

Assuming Responsibility

WHEN I was growing up in New York City during the 1940s, people (ordinary people anyway) assumed responsibility for their own actions. That was back when falling on an icy sidewalk meant being careless and not that the City had failed in its duty of care; when you could go fishing in the local park without first climbing a chain link fence designed to stop kids from falling into the water and their parents suing the County for negligence; or, when you could ride a bicycle without a helmet and there were see-saws in the park alongside slippery-dips higher than the shoulders of a five year old. I am sure it was the same in Australia. Maybe some of the changes in social attitudes and the proliferation of rules and regulations are good things. Maybe it is good to wear a helmet when riding a bike; it certainly makes sense to use the seat belt when driving in a car and maybe kids should not be allowed to risk life and limb sliding down a 2.5 metre high slippery-dip. What is not good is the increasing refusal to assume responsibility, to be litigious, and the growth of the Nanny State where individuals are denied responsibility for their own actions and we are all dumbed down by the expectation of authorities that we will all behave and respond like the least intelligent, least educated, most anti-social and most physically inept member of society. I find this trend to state control of my freedom to choose what I do, how I do it and when I do it frustrating and annoying; for example, I am not allowed to carry a pocket knife so I can eat an apple for lunch or open a bag of crisps because of an irrational fear of youth violence in Sydney and politicians needing to appear “tough” on crime¹. But not wanting to assign or assume responsibility for individual actions has more serious implications; ones that impact significantly on the future of global biodiversity and human survival.

Personally, I am content to believe the evidence that our planet (Earth) is warming, that the rate of warming is faster than at any time in planetary history (it has cooled faster thanks to asteroid strikes and volcanic eruptions), and that humans are responsible. I also happily accept that the consequences of unchecked warming will be catastrophic for planetary biodiversity, ecosystem services and for tens of millions, if not billions, of people, many

of whom will die as a consequence. It is all pretty straightforward to me, but then I have been cautioning against the threats of global warming and advocating action by government to reduce greenhouse gas emissions for more than 20 years. I have also been outspoken in my views that whatever the public is told about global warming and its consequences, it is far worse than stated, a viewpoint verified almost daily as new reports of accelerated glacial melt, ocean warming, virulent storms, and changes in species’ distributions and even body size flood in. Mind you, my strong views on this subject led to a paper of mine, being refused publication, the only time that happened in a 50 year writing career; I had written an invited popular article on global warming for *Australian Natural History* only to have it rejected after government scientists asserted that I was alarmist and that more research was needed (of course!) before the concerns I had expressed could be justified. Reading the article again after finding it in my “dead” files, I can only say that I should have been criticized, not for being an extremist and a doomsayer, but for being so short-sighted as to not to have foreseen the full extent of the problem of global warming as it developed over the following 20 years.

Like David Suzuki in the 1990s, I thought the world had 10 years in which to act to prevent the worse effects of human-induced global warming, when the real need was to act immediately and urgently to significantly reduce carbon emissions and move to a low-carbon society. So I was fairly laid-back; after all, 10 years is a long time. Suzuki and I mis-judged the rate and scale of change as global feedback mechanisms took effect. They are still mis-judged and there are still many scientists urging caution in moving to a low carbon economy and calling for “more research”. If the threats of global warming are as real as they appear, we do not need to do more research to know that we risk unprecedented losses of global biodiversity and significant disruption to planetary life-support systems with what that means to humanity and the global economy. Much better to be precautionary and act urgently.

The greenhouse effect in which carbon dioxide (CO₂) and other greenhouse gases absorb and hold solar radiation within the atmosphere, making Earth habitable, has been known since Joseph Fourier described it in

¹In case you missed it, I am not a youth, so why am I treated as one? Or for that matter, why are all youths treated the same?

1824. Where there is dispute is whether humans are responsible for the “enhanced greenhouse effect” of rapidly rising global temperatures and associated impacts from rising sea levels to extreme weather events. This is a classic example of not assuming responsibility for one’s own actions or, in this case, for the actions of society and industry. For some scientists, such as the one who blocked my article from publication two decades ago, it is matter of uncertainty. Yes, the Intergovernmental Panel on Climate Change (IPCC) is uncertain whether global temperatures during the remainder of 21st Century will rise by only 1.1°C or by as much as 6.4°C relative to the 1980–1999 benchmark. The uncertainty of the precise consequences is no reason for not taking action to mitigate and reduce effects or for advocating no action until the models provide greater certainty. Yet for too long, too many scientists advocated “more research” and greater “certainty” before feeling they could advise governments to take action to reduce greenhouse gas emissions. However well intended these advocates of greater certainty might be or have been, their caution has provided the justification on the part of government and industry to do nothing about Earth’s global warming problems until it is nearly too late.

Since the start of the industrial revolution in the 19th Century, average global temperatures have risen by ~0.7°C. Doesn’t seem like much, but keep in mind it is a global average, embraces winter and summer, the tropics and the poles, and represents a massive amount of heat energy. Think of a pot of water coming to a boil and the increasing agitation of the water as the heat increases and you get some idea of what is happening to the Earth with global warming. On Earth, heating and cooling of air and water interact with the spinning of Earth to drive the winds in the atmosphere and the currents in the oceans. Warm the Earth’s land and water and, just as with the pot of water, there will be increased turbulence as heat energy increases and temperature differences become more extreme. More frequent, more dangerous typhoons and hurricanes, as we may already be seeing, are just one of the many changes in the weather and climate that should be expected, as are changed patterns of rainfall. The problem is ours, but are we to blame?

While there is always uncertainty in science, and global warming is no exception, this is not justification for denying either the seriousness of the situation the planet faces nor the human origins of current rapid increases in temperature and extreme weather events. Denial of a human cause of accelerated global warming is no different from refusing to accept responsibility for being careless and stumbling on a broken

foot path; your fault, no one else needs to be blamed. Expect footpaths to be uneven, watch where you are walking and you won’t stumble. The same is true for global warming; increase atmospheric greenhouse gas concentrations and the outcome is inevitable. Presently atmospheric CO₂ concentrations are greater than at any time in the past 650,000 years and very likely higher than any time in the last 20 million years. The increase began in the 1700s and can be attributed to the burning of fossil fuels (~80% of increase) and the clearing of land for agriculture, destruction of forests, and urban development (~20%). Other, even more potent greenhouse gases, such as methane (CH₄), have increased at even greater rates. In part, we have generated or released them into the atmosphere and in part they are being released as one of the consequences of rising global temperatures; as the Arctic tundra warms and thaws, CO₂ and CH₄ are released by decaying organic material accumulated over millennia of mostly freezing conditions.

Why deny responsibility? Why is someone else or something else responsible when things go wrong? Yes, there have been times in Earth’s history when it has been warmer; times when people were only a gleam in the eye of the great beholder and definitely not the cause of warming. Yes, there have been times since the start of the industrial revolution when Earth has become cooler, not warmer. This is expected. Human-induced climate change is superimposed on, not independent of, natural climatic variation. Because of this, there will be years when it is cooler, not warmer, just as there will be years when it is hotter than predicted. What is important are the long-term trends of rising temperatures and increasing levels of greenhouse gases in the atmosphere as we consume ever more fossil fuels, clear the last forests and melt the tundra. A human cause of global warming is hard to ignore much less to deny, so why do so many people, including some scientists and more than a few politicians, dispute the evidence?

In the case of global warming, the reasons for denial are easy to figure out. If humans are the source of the problem, then we have the means to correct it. All we need to do is stop doing whatever it is that is causing the problem. That would mean reducing greenhouse gas emissions, which in turn means using less fossil fuel, ending land clearing and being more considerate of the future and other species in how we manage forests, among other changes in our behaviour and our economy². It means changing the way we live.

²Australians might like to ponder why a national ban on land clearing has never been seriously considered as one of the steps Australia could take to reduce its carbon footprint. Ending land-clearing would not only have significant benefits in terms of carbon emissions, the benefits for other species would be massive.

Unfortunately for life on Earth, the people who already use more than their fair share of the world's resources and fossil fuels do not want to change the way they live. For these people, change means using fewer resources and less energy, and using them more efficiently. In part, this could be achieved by shifting to different sources of energy, such as wind and solar, or even nuclear, and embarking on massive reforestation programmes, but more than anything it means using less of everything. Even this will not be enough and alternative sources of energy are not without their own problems.

Shifting from one energy source to another or planting a billion or so trees will not by themselves solve the problem of global warming or mean that its worse effects will be mitigated. So long as the human population continues to explode and the billions who now live non-Hollywood lifestyles aspire to owning a car, much less having a refrigerator, resource and energy consumption will always leap ahead of mitigation efforts. Moreover, food cannot be produced for the masses, green revolutions notwithstanding, while at the same time farmland is converted to cities to accommodate more people or used to plant forests to soak up the excess CO₂ and CH₄ generated by the wealthy minority.

A primary reason for denial of a human cause of global warming is our collective love of babies; the evolutionary imperative prevails.

Reproduce or you become an evolutionary dead end. Religions and governments, not to mention all the women who want babies to love and nurture and all the men who think their manhood is measured by the number of babies they father, refuse to accept, much less discuss, the need to limit human population growth. Even China, which achieved an economic renaissance helped by its one-child policy, seems to be relaxing state controls on birth rates as its people become more prosperous and better educated (and are therefore more difficult to control). Unfortunately, in the case of humanity, if we continue to reproduce without limit, there will also be a dead end, but I don't expect many people, nor even many conservation biologists, to accept that idea. After all, advocates of Zero Population Growth have been ignored since 1798 when Malthus (anonymously) drew our attention to the limits to growth.

If you are one of those choosing to have more people and to consume resources far beyond your needs, then, as the planet warms, the loss of biodiversity accelerates, and countless millions are displaced by rising sea-levels and climate change, do me a favour and accept responsibility for your actions. Above all else, please do not embarrass me or yourself with protests of "uncertainty" and calls for "more research". We know the problem, it is us.

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