

Is It Really Carbon?

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2nd May 2023, revised 28 September 2023

Abstract

The titular question is specified more fully, showing that the IPCC (Inter-Governmental Panel on Climate Change) answer is not the only one, briefly expanding on why the issue matters and alluding to the connection with nuclear power generation. The “Carbon Net Zero” project to prevent global warming is described as “a collective delusion of reference”, with brief remarks on belief in human exceptionalism. Also challenges to that belief are adumbrated from the history of cosmology and from the work of Charles Darwin, Sigmund Freud and others in the emotivist tradition. Then alternatives to what is termed the carbon hypothesis are described arising from palaeoclimatology. In particular the work of Milutin Milankovitch is sketched out, explaining the ice ages in terms of some long term cycles in the motion of the Earth. Johannes Kepler’s Laws of Planetary Motion were framed in the early XVII century and today much more is known about the movement of our Earth.

Introductory Context

My qualification for questioning the “carbon is the cause of global warming” orthodoxy is only that I lectured on Environmental Psychology for ten years at a British university; and that ended thirty years ago. But scientific orthodoxies need to be challenged, because scientists **are** human beings, whose conferences are sometimes plagued by drugs and sex, and mainstream scientific outlets are tainted by the sleaze of too many years of successful price gouging. Scientists must “publish or perish” and while publication was mainly on paper rather than electronic, lack of pages could be used to demand excessive rewards for the publisher, particularly of a “prime journal”. Their career needs also put enormous pressure on younger scientists, especially, to conform. The keeper of the orthodoxy is probably the Inter-Governmental Panel on Climate Change (IPCC) set up by the United Nations.

First, I state where I do **not** dissent from the orthodoxy: I accept that the climate is changingⁱ and resent the crafty jibe “climate change denier”. As well, it should go without saying that pollution is a vast problem, and even more so in rapidly developing economies than in a mature and affluent one such as our own. Also, I agree that under capitalism, getting the polluter to pay is more easily said than done: government action may be necessary. Next, I am in no doubt that it is not just compounds of sulphur and nitrogen that despoil, but also those of carbon:- the ones being singled out over climate change. For carbon compounds such as carbon dioxide combine with water in the atmosphere to form carbonic acid, which though a weak acid is a principal culprit in “acid rain” and so tree death and death in rivers. It does no harm to limit carbon.

As well, I see little reason to disagree flatly that levels of carbon dioxide in the atmosphere cause some “greenhouse effect” with some concomitant global warming. Though controversial astrophysicist Piers Corbyn holds the causal direction is reverse, with global temperature modulating CO₂ levels. Another idea is that some third factor modulates both. Correlation never proves cause. After a letter to the IPCC was ignored, Corbyn was one of thirteen “exact scientists” to sign an open letter to the UN Secretary-General questioning the carbon orthodoxy: Still too few to escape mendacious dismissal as a “climate change denier”! One more was the late Nigel Lawson, a Chancellor of the Exchequerⁱⁱ. Another is palaeoclimatologist Professor Robert M. Carter, who gives more detail on how and why the IPCC may have got it wrongⁱⁱⁱ.

Björn Lomborg is yet another “Skeptical Environmentalist”^{iv}. In that book he called attention to the extent to which the Panel’s orthodox case depended on the refinement of necessarily elaborate computer models. But computer models are not the real world. My own comment is that the sheer number of relevant variables including planetary location may be such as to question the very term “climate science” when applied to work forecasting the global climate. Science may only work as a method where the system studied is sufficiently simple and/or closed^v.

Over the industrial period CO₂ has only risen from (roughly) .03% to .04% of the air. Yet this is being held to be sufficient to account for the observed global warming, widely held to be in danger of “running away”. My sceptical stance will disappoint even pique those who as individuals are making their homes and consumption more carbon-friendly and also churches with similar programmes of action. I reiterate my belief that limiting carbon is beneficial. It is more a matter of getting it in perspective. Really, can many of the very worthy initiatives have much more than a paltry effect on atmospheric carbon dioxide? We can not achieve everything we would wish to. Can governments, even, be asked to abolish night?

Politics

The British government has more powers than laypeople and can have a larger effect, by, for example, electrifying all transport and by producing electricity by renewable means such as nuclear ^{vi}. This, in the medium term, is its intention. It will cost huge sums of money ^{vii} over a number of years, some of which could otherwise go to victims of global warming. These include home-owners losing their houses to coastal erosion, or those who were probably uninsured against the wildfires which never used to happen in Great Britain. More broadly, a caring response to migration from the tropics needs to be funded.

Speaking to British foreign policy more broadly, it is my belief that we need to reach out more to the United Nations ^{viii}. In addition to the IPCC, the United Nations organizes a regular climate change conference – such as COP26 in Glasgow. The conference has terms of reference: to prevent the global temperature from rising 1.5° C. Nearly 200 countries came together to agree a Climate Pact. This includes not only eliminating coal power and electrifying vehicles but halting and reversing deforestation and reducing methane emissions. The conference explainer repeats a commitment to extreme expenditures of trillions of dollars, mainly by the developed countries, in pursuit of these goals. The pivot of it all is carbon emissions. Will authoritarian governments in Russia, North Korea and China even play their part in reaching Carbon Net Zero? Especially since they can so plausibly argue its irrelevance.

This section on politics needs to point out that the modern tyrannies are less likely to substitute nuclear power plants for those fuelled by non-renewables, just because they are so aware that the former are **targets**: targets for missiles and also for terrorists. That has been shown clearly in the Ukraine war. The “worst accident in the world” (the title of at least two books on it) was the one some years ago at the Chernobyl nuclear installation in peacetime Ukraine. Nearby Germany for one is winding up its nuclear power program. This is a huge topic to which I cannot hope to do justice in an article on a different topic.

Nuclear power plants are based on nuclear fission. If nuclear **fusion** could be harnessed to generate electricity, as so many scientists have hoped, the energy needs of the whole world could be satisfied with relatively little harm to the environment. But my view is that **utopian** thinking of this kind is very dangerous. Instead of free energy we have the hydrogen bomb.

Life should always be the next step, and the next ... A world without immigration controls might be one in which no government would dare to use those bombs. A world without borders at all might be one in which the only government was the United Nations and international war was thereby impossible. These are two more “utopias” which, like communism, could incur immense suffering in their pursuit, only to end in a dystopia like present-day and still grossly unequal Russia.

Scepticism about carbon may anger Extinction Rebellion, whose direct action in furtherance of their beliefs I naturally condemn where I hold such beliefs to be false. I do understand that many of its adherents are exercised about the seeming futility of domestic environmentalism. With some of their beliefs I agree: notably that it will no longer do to treat pollution as an ignorable “externality” in accounting net output figures such as GDP (Gross Domestic Product). But ruining works of art or stopping traffic on the London Orbital Motorway merely discredits that for which they stand. Also, it may harden them to greater and greater illegality. It is those like the IRA who insist on **showing** that they are serious about what they say who pose the greatest threat of extinction.

“A Collective Delusion of Reference”?

A disorder of thinking sometimes observed in clinical psychological practise is called the *delusion*, a false belief held tenaciously against all evidence. The best known types of delusion are those of persecution/“paranoia” (“they’re out to get me!”), on the one hand, and grandeur (“I am the heir to the Russian Empire”), on the other. Both derive from a basic delusion called “reference”, the belief that everything that happens refers to me, is happening because of me. Such tendencies in belief are very widespread, but to repeat, sometimes some individuals hold them so tenaciously for it to be significant clinically. There are also *collective* delusions, like those of quasi-religious cults often swallowing helplessly the ravings of a charismatic leader, or as with the Flat Earth Society, or nationalist delusions that war can be a good thing.

It seems to me that there is also a collective “delusion of reference”, a belief that the human family generally is responsible for far more than that for which it really is responsible. So it is believed we can take effective action on far more than we really can. This is why the worst sin a government can commit in response to a major news item is to do nothing; even something positively counter-productive typically seems to be better than nothing. And the collective delusion of reference leads on to collective delusions of grandeur, like the one that we can arrest or even reverse global warming. Reducing our use of carbon is the chosen means. But the science done so far is in my view insufficient and partisan. What is being proposed in this context is a gigantic experiment *which may well not work*. And if it doesn’t, what then? We incur all the adverse consequences of global warming in poverty.

In the history of cosmology, there has been a vast expansion of the known cosmos. Our centre has shifted from hamlet to village or urban centre to county to country to continent to the planet as a whole. Then there was the Copernican revolution centring the cosmos on our star, the Sun. Then the cosmos-picture continued to expand to embrace galaxies, such as our own: the Milky Way, a vast collection of a hundred billion stars, clusters of galaxies, and the Universe of all galaxies (many billions of them). Our Universe is known from a spectrographic red shift to be expanding, and there are also plural grounds for supposing it to be no more than one universe within a Multiverse of many universes. All of this should lead to a de-centring of the human family and greater recognition of our utter insignificance in the physical cosmos.

Human beings have clung on to a belief in our own exceptional nature through a belief that only we among terrestrial species are endowed with a faculty of Reason. The work of the first great applied psychologist Dr Sigmund Freud argued that reason is no more than the instrument of the feelings, and clinical psychologists since then have many times endorsed that viewpoint. While work with our nearest relatives among infra-human species suggests they have surprising cognitive capacities, as do dolphins and whales. We are clever, and have evolved in a hominid line for a very long time, but are not necessarily, in spite of *Genesis I 26-27*, a separate creation in God’s image.

The belief that as a family we can modify our planet’s climate in such a way as to prevent drastic change, “merely” by reducing our use of carbon, strikes me as King Cnut commanding the incoming tide to turn back. The surface area of the Earth is nearly two hundred million square miles. That says that on average a group of forty of us occupy a whole square mile. I simply do not believe that it is enough of us for our everyday use of transport and electricity to have a substantial effect on an atmosphere which goes up twenty miles; and so on the climate. It is regrettable that so much well-intentioned effort to restrict carbon in the atmosphere is, in my view, being misdirected; hopefully that effort can be deployed more appropriately to restrain governments from over-energetic measures along those lines.

Ice Ages

In the historical period we know both in our own country of a “Little Ice Age” of the early eighteenth century^x and also of a “Mediaeval Warm Period”, when for example Greenland was quite densely settled. These happened before industrialization and its associated carbon pollution could be blamed.

Even more telling: we know that for millions of years there has been a succession of Ice Ages and Inter-Glacial Ages. The beginnings of a long-term warming were more than twelve thousand years ago; over time the evolution began of the first civilizations in Iraq, Egypt and China, the Indus Valley and Meso- and Andean America. It is known the alternation of cool and warm has repeated many times, and that it has not been a regular X years of cool and X years of warm. ***Our current warming could be one which has not yet reached its turning point*** (of cooling towards another age in which glaciers move down and south).

The ice-age cycle can hardly have much to do with man-made pollution. Milutin Milankovitch, a Serbian scientist, put cooling down to very long-term cycles in the motion of the whole planet, our Earth, beyond its daily **rotation** upon the invisible axis connecting the true poles and its yearly **orbiting** of our star the Sun^x. The rotation accounts for the alternation of day (when Britain is facing the sun) and night (when it is facing away). The orbit accounts for the alternation of summer and winter; though in a somewhat complicated way that depends also on the axis, which is in fact tilted away from the vertical (that is, the axis of rotation is “oblique” not vertical to the plane of the orbit^{xi}). When the Northern Hemisphere of our Earth is leaning towards the sun, not only are we closer to that hot body, but the hot radiation also has less far to go through the atmosphere. This acts to accentuate that radiation’s warming effect on Earth.

Milankovitch identified three cycles. One is to do with the orbit, the other two to do with the rotation. In combination and interaction, he asserted, they^{xiii} explain both the ice-age cycle and its apparent irregularity.

Johannes Kepler’s First Law of Planetary Motion (1609) is that the orbits of planets are not circles but ellipses^{xiii xiv}. A more everyday term for an ellipse is an oval. The Earth’s ellipse is one of low eccentricity (that is, it is quite close to a perfect circle, unlike Mars’s, for which Kepler had the observational figures of Tycho Brahe). Nonetheless, the Earth’s eccentricity does vary, on the longest of the three cycles, about 100,000 years in length. That has the effect of exaggerating or diminishing seasonal change.

The two rotational cycles are in the tilt of the axis, and in “precession”, which is another aspect of axial movement. The axis nods up and down (“nutates”) through between 3° and 4° over a complete cycle of about 40,000 years. At the moment it is straightening back towards vertical which has the effect of bringing forward the next ice age. One way to think of precession is as both poles, North and South, describing circles. The circles are imperfect due to nutation. The axis traces out a pair of cones joined at their apices.

Also called “precession of the equinoxes” it has the shortest period of the three, of about 25,000 years. It means that Polaris has not always been and will not always be at the celestial North Pole (around which the circumpolar constellations Plough, Cassiopeia, *etc*, rotate during the night). The discovery of precession is sometimes attributed to Hipparchus of Rhodes (2nd century BCE.)^{xv}. Precession interacts with elliptical orbit to affect the season of the year at which Earth is closest to the sun and thereby its temperature.

Everything said, there is an open question here. But the causal centrality of carbon is a **hypothesis** not a fact. I plead for us not to be jockeyed into imprudence by alarmist talk of runaway climate change nor by politicians who have “jumped the gun”. Let the scientific evidence be put to the public in a measured and balanced way. A genuine scientist seeks to refute her own conjectures, not to confirm them. Hasten slowly!

- i At first in my life the weather forecast seemed roughly as accurate as astrology (not to gainsay the frequent shrewdness of the latter). It is only relatively recently that forecasts do seem better, with more observational instruments monitoring key variables like temperature and air pressure, and more powerful computers to analyse the data in “real time”. Nonetheless, forecasting five days ahead must surely be of a different order of complexity to forecasting decades ahead, as climate scientists are claiming to do. From personal experience however – the poverty of white Christmases today, the prevalence of yellow fields of rape, the burgeoning of the British wine industry – I would agree there has been British warming over the last seventy years.
- ii Lawson, N. An Appeal to Reason: A cool look at Global Warming, *Gerald Duckworth*, **2008**. 'On many points the sceptics happen to be correct. Nigel Lawson's short splendid book ... can leave no fair-minded reader in doubt on that score ... Elegantly written, thorough, entertaining and, above all, convincing' --The Financial Times (review)
- iii Carter, R. M. Climate: The Counter Consensus. *Stacey International*, **2010**.
- iv Lomborg, B. The Skeptical Environmentalist: Measuring the Real State of the World, *Cambridge University Press*, **2001**.
- v Williams, S. M. Introductory: Why Scientific Psychology has Neglected Environment. Chapter I, pp 1-19 of “Environment and mental health”, *Wiley*, **1994**.
- vi Of course there are many other renewable sources of electricity. All that is needed is movement (the generator works by moving a conducting medium through a magnetic field). But the drawbacks of non-renewables like coal, oil and gas have been known for a very long time, yet most authorities consider they in practice can only be replaced by nuclear. The other renewables – wind, wave, solar, hydro, heat pumps, *etc*, – even collectively do not and for many years can not add up to sufficient watt-hours to satisfy British needs, especially with fully-electrified transport.
- vii Yohe, G. Climate Change. Chapter VI, pp 103-124 of B. Lomborg (Ed.). Solutions for the World’s Biggest Problems: Costs and Benefits. *Cambridge University Press*, **2007**.
- viii This seems to mean some turning away from the USA, to whose defence we are at present committed by our signature on the North Atlantic Treaty. America now faces the Pacific rather than the Atlantic, and shows decreasing willingness and/or ability to bring to an end small wars in the Heartland (of Africa and Eurasia). There are sentimental ties, but the head must rule the heart.
- ix The Thames would regularly freeze over in winter and fairs were held on it.
- x Strictly speaking both are orbiting their shared centre of gravity, which is deep within the sun but not at its very centre.
- xi The average value of tilt is a little over 23°; the “ecliptic” plane has the same angular value because of it.
- xii There are other factors. For example, land conducts heat better than water, and the greater land-mass in the Northern Hemisphere of the Earth is thought to have global effects upon the temperature.
- xiii Importantly, the centre of gravity of the orbiting system is not at the centre of the ellipse but at one focus of it.
- xiv The First Law can be seen as a consequence of Sir Isaac Newton’s Law of Universal Gravitation. This is the law of attraction between bodies with mass proportional to the product of masses and inversely proportional to the square of the distance between them. Today this would be cast in the language of Albert Einstein’s Theories of Relativity.
- xv Precession does **not** refer to way the two 24-hour intervals over which the hours of light equal the hours of darkness change from calendar year to year, which is variation over a much shorter timespan. That is connected with the difference between the calendar year which is the one we know, and the tropical and sidereal years with which it seeks to sync by means of judicious “leap days”. These years are not exactly 365 days, because there is no reason to expect rotation to be in sync with orbit, and they are in fact more like the 365¼ days assumed by the old Julian calendar. In history the Gregorian calendar supplanted that because ¼ day is also too neat and leap days need more subtle insertion than the Julian one year in four. The 20-minute difference between the years based on the sun’s position relative to the earth (“tropical”) and the position of both relative to the fixed stars (“sidereal”) **is** due to precession of the equinoxes.