POPULATION MATTERS

In a recent article in the Telegraph Geoffrey Lean describes the plight of animals throughout the World. He quotes the latest edition of WWF's Living Planet Report (LPR), which this year emphasises, besides the loss of whole species, the decline of absolute numbers, which have crashed by 52% since 1970. He points out that for the first time in our planet's history the mayhem is not due to inexorable forces of physical nature, but to a living species, Homo Sapiens – us. Geographers and Earth Scientists are now suggesting that the Holocene epoch is closing and we are at the outset of an epoch named - after us - the Anthropocene.

Epochs can be ushered in by a cataclysmic event such as the giant asteroid thought to have been the main cause of the extinction, 65 million years ago, of the dinosaurs, and the initial event which changed the course of evolution. In a similar way the twin triggers for the Anthropocene are our explosive growth in numbers and our heedless exploitation of resources. And just as the asteroid wrought its destruction then disappeared leaving the rest to evolution, our catastrophe will resonate through all the future ages of Earth's history, but we, the instigators, could well vanish in dust, leaving a complex smear in the geological strata as our only record.

There is a fundamental difference, though, between the character of an asteroid and the nature of our species. Dumb and blind, asteroids can't think, but for millennia we have prided ourselves on our ability to exercise free will, enhanced by the use of intelligence. Sometimes we invoke God as a guiding principle, though, if the glories of Nature are God's visible representatives on earth, we are treating his emissaries in a shabby manner. This abuse is the more saddening if, as Professor Brian Cox comments, in the whole of our Milky Way Galaxy of one hundred billion stars there may be no other intelligent species, nor other life forms beyond a few microbes.

Using the tools of science, our intelligence has enabled us to unwittingly instigate runaway growth in our numbers, and to then lay bare the disastrous effects of that growth – a clear demonstration of the neutrality of science! .

Historically, the balancing of death rates against fertility occurred through the culling of populations by disease and famines, whilst warfare, though invoked as another dread Horseman, has a smaller head count. So far as disease is concerned Ole J. Benedictow writes in History Today:

> "*The data is sufficiently widespread and numerous to make it likely that the Black Death [starting about 1346] swept away around 60 per cent of Europe's population. It is generally assumed that the size of Europe's population at the time was around 80 million. This implies that that around 50 million people died in the Black Death."* (1)

Famine has certainly taken heavy tolls over the centuries. The Irish potato famine of 1845 is calculated to have caused the deaths of about a million people.

World population	**when reached**	**time to add 1 billion**
1 billion	1804	quarter of a million years?
2 billion	1927	123 years
3 billion	1959	32 years
4 billion	1974	15 years
5 billion	1987	13 years
6 billion	1998	11 years
7 billion	2011	13 years

Table 1: Population Matters campaigning Fact Pack, Feb 2012 Revision

However, despite the Apocalyptic Riders' best efforts the size of the Human population has edged slowly upwards, though it was not until Science – and its revitalised offspring, Technology – turned its attention to key issues affecting survival that the human population explosion took off in earnest, as table 1 shows. Science has enabled us to preserve and enhance human life through medicine and clinical treatments and a sound understanding of hygiene; science has developed the production and use of oil, enabling us to feed ever growing numbers through agricultural technology, and to carry food long distances, using modes of transport barely imaginable at the turn of the twentieth century. It is science that enables us to explore land and sea, even from space, to find dwindling reserves of non-renewable resources upon which our hi-tech civilizations still thrive – though less reliably so than in the twentieth century.

Unfortunately, although science is neutral, we are not. Logic tells us that, as we now have the power to preserve human life to an unprecedented degree, we should rebalance the numbers born against the numbers dying. And this is the "Elephant in the room" around which not only human societies in general but concerned environmental organisations carefully tiptoe with averted gaze.

. Human population growth is overwhelmingly referred to as a given fact to be accommodated, with scant reference to our responsibility for the results. Yet, as Sir David Attenborough, patron of Population Matters, points out "All environmental problems become harder - and ultimately impossible – to solve, with ever more people." Thus the drive to cover more of England's landscape with large scale housing developments stems from the demand to accommodate ever more people; according to the Office of National Statistics :

> *"Population growth is the main driver of household growth, accounting for nearly three-quarters of the increase in households between 2006 and 2031." (2)*

New households of course are not always the same as new houses, though local and national building plans tell their own story.

The LPR does not include wildlife loss for the UK except in general terms, but a more detailed picture is provided by the State of nature Report which says that:

> *"Of more than 6,000 species that have been assessed using modern Red List criteria, more than one in ten are thought to be under threat of extinction in the UK. A further 885 species are listed as threatened using older Red List criteria or alternative methods to classify threat." (3)*

. In the same way as new housing estates often destroy already pressurised natural habitats, other requirements have the same effects. Air passengers look down on the green patchwork of England drifting below, and often dismiss worries about the destruction of Nature as alarmist chatter. All looks serene. In fact, what they are surveying bears little similarity to Nature and much to a factory floor. Except for the few organic farms and other sympathetic farmers who are able to drag their attention away from the demands of an oppressive market economy, every square metre is dedicated to food production. In 2010 about 17,000 tonnes of pesticide was applied to UK land (4). Due to rising costs and increased efficiency in use this was considerably down on some previous years, but, inevitably, wildlife suffers. One well publicised victim of pesticide use has been the bee, but other insects are, like the bee, important pollinators, not only of wild plants but of food crops. The value and abuse of these often disregarded species is well documented:

> *"There are thought to be more than 100,000 pollinator species on Earth. Declines in their numbers, reaching 70% in some places, have been reported in every continent except Antarctica…*
> *80% of the 264 species grown as crops in the European Union are dependent on insect pollination." (5)*

Neonicotinoids have been named as particularly dangerous in this context. The International Union for the Conservation of Nature (IUCN) have pointed out that:

> *" … with neonicotinoids and fipronil making up around a third of the world market in insecticides, farmers are over-relying on them in the same way as they once became over reliant on chemicals like DDT. 'We have forgotten those lessons and we're back to where we were in the 1960s,' said Prof Goulson.* [an author of the IUCN report]" (6)

Artificial fertiliser runoff (Nitrogen, Phosphates, Potash) has complex, usually harmful, effects in waterways. The subject is beyond the scope of this article, though the figure of nearly 1.5 million tonnes spread on UK soil in 2011 – 2012 is reliably reported. (7)

As human population increases the demands for accommodation and food rise and the wherewithal to produce them come into conflict; and at this point the needs of other species and of our own converge – a perfect storm.

The deserts people are creating in China and Africa threaten the food supplies of those populous areas, especially in Africa whose burgeoning populations show little inclination to stem the tide. At the root of desertification lies disregard for the limits of the soil, in the form of overgrazing – especially by sheep and goats – or through industrial scale agriculture, but both practices tend to neglect soil structure, and all to satisfy the customs and demands of ever growing numbers. What we may be less aware of though, is that in Europe we are also over-exploiting precious soils:

> *" The European Agricultural Conservation Foundation has estimated that soil erosion and degradation caused by conventional agriculture affect about 157 million hectares (16% of Europe, roughly three times the total surface of France) … in the Mediterranean [region] – from which the UK derives much horticultural produce – soil erosion is deemed 'very severe' ".* (8)

The population projections for the EU show only a modest increase by 2050, which may imply enough food to feed the inhabitants, though the possibility is clouded by the soil loss, and also by uncertainty regarding available fuel to power the technology and by mass migrations fleeing the chaos across the Mediterranean.

Yet another growing hazard is water stress – shortage – which affects millions worldwide:

Country	Population 2009, millions	Population projected 2050, millions
Egypt	78.6	122.3
Sudan	42.3	75.9
Uganda	30.7	96.4
Tanzania	43.7	109.5
Ethiopia	82.8	149.5
Kenya	39.1	83.8
Rwanda	9.9	21.8

Table 2: Population Reference Bureau, Washington

"The upstream countries have long tried to claim some of the [Nile] water for their own needs, but, after a decade of futile talks, Egypt and Sudan have refused to budge, and now … Uganda, Tanzania, Ethiopia, Kenya and Rwanda have … signed a deal to share some of it among themselves, causing consternation in Cairo and Khartoum. Egypt … has always used military threats to maintain almost total control of its water…" (9)

This may seem somewhat alarmist, until you consider the projections for the countries mentioned. These data, from 2009 (table 2), are now almost entirely worse, except for Kenya's projection which has dropped by a couple of million. Because of the difficulty of collecting precise numbers in some African countries we should allow perhaps 2 or 3 million either side of those given, but this in no way weakens the obvious trends. The increasing tendencies for conflict and destabilisation in Africa are most often due to ever-growing numbers and ever - shrinking resources.

Over this slow car crash arches climate change, exacerbating our problems by means of extreme weather conditions bringing longer droughts, higher temperatures and worse floods. Indeed, the UK's own form of water stress may be more through floods than through droughts, considering the loss of agricultural production this year in the Somerset Levels. Climate change, on present trajectories, will get worse as the numbers of Climate Changers also increase, all the more so as citizens of developing countries understandably strive to bring their lifestyles closer to those we enjoy in the West. We would probably be healthier and happier if we were to tighten our belts and allow others to claim more resources which are often their own, but are spirited away for our use by tightly organised international trade deals, such as the currently disputed Transatlantic Trade and Investment Partnership (TTIP).

So far as actual projections are concerned, the most reliable figures suggest that World population, now about 7.3 billion, may reach about 9.7 billion by 2050. This is the median (most reliable) calculation, with other prospects both higher and lower. For the UK, Population Matters refers to Office of National Statistics (ONS) figures, which show that:

> *" …the UK population is likely to rise by six million or around 10% over the next fifteen years (64 million in 2012 to 70 million by 2027). This growth, equivalent to twelve cities the size of Manchester, will be strongest in England, though also occurring in the rest of the UK. … Most (60%) of the projected growth over the next 25 years is due to net migration, either directly (43%), or indirectly (17%), i.e. due to their age and fertility characteristics…. While more distant projections are less certain, the expectation is for continued growth, to 73 million by 2037, 75 million by 2050, 80 million by 2071, 85 million by 2087 and 90 million by 2112.* (10)

It has to be emphasised that, statistically, there is no reliable end in sight to this growth, though Lester Brown of The Earth Policy Institute remarks that:

> *"We won't reach the projected 9.7 billion in 2050 either because we reduce birth rates or because we fail to and death rates begin to rise."*

Various objections are perennially raised to the "… so-called threat of overpopulation… ". You may have heard comments to the effect that: " … ebola is the start of a plague that will solve the overpopulation problem …" indeed, According to BBC News Africa (October 15th, 2014):

> *The latest WHO (World Health Organisation) projections suggested there could be between 5,000 and 10,000 cases a week in Guinea, Liberia and Sierra Leone by December.*

Against that we have to consider that the World is now, rightly, mobilising its medical expertise to combat the threat; that, if approached in an organised way, the disease is less virulent than 'flu; and that this nasty affliction would have to claim its 10,000, worldwide, each hour rather than per week – for that is about the current rate of population increase – simply to keep numbers steady.

Climate Change, according to some, has been vastly overemphasised or even invented by 'those with vested interests', though what they might be is hard to imagine. The current slowdown in the rate of warming should not be taken for a continuing trend, and the expert data on the long term upward trend are sufficiently strong to be reliable. An interesting source of information on this subject can be found on the NASA website (11)

One argument frequently deployed by NGO's is that it's all about the greed of the developed nations. There is something in this approach: not only do we vastly overconsume, but evidence is growing that people would actually feel happier if they strove less to acquire 'stuff'. The small kingdom of Bhutan has considered this and has developed an index, not of GNP but of GHP – Gross National Happiness:

> *"Gross National Happiness is a term coined by His Majesty the Fourth King of Bhutan, Jigme Singye Wangchuck in the 1970s. The concept implies that sustainable development should take a holistic approach towards notions of progress and give equal importance to non-economic aspects of wellbeing."*(12)

It is just conceivable that at this moment in time the World's population might be thinly supplied if all resources were to be equally distributed, though the logistics are unimaginable and universal political accord probably impossible. What is not conceivable is that the World can support the projected numbers.

So why is the elephant in the room ignored? There are at least two main reasons, being the innate trickiness of the subject to discuss and its long-term nature. Many people feel that " It's something I needn't worry about in my lifetime", though this avoids the unfortunate evidence that many of the factors discussed briefly above are accelerating. Young parents should not only consider the World which we leave to our children; they should consider the World which they will inhabit as they themselves grow old.

Individually we are often astonishingly intelligent; but as a species we seem to be sitting complacently on the bough of a tree and sawing away at it, nearest the trunk, whilst idly daydreaming. Beyond the cavalier destruction of our fellow inhabitants both fauna and flora, we seem, so far, reluctant to address the long term consequences to ourselves of our universal encroachment on any available space. And yet the problem is rather easy to solve. We have all the medical and contraceptive technology – here, now – to enable us to create a viable future of happiness entirely opposite to the one which all projections indicate. All that is needed is the realisation that the problem exists, that it can be addressed, and that behaving like the legendary ostrich is not an intelligent approach. In this new 21st Century we should start the debate in earnest; each country should decide the numbers it can support with maximum happiness and least stress, and with due regard to all the necessary other species with which we have the privilege to share the land.

As Martin Luther King pointed out:

> *" Family planning, to relate population to world resources, is possible, practical and necessary. Unlike plagues of the dark ages or contemporary diseases we do not yet understand, the modern plague of overpopulation is soluble by means we have discovered and with resources we possess."*

Rev. Martin Luther King, accepting The Planned Parenthood of America Margaret Sanger Award, May 5th 1966.

If this great man could recognise the threat back then, why should we not see it now?

(1) Ole J. Benedictow is Emeritus Professor of History at the University of Oslo
(2) Household Projections to 2031, England; ONS, March, 2009.
http://webarchive.nationalarchives.gov.uk/20100410180038/http:/www.communities.gov.uk/publications/corporate/statistics/2031households0309
(3) State of Nature Report, 2013; a collaboration between 25 UK conservation and research organisations
(4) 2011 Report of the Pesticides Forum
(5) Sustaining Life: Wilson, Chivian & Bernstein. Center for Health & The Global Environment; Harvard Medical School.
(6) Matt McGrath BBC Environment correspondent; June 24th, 2014.
(7) Fertiliser Statistics 2013; Agricultural Industries Confederation.
(8) Rethinking Britain's Food Security; Barling, Sharp and Lang; Centre for Food Security Policy; City University, London. http://www.soilassociation.org/LinkClick.aspx?fileticket=wCYoHYSHsy8%3D&tabid=215
(9) The Week, July 10th, 2010.
(10) PM http://www.populationmatters.org/2013/population-matters-news/uk-reach-70m-15-years/
(11) http://climate.nasa.gov/evidence/
(12) Gross National happiness http://www.grossnationalhappiness.com/articles/

Edmund Davey; October 20th 2014.