.

Climate data from ice core records reveal that it is only in the last 15,000 years that the earth has sustained a climate stable and beneficent enough to allow the human species to develop civilisations such as those of ancient Mesopotamia and Central America, and more recently our own modern industrial civilisation.³ Further back in planetary history relatively sudden

¹ See further Michael S Northcott, *The Environment and Christian Ethics* (Cambridge: Cambridge University Press, 1996), pp. 198 – 210.

² (London: Allen Lane, 2005).

³ Richard B. Alley, *The Two-Mile Time Machine: Ice Cores, Abrupt Climate Change, and Our Future* (Princeton NJ: Princeton University Press, 2000).

and large fluctuations in temperature and ocean levels were the norm and these reflected very dramatic changes in atmospheric carbon dioxide levels. Until the planet's climate shifted to its present relatively stable phase the earth could only support very small numbers of mammals, and this is why prehistoric humans were unable to develop agriculture or to survive in anything but tiny numbers. Sceptical American climate change deniers are prone to quote these earlier dramatic shifts in the earth's temperature, and in carbon dioxide levels, to indicate that the current warming of the earth's climate is not as novel or significant as most scientists claim. But the sceptics neglect to mention that in these earlier eons human agriculture and urban civilisation were unknown, or that our neolithic ancestors numbered only in the tens of thousands.

On the worst scenarios of the Intergovernmental Panel on Climate Change, which assume that energy-led development and economic growth continue at present rates, the planet will warm by between 4 and 6 degrees centigrade in the next eighty years.⁴ Such a rapid temperature change is unprecedented even in prehistoric times, and humanity has certainly seen nothing like it in the past 15,000 years. It will precipitate sea level rises of up to 1 metre – the ocean has already risen 20 centimetres in the twentieth century⁵ – as floating ice and ice sheets melt at the Poles, more frequent and extreme weather events such as stronger El Ninos, and spreading deserts in tropical and sub-tropical regions.

Climate change deniers argue that the threat is magnified by pessimistic computer models and that there is considerable uncertainty about just how bad things will get. And they find plenty of support amongst conservative Christians in America, their representatives in the Senate, and the current Bush White House, who have consistently refused to countenance energy conservation measures to address climate change, even of the minimal kind proposed by the Kyoto Protocol, arguing that if and when climate change happens it will be cheaper for America to adapt than to mitigate it in advance.

Part of the problem with conservative Christians in America is that they simply deny the science on climate change. This denial is clearly linked to widespread scepticism in the American heartlands about mainstream science, including not only the evolution of species but even the age of the earth. When so many millions still believe Bishop Usher's naive estimate of the age of the earth at 6,000 years, based as it was on genealogical tables in the Bible, it is hard indeed to persuade them of the chemistry and geophysics of climate change. But we should not imagine that America is alone in refusing radical action on climate change. Britain too has so far failed in its obligations under the Kyoto Protocol either significantly to reduce energy consumption through major conservation measures, or to shift energy production towards renewables, despite the extraordinarily rich potential of wave, tidal and wind power on these maritime islands. The British government is still pressing a market approach to energy production even although, as the House of Lords Committee on Science and Technology argued in a recent report, the effect of this approach is to undermine radical and sustained attempts to conserve energy and shift energy production towards renewables.⁶ Similarly, by joining the United States in arguing the case for carbon trading in the Climate Change Convention, which allows carbon heavy nations to trade carbon credits with nations which do not reach their allowed Kyoto carbon limits, or to swap carbon emissions for forestry projects in the Third World, the British government helped to further weaken the already minimal 5 per cent energy reduction target mandated by the Kyoto Protocol by 2012.

⁴ See further Intergovernmental Panel on Climate Change, *Synthesis Report* (Cambridge: Cambridge University Press, 2001).

⁵ David A. King, 'Climate Change Science: Adapt, Mitigate, or Ignore?' *Science* 303, (9 January 2004), pp. 176-7.

⁶ House of Lords Committee on Science and Technology, 'Report on Renewable Energy', (2004).

The Kyoto Protocol set in international treaty the widely advocated approach of 'contraction and convergence' under which the industrialised countries are first required gradually to reduce their greenhouse gas production before developing countries are also required to meet greenhouse gas targets since the typical greenhouse gas production of Americans and Europeans is currently between 5 and 6 tonnes of carbon per annum against a developing world average of less than 1 tonne. But it is already becoming clear that contraction and convergence does not represent an effective response to the problem. If the developed world continues to contract its energy demands at the current imperceptible pace then it will take decades before industrialised outputs drop to a level where they approach the much lower averages of the global South, which might then reasonably be expected also to take action to reduce greenhouse gas emissions. But decades are not available if worst-case outcomes, such as the melting of the Greenland ice sheet and catastrophic ocean level rises, are to be avoided.

Pope Benedict XVI's first sermon perhaps offers the kernel of an alternative approach to the problem of climate change for it suggests that the profligate use of energy in industrial societies is a moral peril not because of future threats to human survival but because of the kinds of people, the kind of society, as well as the kind of planet, fostered by the goal of energy fuelled infinite consumption in a globalised industrial economy. As American essayist and farmer Wendell Berry suggests, the energy hungry systems of modern agriculture and industrialism subvert the health of the planet, but they also subvert characterful lives lived in acknowledged dependence on the Creator and the creation. Energy and machine dependence by fuelling profligate consumerism and waste undermine the kinds of practices that make the virtues of prudence and temperance, justice, courage and hopefulness habitual. It was such virtues that were manifest in the many previous civilisations whose peoples grew food, heated homes and journeyed from place to place without threatening the welfare of future generations.⁷

In this perspective the risks that humans face in relation to their use of energy are as much moral and spiritual as they are climatic or ecological; the free availability of energy to fuel comfort-zoned lifestyles, with their daily dependence on machines and entertainment devices, produces people and lives which lack depth and vigour. It also fosters the dangerous illusion that our choices, and not the gifts of God's creative and redeeming work, determine our destinies as individuals and as a species.

Ecumenical bodies in Europe and America, including a meeting of the European Churches Environmental Network in Basel in May 2005, and religious leaders such as Patriarch Bartholomew or more recently Archbishop Rowan Williams, have been prominent in highlighting the urgency of the climate change problem. Christians have consistently pointed to the inequitable outcomes that climate change is likely to produce as it is poorer communities in the global South, such as the people of Bangladesh, and those of sub-Saharan Africa, who are already affected by climate change in the one case in the form of extreme flooding and in the other persistent drought. But despite extensive ecumenical leadership on this issue there has not been an authoritative Encyclical from the leader of more than a billion Christians on ecological crisis.

Such is the power of the conservative Christian lobby in the United States that an Encyclical from the new Pope on the moral priority of addressing ecological problems, and especially the urgent issue of climate change, would be of major significance. If it picked up on the theme of Benedict XVI's first sermon it would also help to refocus the climate change

⁷ Wendell Berry, *The Unsettling of America: Culture and Agriculture* (San Francisco, CA: Sierra Club Books, 1977), pp. 81-4.

problem from global and governmental initiatives to citizen responsibility and collective, and ecclesial, action. Churches in Switzerland and Germany, and in the Northeast of the United States, are already taking radical action on climate change. For example a church in Basel which hosted the ECEN conference last month had installed solar photovoltaic electricity on its roof and was using savings in its electricity bill to help fund alternative energy schemes in the global South. In Portland, Maine an ecumenical group of churches have established a public utility company called Interfaith Power and Light which has been building wind turbine generators and supplies electricity through the grid. The Church has not only a voice but the capacity as a network of millions of local communities around the world to show a more locally based and reverential path in the use of what William Blake called 'divine energy' than that mapped out by the contraction and convergence strategy of the Kyoto Protocol.

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