

ARE WE ASKING THE RIGHT QUESTIONS TO GUIDE OUR DESCENT FROM THE 2007 OIL PEAK?

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To have altered the planet's atmosphere, to have compromised the lives of every being on the planet – this is more than technology gone awry. It signals a breakdown in ethics and morality.

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The real point is not so much the exact date of peak but the statement that the First Half of the Oil Age, which was characterized by growing production, is about to be followed by the Second Half when oil production is set to decline along with all that depends upon it.

Colin Campbell, September 2004

None are more hopelessly enslaved than those who falsely believe they are free.

Johann Wolfgang von Goethe

*Truth, crushed to earth shall rise again;
The eternal years of God are hers;
But Error, wounded, writhes in pain,
And dies among his worshippers.*

US Senator Robert Byrd
Senate Floor Remarks, May 21, 2003

The Industrial Age (circa 1930-2030), fueled by fossil sunlight, has brought enormous changes in human lifestyle and population size, as well as huge damage to other life forms. A defining moment in this era is peak oil, which may have been reached in 2007, after which availability will decline precipitously. In addition, another defining moment – peak coal – may occur in this century. Lower energy per capita will inevitably occur, especially since 1.5 million people are added to the global population weekly. Coal is a poor substitute for petroleum, especially since it produces about twice as many greenhouse gas emissions when burnt. Biofuels have huge drawbacks, as might be expected when food is converted to fuel. Since humankind's future will be shaped by the questions that are asked, the present is the important time to decide what the questions should be and why humankind is reluctant to ask questions about unpleasant subjects.

The Transition

The general consensus is that the descent from peak oil will be precipitous. The human condition during the descent will be influenced by the degree to which the nations emitting greenhouse gases accept the moral/ethical responsibility for the harm their greenhouse gas emissions are causing worldwide, especially in the poor nations where funds to cope with global heating and other types of climate change are minimal. In this discussion, the word *ethics* is used to describe the field of inquiry that examines concepts and their employment – about what is right and wrong, obligatory and non-obligatory, and when responsibility should be attached to human actions that cause harm (definition from Brown et al., no date, p. 7). The Buenos Aires Declaration on the Human Dimensions of Climate Change at the 10th Conference of the Parties to the United Nations

Framework Convention on Climate Change (UNFCCC) identified eight ethical issues, of which the following three are most appropriate for this article:

- (1) Responsibility for Damages: Who is ethically responsible for the consequences of climate change, that is, who is liable for the burdens of: (a) preparing for and then responding to climate change (i.e., adaptation) or (b) paying for unavoidable damages?
- (2) Atmospheric Greenhouse Gas Targets: What ethical principles should guide the choice of specific climate change policy objectives, including but not limited to, maximum human-induced warming and atmospheric greenhouse gas targets?
- (3) Allocating Greenhouse Gas Emissions Reductions: What ethical principles should be followed in allocating responsibility among people, organizations, and governments at all levels to prevent ethically intolerable impacts from climate change?

The above issues have received inadequate attention in discussions about global heating and climate change. Developed nations have benefited markedly from greenhouse gas emissions and the poor nations have suffered greatly. Even this issue does not receive the attention it deserves. Ethics and morals should have a major impact on the policies of the transition from peak oil to the eventual much reduced per capita energy consumption. Predicting the year of peak oil is difficult (e.g., Woodward 2005, Klare 2007), but, since the descent from the peak will be more trying than the ascent to the peak, the transition should begin now. Use of fossil energy is closely coupled with climate change, and humankind cannot afford to delay addressing that problem (Hansen 2007). Although US Vice-President Dick Cheney once scoffed that energy conservation can be a “personal virtue” but is no basis for an energy policy, growing evidence indicates that he has it exactly wrong (Kristof 2007).

The rest of this list is my own questions that might improve humankind’s chances of making an ethical/moral descent from peak oil.

(4) Does humankind have a “right” to endanger posterity, including its children and grandchildren, by continuing profligate use of fossil energy? Many people would respond with a horrified “NO” and then drive home to their “starter castle” in their gas guzzling suburban utility vehicle. The next question addresses this type of cognitive dissonance.

(5) For 59 years, I have been told that my publications and talks are just “preaching to the choir.” Ray (2007) defines the “choir” as *the dedicated, the environmentalists*, which implies that somewhere out in the big world are people who have not yet seen the light, or have seen the light but have not accepted it as their savior, and that the job of the dedicated and the environmentalists might more necessarily be to bring those people into the fold. So, my question is: “Is there a preacher; is there a choir?” Ray (2007) provides personal tales about the dilemma of being in *the choir*. For me, one moment of truth came when I was invited, decades ago, to give a 15-minute talk in Finland – all expenses paid. I replied that I had nothing to say of sufficient importance to justify such a long trip for a 15-minute talk. The initial response was that I was joking. Then, I was told that many other people would attend. This exchange caused me to rethink even 1-hour talks. So, about 25 years ago, I began to reduce the number of out-of-town talks substantially. Then, my companion Jeannie developed first Alzheimer’s and then Parkinson’s, and my travel stopped completely. Although she died in 2005, I have not resumed travel, partly for health reasons, but primarily because I can reach many people by means of publications in paper journals and the Internet. Still, I am neither a member of the choir nor a preacher. However, take heart – one preacher (i.e., world leader) has “walked the talk” – Mahatma Ghandi. He had few material possessions and walked lightly on Earth. One hopes a comparable leader will emerge as the fossil energy crisis worsens. In addition, one member of the choir is singing – Norway – with some unexploited oil fields that may not be developed for fear of adding greenhouse gases to the atmosphere when the oil is burned, thus exacerbating global heating. The fossil energy addicts will doubtless besiege them. May Norway stand firm!

(6) What source of information can be trusted? The best policy is to let the reader/listener beware. Present times are a complex era with the largest population of humans ever. Monbiot (2007), in discussing a major expansion of the runway system at London’s Heathrow airport, states:

It seems pretty obvious that this scheme could go ahead only if the government is prepared to rip up both its agreements with the public and the EU's pollution laws. When Heathrow's fifth terminal was approved, a planning condition capped the number of flights using the airport at 480,000 per year. The new runway would raise them to 720,000.

And Monbiot (2007) further notes:

Already the planes and the associated traffic have been breaching the EU's limits for nitrogen dioxide pollution, which suggests that current airport activities are unlawful. Now we are expected to believe that air pollutants can be reduced to below the legal limits while the number of flights almost doubles.

Is this scheme delusional or merely contempt for the reasoning ability of the general public? In the United States, a federal judge ruled that the Bush administration violated US law by failing to produce a study on the impact of global heating and must produce a summary of the revised proposed research plan by 1 March 2008 (Gulio 2007).

(7) Is *Homo sapiens* a rogue species? Two of the three of the definitions of *rogue* as an adjective apply here: (a) large, destructive, and anomalous or unpredictable and (b) operating outside normal or desirable controls. The first definition obviously applies since global destruction of natural systems by humans is in the news media daily. Humans are not physically large, but their machinery, powered mostly by fossil energy, is huge. Overpopulating Earth is clear evidence that humans are operating outside normal and desirable controls (second definition), as is the reckless destruction of the biospheric life support system and failure to set limits on greenhouse gas emissions. The adjective *rogue* was not justified for the first 150,000 years of *Homo sapiens* presence on Earth. During that period, the human species was primarily hunter-gatherers and was in small numbers in widely scattered groups. However, the Industrial Revolution, powered by fossil energy, made possible an unprecedented expansion of human population size. This increase placed a tremendous strain on natural systems, which may require evolutionary time for recovery. How humankind manages on the down slope of the peak oil curve will determine how humankind fares (e.g., a major nuclear exchange in a resource war could be fatal).

(8) Do not ask "Can I afford it?", ask instead "Can Earth afford it?"¹ The cult of rugged individualism, at its worst, is hostile to any restrictions on personal behavior, including such activities as excessive resource consumption, size of dwelling, use of fossil energy, family size, and unrestricted management of one's property, even if the uses impair the benefits neighbors once had from their own property. At a societal level, economic growth ("progress") is used to justify damage to natural systems. The appropriate question is: "Can Earth afford present practices?" The answer is a resounding "no." Important ecological and societal tipping points will probably be exceeded in 2007 and 2008. The situation will then be beyond effective human control. Humankind will become passengers on a dysfunctional planetary "spaceship."

(9) Hartmann (2006) remarks that initial responses to his book *The Last Hours of Ancient Sunlight* were curiously similar. The responses stated with great certainty

. . . that the only solutions to the problems outlined in the first third of the book would be found in smaller families, cold fusion, coaxing the flying saucer people out of their hiding, a worldwide conversion to Christianity (at least a half-half dozen different people suggested, too, that only their particular sect of Christianity could bring this about, and all other Christians must ultimately recognize the error of their ways) or Islam or some other religion, or the immediate institution of a benevolent one-world government. The letters ranged from amazement to outrage, that I'd failed to see and support their perspective. But these are all Something-Will-Save-Us solutions.

¹ With apologies to former US President John F. Kennedy, who said in his Inaugural Address: "Ask not what your country can do for you – ask what you can do for your country."

Hartman (2006) suggests: “. . . often the most powerful and effective way to ‘fight back’ against the pathological kings and kingdoms is to walk away from the kings: see the situation for what it is, and stop playing the dominator’s game.” In my opinion, the question should be: “How do we, as individuals, avoid domination by special interest groups and reconnect with the sacred natural world upon which our survival depends?”

(10) How can individuals avoid misleading advertisements, letters to the editor, statements that have no scientific evidence supporting them, etc.? I just finished reading an advertisement in a regional newspaper that urges citizens to tell the US Congress that they oppose new energy taxes and price controls, such as a tax on carbon in fuel. Nothing is stated about peak oil or the finite supply of petroleum on a finite planet. Just as drugs have warning labels, so should simplistic advertisements. This restriction should also apply to political campaigns, but neither will happen. On another concern, attendees at environmental meetings often drink bottled water while they discuss “green” issues. Harper’s Index (*Harpers Magazine*, June 2007, p. 11) gives some data related to the drinking of bottled water: estimated amount of oil, in barrels, used to make the bottled water containers sold in the US last year – 16,000,000; ratio of the amount of water used to make the containers to the amount of bottled water consumed – 2:1; makes one proud of the green movement, doesn’t it?

(11) White (2007, p. 13) notes that environmental destruction proceeds apace despite all the warnings. He further comments: “Only a weak and fearful society could invest so much desperate energy in protecting activities that are the equivalent of suicide.” The question is: “What made us like that?” White (2007) answers the question:

. . . it’s a way of saying that we are so frightened by the prospect of stepping outside the market system on which we depend for our national wealth, our jobs, and our sense of normalcy that we will let the logic of that system try to correct its own excesses even when we know we’re just kidding ourselves.

How could an entire society be so delusional? White asserts one reason is that, even the best intentioned environmental activism, imagines that it must confront a problem external to itself. What the environmental movement does not acknowledge is that something in the very fabric of human daily life is deeply anti-nature, as well as anti-human.

White (2007) does not explore humankind’s sense of entitlement, which enables humans to drive other life forms to extinction with little or no remorse. Even the few remaining truly wild places are in serious danger if oil is beneath them. All too often, fellow humans are regarded as only either workers or consumers.

(12) Is it possible to prevent environmental damage due to global heating and climate change? It is probable, but far from certain, that it is not too late to prevent irreparable damage to the biospheric life support system, which provides maintenance conditions favorable to *Homo sapiens*. Conditions will be favorable to some life forms, even if the system is severely damaged. It may also be possible, but not certain, to preserve a significant number of presently living humans. There are solid grounds for hope if major changes are made to reduce greenhouse gases, but it should not be the delusional hope that the high energy lifestyle will continue.

Parker (2007) comments on another important aspect of the present situation:

Speth and many other scientists and theologians are speaking a language that sounds off-key to our modern ears. It’s a language that Biblical prophets like Ezekiel and John of Patmos would recognize, however. It is the language of the apocalypse – the imagery of the end times and the mysteries of God. The environmental challenges that face us are beginning to look apocalyptic, except now the apocalypse is not a fantasy of fundamentalists, or the stuff of science fiction, but the edge of an abyss that clear-eyed scientists peer over and tremble at. And the threats we face are not orchestrated by God but are self-inflicted.

She further notes: “This is the purpose of apocalyptic literature in the Bible and the purpose of the eco-apocalyptic warnings of scientists and environmentalists – not to paralyze us with fear, but to spur us to act, and even to invest us with hope.” Humankind has barely begun to discuss these issues.

(13) Sawyer (2007) remarks: "The faith community needs the best thinking, the best science, and the best practices from the environmental community to inspire its work." Can there actually be a consilience (Wilson 1998, 2006) between these two quite different cultures? Both religion and the environmental movement are based on values. As a student, I was told not to blend religious faith and the scientific process. This advice was sound in the sense that neither research nor publications should be designed to support faith or political ideologies. However, no one should hesitate to act on the massive scientific evidence, such as that of the Intergovernmental Panel on Climate Change. The relationship between science and religion is still problematic. Each is suspicious of the other, but ethics/morals to guide societal action are needed. Ethics/morals as a guide should be a great improvement over economic growth, which, as now practiced, is suicidal.

(14) Is humankind prepared for apocalyptic situations? Compelling evidence indicates that society was not prepared for Hurricane Katrina (e.g., Yeoman 2007). The models used by insurance companies all have one thing in common: they accept that the past is an imperfect guide to the future. An important planning deficiency is the distasteful phenomenon that insurance companies term *extreme mortality*, which is the possibility that huge numbers of insured humans will be killed off by a global pandemic, driven to being environmental refugees, or simply killed off in cities because the supply system fails. Apocalyptic situations are merely worst possible case scenarios. Talking about them may help prevent them.

(15) Is it politically incorrect to be judgmental? The word *judgmental* is defined as: "of, relating to, or dependent on judgment" or "involving the use or exercise of judgment." Using good judgment, which is based on evidence, is not being judgmental in the pejorative definition of the word. For example, severe consequences, including starvation, disease, and death, follow violating the laws of nature, such as a finite carrying capacity for all species. I do not believe it is being arbitrarily judgmental to disapprove of persons or organizations that violate natural law. For example, the law of gravity will function regardless of the judgment of an individual who ignores the law. Humankind is violating natural law in such areas as greenhouse gas emissions (e.g., global heating and other types of climate change); bulldozing the tops off mountains in West Virginia to get coal and dumping the "overburden" in the valley, which has already damaged 1,200 miles of streams (Editorial 2007); and huge population increases in the last century that have resulted in 800,000 starving and billions malnourished. Ray (2007) draws attention to the fact that most environmentalists (i.e., the "true believers") do not live within Earth's means, which is not the same as living within their individual means. Many college students properly ask: "Why don't environmentalists 'walk the talk?'" In short, practice what is being preached to match deed with creed. Until everyone does, sustainable use of the planet is a delusion.

(16) Arguably, the most important question is: "Why do comparatively few live as they should if the planet is in imminent peril?" Some speculative answers follow.

(a) Billions of people are living "hand to mouth" and focus intently on surviving for one more day. In addition, millions of refugees – political, ethnic, religious, environmental, and war related – seek better situations. Single mothers have one or more jobs in order to support their children and also need time to care for the children. Many politicians and corporate executives focus intently on economic growth and have little or no time for environmental concerns or, at worst, consider them an impediment to economic growth.

(b) Millions, perhaps billions, of people believe someone or something will save them. In the former, some individuals believe that someone (e.g., Jesus) will personally escort the true believers to heaven or paradise. The fate of non-believers is usually not pleasant, and the fate of the 30+ million other life forms is not mentioned. Many people believe that technology will save them. Often, the technology is not available (e.g., fusion power) and/or untested (e.g., carbon sequestering and permanent, environmentally safe storage).

(c) Older people, and even middle-age ones, believe the catastrophic events are too far in the future to affect them, forgetting that they have grandchildren and will have great grandchildren.

(d) Substance abuse (e.g., alcohol and/ or drugs) provides an escape from reality.

(e) For guilt-ridden "true environmental believers," one can use a credit card and, for US\$99, "offset" a year's worth of greenhouse gas emissions (Fahrenthold and Mufson 2007). The authors note: "But in some cases, these customers may be buying good feelings and little else." They also note: "For individual consumers, an offset can be a tempting alternative to a radical lifestyle makeover."

(f) Serious personal problems, which can include marital problems, poor health, legal/financial problems, etc., overshadow living a green life. Those whose lives are more at risk than the life of the average person may commit suicide. For example, Coleman (2007) reports that the suicide rate among (US) soldiers has reached a 26-year high. The United States invaded Iraq in March 2003, and, by August, so many American soldiers had killed themselves that a mental health advisory team was sent to investigate.

(g) Denial that a problem exists excuses not living an environmentally friendly life. For example, one AIDS denial movement refuses to accept that HIV is the cause of AIDS (Opinions 2007). A well funded global heating denial movement also exists and includes members of the US Congress. Major changes in lifestyles are difficult to promote when a US senator calls global heating science research a hoax.

Conclusions

Humankind is definitely not asking enough of the right questions for the descent from the probable 2007 oil peak. Fossil energy drove the Industrial Revolution, which changed human lifestyles dramatically. As fossil energy diminishes, including coal, equally fundamental lifestyle changes confront humanity. Asking the right questions will facilitate the transition. This commentary is merely a first step in developing appropriate questions.

All of the questions asked here are based on the assumption that *Homo sapiens* is a rational species, strongly influenced by verified scientific evidence that uses reason and ethics as the basis for all decisions. However, what attitude should one have toward a rogue species that is causing the sixth great extinction in its quest for perpetual economic growth on a finite planet? How can *Homo sapiens* be persuaded (1) to reduce greenhouse gas emissions markedly, (2) to keep the human population within the carrying capacity of Earth, and (3) to consume only what Earth can afford rather than what humans perceive they can afford as individuals? For at least 100 years, humankind has been in flagrant violation of nature's laws, despite persuasive scientific evidence that it was doing so. Harsh penalties emerge for all species that violate nature's laws, but humans are convinced they are free to disobey them; the result is that nature will take its course. As Walter Youngquist (personal communication) stated: "Adapt and survive – that is the lesson of the ages past. Those who do not become extinct." Adapting to nature's laws rather than violating them may extend humankind's time on Earth significantly, but it cannot control the powerful forces that govern the planet and shape human destiny.

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