

Global Warming

And

The Garden of Eden

A study leave Report
By Rev Richard J Gray 2010

Global Warming and the Garden of Eden

This Study Leave topic and my approach to it come from many years of interest in the natural world. At school one of my favourite subjects was Geography where the earth sciences played a major role in the curriculum. This was perhaps furthered at university when majoring in Anthropology; in particular in the area of prehistory. Theories of the origins of our world and of the human species seek to explain the world as we see and experience it. Many of these theories speak of author's beliefs and fundamental understandings of their world. Often they are seeking to explain away certain beliefs and replace them with others.

As a minister of the Gospel and a Religious Educator at a Church Secondary School, for a number of years, further interest developed in the relationship between science and religion and the belief that both need to be taken seriously and that regardless of popular opinion, it is not a matter of either/or. Many scientists express a passionate belief in the Christian faith and see their faith as an integral part of their understanding of science. R J Berry edits a book that explores the faith of eighteen eminent scientist where they each give expression to the work they do in Science and the faith in God that they hold dear. (Berry, 2009)

On the other hand, for the nine years of teaching Year 10 Religious Studies I made sure that we had an opportunity to explore Genesis 1-3. The almost universal reaction was, 'Oh, I believe in science not religion.' That opened up a good debate on belief and the faith one needs to have to believe in science.

The next question to the class was, 'How many of you have actually read the Genesis account of Creation?' And again the almost universal response was in the negative. For me, Science and Religion both seek after truth. Their ultimate goal is about what is real and what is true. The fields in which they look are often very different, but each is able to compliment the other. Each can hold an open respect for the other, rather than having as their prime objective the need to disprove the claims that we think each make about the other. In both disciplines people come to different conclusions from a wide variety of angles, and in both disciplines conclusions should always be open to challenge.

But one may ask why 'Climate Science' as a topic for study leave, and as I have been asked on several occasions, what do I know about it and what scientific knowledge or learning do I bring to it?

To answer the second part first, as that is the simplest, very little. At the point of beginning my study leave, my knowledge was limited to what the media had fed me and in terms of my formal education as I have outlined above. Very quickly I gained the impression that I had no business in pursuing such study, let alone offering any comment on the topic of climate change. I find this highly interesting in the fact that as a student of theology and biblical studies I work in a world where everyone is encouraged to think and offer opinions on these topics and there are many with very little education and training who seem only too willing to offer advice on such issues. Besides this, part of

our role as ministers of Word and Sacrament is to encourage people to pursue such thinking and to exercise their minds in the pursuit of knowledge.

To extend my thinking and learning into the scientific sphere has been both interesting and enriching. Sadly the attitude of the scientific community often reflects the church of the Middle Ages, where only the men in white robes were able to interpret for the people what they needed to know. They were the educated; they knew what was best for the masses. In his book 'Poles Apart', Gareth Morgan tries to examine objectively the pro's and con's of the arguments around climate change alludes to this priestly attitude of the scientific community when he says,

"It's high time, in short that the priests turned to face the congregation. The people are waiting." (Morgan & McCrystal, 2009, p. 234)

Why a study of climate science?

There are many aspects of this science I have become increasingly unhappy with, and the philosophy and methodology used to convince governments and the masses that we are on a road to destruction that only our generation can fix. It is all in our hands and we must act now. For me this raises some huge issues about our place in the world; questions of, 'whose world is it?' and the relationship between our ownership and stewardship, providence and control.

There are ethical issues of first world countries having created their comfortable life styles on so called dirty energy in the process of developing cleaner, greener methods, and then expecting developing countries to jump that phase of development to obtain expensive greener technology.

Worse still, the first world countries are exporting their dirty processing of waste or manufacturing materials to third world countries for them to deal with, while we hold our heads high, puff out our chests and declare how clean and green we are. In the next breath we condemn the countries that are processing our so called 'recycled rubbish'. All of this occurs under the assumption that we are going to change the climate patterns of the world.

The fundamental question this raises for me is; are we claiming knowledge and power beyond that which is ours? Do we want to eat from and enjoy the tree that gives life and the tree that gives knowledge, and if so where does this lead?

Reno in his commentary on Genesis suggests, "That perverted humans will follow false gods, false leaders, and false promises, all the while imagining them to be the source of life." (Reno, 2010, p. 84)

There is much in the climate change debate that has brought good into the world. An emphasis on our respect for the environment, and advancement in cleaner technology, a public awareness of environmental issues like never before, a desire by many to think carefully about the uses and abuse of the earths resources have often lead to the development of a better world to live in.

My unease lies in the area of the underlying science that suggests we are on a one way path to destruction and also the use of scientific theory to hold the world to ransom. I also have an unease that a major justification for climate change being such an issue is that a majority of scientists believe it to be the case, or worse still that ‘the science is out on climate change’. Such a statement is a denial of true scientific thought and understanding, for science is never complete.

I am surprised at the view climate scientists seem to have of the world as an incredibly static and unresponsive mass only moved and challenged by human activity and seemingly unable to adapt. In this view there seems to be little appreciation of the tremendous changes and cyclic processes that the planet has been through in its extensive history that has brought it where it is today.

And finally the lack of hope, the oppressive despair and the endless worry that is being poured upon us, not only for our generation but for generations to come, concerns me. We are being made to pay the price, otherwise the destruction of the world is our fault. We are being led to believe that the salvation of the world is in our hands.

Von Rad commenting on man’s arrogance in the garden reminds us, “And man’s ancient folly is in thinking he can understand God better from his freely assumed standpoint and from his notion of God that he can if he would subject himself to his Word.” (Von Rad, 1972, p. 86)

It is these areas that I wish to explore, bringing together the influence of science and religion to inform a debate that will continue beyond the generation in which we live, just as no doubt generations before us have wondered and pondered their ever-changing environment.

I want to begin with a sweeping look at the dynamic and awe inspiring story at the beginning of the Bible – aptly named Genesis.

As I engaged in the study of the first three chapters, the wonder, the order, the purpose, the promise, the hope of the whole of creation became alive in a way that I did not find in the reading of science alone.

But one has to unravel some basic understandings when approaching this passage, just as we do with any writing. What is it that we are reading? Where has it come from? For what purpose was it written? Only then can we begin to explore what it might have been saying for the people to whom it was first told. Then we might look at what it might be saying to us today, particularly in the light of our own contemporary knowledge.

One of the many mistakes people make is to try and use the story of Genesis to justify modern scientific argument. Modern science was obviously not known when this story was first told and therefore it is hard to draw out of it conclusions that express such knowledge. In saying this, I do not want to belittle in anyway the Genesis text but rather to explore it through the eyes of a pre-scientific world. Here is how the world and its

origins were perceived. Out of the chaos of nothingness, God brought order and form. Or as Reno so beautifully puts it,
“The seemingly permanent architecture of the universe created in the beginning starts to march forward into the promise with joyful anticipation.” (Reno, 2010, p. 20)

Although there was once chaos, now with meaning and purpose in mind, there is order. Bruggemann sees these stories both as coming out of the church or the community of faith and addressing the church and he sees in this two calls.

“God calls the world into being and God calls us into the church.” (Brueggemann, 1982, p. 1)

He goes on to say,

“The call announces the special character of God as the one who calls. It announces a special vocation for creation and for Israel as the ones called and the ones who must answer.” (Brueggemann, 1982, p. 1)

These stories are about the relationship between God and humanity and thus lie at the heart of our faith and at the heart of our understanding of the world. God is the prime mover and shaker. And Reno suggests,

“God creates out of his word or purpose.” (Reno, 2010, p. 32)

Word and action were not two separate functions in this story teller’s mind, but rather, to utter speech was to act. In speaking God created. Calvin sees that this Word in the beginning is the same Word that is in the completion of Creation. Thus God is active in the world throughout its existence.

“And it is certain that the world has begun by the same efficacy of the Word by which it was completed.” (Calvin, 1965, p. 13)

This interacting of God in creation is not to be seen as a moment in history but is a momentum that shows us the dynamic and continuing activity of the Creator.

Mankind for a long time, in fact from the beginning, has taken a keen interest in this unfolding world. The desire for knowledge, the desire to understand, is part of the image the Creator has given to us. But we must always ask the question as to where we allow that freedom to take us, and remember where that freedom has come from.

Reno says, “Our freedom is real; we must decide to move our feet in one direction or the other. But that freedom is reactive and responsive, not executive or commanding.” (Reno, 2010, p. 83)

Why? Because we live in God’s world, a world created by God and for God.

Within these parameters the search for knowledge is endless. The questions of why and how are infinite. One of the most profound discoveries we make as inquisitive human beings is that there is always more to discover. So when Lord May, a former President of the Royal Society of Science, was quoted as saying, “The debate on climate change is over,” (Dominion Post, 31/5/2010), it was a contradiction of the very foundations of science itself. Science is never over, science is always in a state of flux for any new discovery that challenges an old premise must be free to pursue that line of thought, and be free to see where that line of discovery leads.

Even Tim Flannery in his pro global warming book asserts this idea when he says, "A sceptical eye is our greatest asset in dealing with this type of problem. A deep scepticism has a particularly important role to play in science, for a theory is only valid for as long as it has not been disproved." (Flannery, 2005, p. 2)

One has to wonder in reading the rest of his work at what level he places disproof.

Out of the Genesis story comes these wonderful gifts; of creation itself in all its dynamic beauty to behold, knowledge to discover, and the gift of relationship; not only relationship among humanity but the relationship between Creator and created, God and humanity.

The story of the Garden is in one sense the story of knowledge; a respectful knowledge. Brueggemann describes it, "That the helper must be creature not creator shows to what extent creation is left to its own resources and expected to honour its vocation, explore its freedom, and respect the prohibition." (Brueggemann, 1982, p. 47)

The prohibition was not to deny humanity but rather to preserve their free and open exchange with the Divine. Before the taking of the fruit they exercised trust. But in that striving for a controlling knowledge that had been a relationship of trust and obedience, it becomes a relationship of crime and punishment.

Brueggemann points out, "They had wanted knowledge rather than trust. And now they have it. They now know more than they could have wanted to know. And there is no place to run. (Brueggemann, 1982, p. 49)

Their awareness leaves them naked and ashamed. The whole focus has shifted from that relationship of trust to one of self reliance. It is a self reliance on one's own knowledge. The choice becomes, whether we open that knowledge to God's infinite wisdom and acknowledge his over arching providence and power or whether we cleave that to ourselves. In grasping that providential knowledge to ourselves do we then have to take the responsibility for the destiny of the world?

Reno expresses it, "The original pair now think of material reality itself as the end-point or purpose of creation. Seeking to rest in finite things, they no longer think of material reality in the light of the original logos or reason for which and with which God creates." (Reno, 2010, p. 91)

God gets left out of the equation and the destiny or end point becomes in our mind, ours to determine. I think we are seeing that particularly in the area of climate science, and it is the doomsday, apocalyptic message that is sweeping the world with no grounding in any theological reasoning or critiquing that I find most disturbing. It seems to be a movement with a similar potency with which Hitler managed to convince a generation to view fellow human beings as somewhat less than human. We need to remember there were plenty of church people who followed Hitler and his ideas.

How is this done? I offer some observations.

Firstly we are constantly reminded that a vast majority of scientists affirm the mantra of the pro global warming fraternity, therefore it must be right. A new basis for scientific

discovery and verification has been born, the majority rules. No longer do we have to follow the age old practices as outlined in an interesting book called 'Betrayers of the Truth, Fraud and Deceit in the Halls of Science', by William Broad and Nicholas Wade, where they outline American cases of deceit in science motivated by a variety of reasons. These were scientists who failed to faithfully and honestly follow the age old conventions. "The conventional ideology of science can be summarised under three headings: the cognitive structure of science; the verifiability of scientific claims; and the peer review process." (Broad, 1983, p. 15)

In other words: to propose the hypothesis, to repeat the theory, and to allow independent and objective review and testing by peers.

This philosophy of science goes right back to the days of Aristotle, who saw that process of observing, induction, formulating principles, deducting, leading back to observation. (Losee, 2001, p. 6)

Such thinking relied on open and honest testing and retesting of one's hypothesis, and allowing others to do the same, for any exception to the rule in science requires a rethink or a discarding of the original hypotheses.

Broad and Wade outline case after case where they discovered science was no different from any other human activity.

"Scientists are not different from other people. In donning the white coats at the laboratory door, they do not step aside from passions, ambitions, and failings that animate those in other walks of life. Modern science is a career." (Broad, 1983, p. 19)

We live in a day and age where failure comes at a high price.

Secondly: The media have climbed on the band-wagon. Just about every night there is at least one weather related item streamed into our lounges from somewhere around the globe. Floods, fires, heat waves, heaviest snow falls on record, all have to do with the climate change mantra that actually means global warming.

It is never just a natural process, but rather anthropogenic, man induced, global warming. We are told weather extremes are part and parcel of the evidence of this occurring. So we get floods in China like we've never seen before. The fact that western journalist would never have got hold of such footage a few years ago seems to escape our reasoning.

Floods in Pakistan are reported. They are probably not due solely to excessive rain but more to the deforestation and what the inhabitants of the land have done to change the landscape and maximise the profitability of the land causing silting of the vast river deltas.

We are even told the coldest winters on record in Europe seem somehow to point to the rising global temperature. Today the media bring us instant coverage from all over the world, and we see events as they unfold, like no other generation has ever experienced.

This constant reminder of the fury of nature coupled with the mantra of global warming condition us to cause and effect hypothesis of global warming.

Thirdly, there is the political influence. Governments have picked up on the so called majority view of climate science, and policy analysts have pushed the need to do something to 'save the world.' International summits have been held around the world in the attempt to get countries to rid the world of the dreaded poison of CO² and other minor trace element of the atmosphere that humanity and its farmed animals are pumping into the atmosphere.

Our Government with others have introduced Emission Trading Schemes which puts a price on carbon units which companies and individuals trade. Those industries like forestry, who will gain carbon credits because they help reduce levels of CO² will sell their credits to industries like coal-fired power generators who will use those credits to balance the CO² emissions across the board. Basically carbon credits are a form of currency used to regulate our carbon emissions and in and of themselves do nothing for the environment.

Internationally of course the United Nations have set up the Intergovernmental Panel on Climate Change (IPCC). Their task seems to be to convince the world of the need for action. Scientists who see things from any other perspective seem to be frozen out of the academic field of climate science. In a more extreme view Ian Wishart sums up the political influence. "Forget the climate (and this is ultimately why they are not interested in the science) this whole global warming debate is about political power and a new world order." (Wishart, 2009, p. 239)

This leads to the fourth area that influences the world thinking and that is, scientists themselves. Climate science is a relatively new field of science in its own right. The raw data that is worked with does not go back that far in history. In recent times we have heard something of the adjustments that are needed to interpret that raw data to counter what is called 'Island Heat Effect.' That is to do with the changed physical environments of individual weather stations. Where trees are removed or have grown, where buildings have been erected or demolished, or car parks built – these all influence the raw information that was once gathered and adjustments are needed to standardise the data on which the information is based. The trouble with this is how can one be sure that the right adjustments are being made? How does one know whether to adjust up or down?

Much of the science done in this area of Climate Science is done with computer modelling. Models are made that reflect known examples of real climate with influences of temperature and CO² and other factors fed in. When that model produces effects known today they use that information to project back into history and forward into the future. However the danger in this approach comes not from the known factors influencing climate but rather from the unknown. Influences such as clouds and the effect they have on climate is only in its infant stages in this field of science and yet Plimer says, "Clouds are one of the major drivers of climate change." (Plimer, 2009, p. 101) The influence and extent of underwater volcanic activity seems only just to be unfolding and little is known of its effects on the earth. What of terrestrial volcanic

activity? The Sun of course is a major factor and according to Plimer is the “primary driving force of climate.” (Plimer, 2009, p. 100)

Climate scientists seem to be quite narrow in their approach and seem to draw little from the Earth Sciences which have studied many of these influences over the years. There is little drawing from history where many explorers of past ages have recorded information about weather, ocean currents, plant and animal life in various parts of the world, all of which give windows into the world’s climate in by-gone eras. Gavin Menzies writes a fascinating account of the Chinese exploits in circumnavigating the globe in 1421, decades and centuries before the well known European explorers. (Menzies, 2003) In this account there were places that were reached that in colder times have not been possible.

Such information helps to give an overall picture of how climate has varied greatly at different points in history, and how humanity and animal kingdom have adapted, or not as the case may be. Such explorers have often introduced species from one part of the world to another leaving a footprint of their visits. Climate scientists seem to focus on computer models rather than a broader approach, to flatten out influences such as the Medieval Warming Period and the Little Ice Age, and portray them as not being that important in the overall scheme of things.

The fifth area of influence is that of the environmentalist movement. Much of what has been achieved in making us far more aware of the world in which we live must be applauded. The consequences of our actions in the world impact in many and various ways.

One of the strong themes in Genesis is that of our responsibilities as caretakers of creation. Reno says, “Firstly we should not aim at a vision of common life that relieves us of a responsibility for wise exercise of dominion.” (Reno, 2010, p. 55)

That wise exercise of dominion includes careful scrutiny of the information that we are basing our actions and decisions on. We sometimes need to peel back the emotive language and images we are fed to ascertain the truth.

An image of polar bears floating on small islands of ice tug at the heart strings, but is this an accurate portrayal of the truth? According to Wishart this popular photo was taken a short distance from much larger ice floes. The photo was taken in the polar summer by a marine biology student, as a snap shot, with no political agenda but just out of interest, because she happened to be there.

Al Gore picked it up off the internet to illustrate his message of the melting ice caps, and ‘bang’ it became a symbol of the plight of the polar bear and etched on the minds of people all around the world. I note, with interest, that this picture features in the publication, “Caring for Creation”, published by the Presbyterian Church of Aotearoa New Zealand. (Candy & Singer, p. 6)

Wishart points out, “They survived the Medieval Warm Period, and the Roman Warming Period and presumably other warm periods over the previous 100-200,000 years that they’ve existed as a subgroup.” (Wishart, 2009, p. 122)

Little cognisance seems to be taken that humanity has always had an impact on the environment as have other species, and both the world itself and other species have adapted or not as the case may be. Yes we must act wisely, but that must be done, not on emotion alone and with the understanding that we do not always know the full impact of our actions or inaction until some time later.

There is a lot of talk of the impending extinction of various species, and we are warned that the cause of this is global warming. However, more often than not the cause is more likely to be the removal of particular habitats. Increase in temperature has traditionally resulted in species moving and adapting, but if there is no where to move to then extinction becomes a distinct possibility.

Programmes of assisting endangered species to relocate are a positive move by environmental groups. Extinction of species is nothing new and has not always been the direct impact of human activity. Plimer gives us a stark reminder of the fragility of life on the planet when he says, “A sobering thought is that 99.99% of all species that have ever existed in Planet Earth are now extinct.” (Plimer, 2009, p. 175) This reminds us that we live in an ever changing world where life, death and decay are part and parcel of this planet.

The sixth and final area of influence pushing the line of anthropogenic global warming is that of economists.

Ben McNeil in his book, ‘The Clean Industrial Revolution’, tries to tell us, “Melting ice caps aren’t just about polar bears and climate change and is definitely not just about the environment, it’s about economics. Our modern society was built on stable climate.” He goes on to say, “Stabilising climate is critical to ensuring Australia’s continued prosperity.” (McNeil, 2009, p. 4)

It is certainly debatable as to what a stable climate is and how long such a climate has been around, but to see the economy of the country as the prime motivator in seeking to control the world’s climate to me is an exercise in futility. It is also illustrative of my hypothesis that the modern sin is our unabashed grasping for the fruit of the tree that is not ours to take.

McNeil says, “The gods may have an important role in setting up the earth’s climate but the potential changes for our future climate are entirely a human creation. (McNeil, 2009, p. 15)

It is human greed that has so often led to actions that have pushed aside our ‘responsibility for wise exercise of dominion’ and now some economists are using climate change as a fear tactic that we might loose our comfortable, affluent and

progressive life style. Unfortunately their answer to the problems often falls on the shoulders of third world people who have never come close to having the most basic comforts that we enjoy and in fact take for granted today.

McNeil puts it blatantly when he says, “Climate neutral development is one which allows growing prosperity but without altering the living conditions for future generations.” (McNeil, 2009, p. 81)

With these six areas of influence, ideology, media, political, climate science, environment and economics, the world is bombarded with a common mantra. The world is warming; it is our fault, without quick and desperate action we will continue down a path of self destruction. The fallacy in all of this for me is the idea that this is all down to us and that we indeed have the power to save the world. I am left wondering as we sing one of the great anthems of the church, ‘O Saviour of the World,’ will we be addressing climate scientists and economists who have reduced carbon emissions at great cost to the world, or will we still be acknowledging the Living Word, full of grace and truth, whose creative power brought all things into being, the One who continues to speak into creation.

So, what of the actual science that underpins this whole movement?

One wonders with these other voices speaking into the mix, can ‘good science’ actually happen? As I have already said, the admission from the Royal Society of Science has had to back track and acknowledge there is good science on both sides of this debate. Each side accuses the other of funding motives for pursuing their line of argument. The alarmists accuse the sceptics of taking funding from petroleum and coal based industry, while the sceptics point out that alarmist’s funding is largely from governments who have now intertwined their economic policies into reducing carbon emissions, and other environmental thrusts, that any change in scientific thought could have huge economic ramifications.

In many of our educational processes, hoped for outcomes need to be stated in applying for funding to do research, and if those outcomes don’t match what the funders want, grants won’t be given. It raises serious questions as to what happens if during the process of research different outcomes are discovered. Does one hide those outcomes to ensure continued funding, or are scientists above such behaviour? Broad and Wade point out, “Like sin among the faithful, fraud should not exist, let alone thrive within the community of science. That it does is because practice differs from ideology.” (Broad, 1983, p. 142)

How does one achieve ‘good science’ on this playing field that resembles something of the post earthquake paddocks in Canterbury more that a groomed rugby ground within a stadium? The peer review process is held up as the trademark sticker, a little like the heart tick that we see on grocery items lining our supermarket shelves.

This process of colleagues checking the science of their fellows should iron out such discrepancies. The trouble is, your work has to be selected to be reviewed and more

often than not, if your work contradicts the prevailing thought of the day it will most likely not be selected for review.

So what of the science that I have grappled with in an attempt to understand both sides of the global warming argument?

The issue for me is not simply about climate change. The climate has changed from the beginning of time, in cycles of warming and cooling. Some of our most stunning scenery is the result of massive fluctuations in climate over the millennia as we have moved in and out of ice ages, as the planet has warmed and cooled. There is no question of that.

Much of the massive swings occurred prior to humanity having the slightest influence on the environment. We marvel at the stunning beauty that such natural events have created in its often destructive paths. One only needs to think of the fiords of South Westland, of the Pancake Rocks of Punakiki or the caves at Waitomo. Of course, not only climate has influenced nature, but no doubt nature has affected climate. One can wonder at the cool years that must have followed the eruption of Taupo with all the volcanic dust and CO² that would have spewed into the atmosphere.

No, for me, the issue surrounds the human input that is purported to have such a massive influence on the world's climate. If this is the case we would have to acknowledge the power lies in our hands to save the world, but if not, we still have that responsibility to exercise wise dominion over God's world.

At the heart of the science lies the atmosphere and what is happening to that. The atmosphere regulates the climate and is made up of four layers, the troposphere, stratosphere, mesosphere and the thermosphere. Only a tiny portion of this is our breathable atmosphere. But the whole atmosphere is what keeps planet earth at its equilibrium as far as temperature and living conditions are concerned. Much seems to be made of the CO² levels in the atmosphere and unfortunately we are often left with the impression that CO² is a poison. In fact without CO² we would have an incredibly unstable temperature on Planet Earth.

The atmosphere is made up mainly of nitrogen consisting of 78.08% and oxygen at 20.94%. Thus we can see that CO² can only make up a very small part of the atmosphere. Of the 98% of gases left in the atmosphere, 0.98%; 0.934% is inert gas argon. Carbon dioxide is a trace element at 0.04% and less than a fifth of that is man-made CO² (0.008% of the total). It is this infinitesimal quantity of man made CO² that we are being told, will influence the climate and destiny of the world.

The main argument used by climate scientists is that rises in carbon levels in the atmosphere are resulting in corresponding temperature rises on the earth. These rises are being linked to human activity. We are told that if carbon levels can be reduced so will the corresponding temperature. While carbon levels have risen, particularly over the last century, others argue that this is a result of temperature rise rather than the cause. Heat releases carbon. One only needs to warm a glass of lemonade and watch the bubbles rise until it goes flat. Warmer temperatures cause ice to melt which releases more carbon into

the atmosphere, as ice acts as a carbon trap. Increased carbon levels over the last century are likely to be the result of the world coming out of a cooler period in the centuries preceding this current warmer era. The levels of CO² in the atmosphere have varied greatly over the millennia. Professor Duffy says, “Ice-core data shows that ice ages have been the dominant feature down the centuries interspersed with relatively brief warm periods, but nowhere has the increase in atmospheric CO² concentrations preceded a temperature change. The CO² concentrations always trailed temperature changes by as much as 400-800 years.” (Duffy, 2010)

The warming period we have been experiencing is not out of the ordinary, nor is the level or range of temperature increase as alarming as is being made out.

Plimer says, regardless, of whether climate is viewed from a historical, archaeological or geological time perspective, climate sensitivity greater than 1.5°C has been a robust feature of Earth’s climate system over the last 420 million years.” (Plimer, 2009, p. 87)

We can only await the effects of some fairly major natural events that have occurred only in the last year or two with massive volcanic eruptions in Iceland and Indonesia and an earthquake in Haiti which was purported to have tilted the earth on its axis. Surely such events will have flow-on effects far greater than mankind will produce and in a much shorter time. Plimer states in this regard, “Although Mt St Helen’s was a very minor eruption, it was intensely studied. One of the findings was that droplets of sulphuric acid blasted from the eruption had a long residence time in the Atmosphere and reflected energy, resulting in atmospheric cooling. An almost eruption-free period from 1912-1963 coincided with an average global warming of 0.5°. It is quite possible that the atmosphere warmed due to the lack of a normal quota of volcanic aerosols.” (Plimer, 2009, p. 219)

All of this leads me to conclude that if true scientific exploration in the area of climate change is to continue, there must be a much greater acceptance evidence from all sides of this argument. We must always be open to trends of both global cooling and warming and be open to numerous possible causes both known and unknown. Scientists seem to be forced to take a pro- or anti-stance on the topic and then appear to gather information backing that particular line of argument.

I believe we must always be open to evidence that will challenge our thinking and opinions. We hear little of evidence that suggests that the steady rise in temperature has actually levelled off since the year 2000, or that sea levels are not changing with any great significance. Evidence must be allowed to come to the debate from a wide array of disciplines, particularly in the area of climate science as climate affects so many aspects of our lives and has often regulated social and economic change throughout the history of the world.

Truth comes to us from many sources, and we must not see any one discipline as offering absolute truth. Science must be allowed to speak into theology, just as theology must be allowed to speak into science. History and the arts give expression to truth as it has been lived out in the past, and this must influence our thinking when testing what might happen in the future. When one discipline is allowed to portray truth without reference to

any other, I believe we are in grave danger of presenting an incomplete picture of reality to the world. And again I need to stress the need for openness to allow any such truth to be tested.

Maybe the cooler winters that Europe and the USA have experienced over the last few years and the recent heavy rains in Australia are symptomatic of the more recent volcanic and geological activity that the world has experienced. Only time will tell.

The science is not out. The science will never be out. To even think this is to demean the human mind and to hold tight to an ever changing world with the hope of keeping it just as it is. It is so like those who want to box God into a tight framework and keep the world the same as it has always been or rather as such people have always known it. This is such a limiting and futile exercise.

I think that climate change has been a part of human history since the beginning of time. Temperatures have risen and fallen at varying rates and degrees. We have moved in and out of ice ages throughout our history. Part of the beauty of the world in which we live is the dynamic and ever-changing nature of it. The mystery that surrounds this beauty gives us fodder for our minds as we grapple with trying to search and discover the ever changing parameters from which we operate.

The ever changing world is matched by the ever changing knowledge that is there to be discovered and acknowledged. I believe the danger we are constantly faced with is a world that wants to tell us that we know it all; that we have found the answers, for in claiming such omniscience we are in danger of taking on the form of God, of usurping the role of the Divine in Creation as it continues to unfold before us in all its mystery.

One needs to ask that if there exists a fundamentalism in religion, that wants to bind and restrict what is known and experienced of God, do we not also have be careful of such a fundamentalism in other academic disciplines that want to keep the world as it is for their own comfort and their own sense of power?

It was Karl Barth who coined the phrase, 'that we must let God be God', and this should permeate every discipline of our human endeavour.

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