



The road to hothouse hell is paved with good intentions

Clay Nelson © 7 March 2021

To continue with Elizabeth's Kolbert's river metaphor, I am reminded of a gift a friend who knew me too well gave me at the beginning of my ministry. It was a poster of a landscape featuring a river. The caption beneath it read, "Don't push the river". This intrinsically Taoist wisdom taunted me from its primacy of place on the wall facing my desk. All my stereotypic male traits wanted to move the river faster; straighten its meandering nature; keep it carefully constrained within its banks. There was way too much to be done to accept the river's natural pace. The river's course might be more picturesque, but posters be damned, it wasn't efficient or fit for purpose from my limited view. Time to push it.

Turns out that over the hundreds of millennia of human existence and certainly since the beginning of the Industrial Revolution in Great Britain, circa 1760, pushing the river has been the expected norm. It was bad enough when I was born, and now there are over five billion more of us than then pushing the river to make our lives better, or so we intend.

It turns out the river is a white water rapid when compared to the human capacity to recognise and respond to how our good intentions are paving the way to our extinction. I was 13 when marine biologist Rachel Carson jump-started the contemporary environmental movement publishing *Silent Spring* in 1962, warning of the dangers of using chemical pesticides such as DDT. It might efficiently kill bugs but it also destroyed the ecosystem birds need, killing them as well, not to mention also endangering human health. It was not until I was 24 that DDT was finally banned in the US over the strenuous objection of major petrochemical companies. I was 40 before it was banned in New Zealand. I find it ironic that the Swiss biochemist who established the effectiveness of DDT as a pesticide was awarded a Nobel prize the year before I was born.

As serious as the use of DDT was, it is only a blip on the radar of what faces our survival on the planet now. In 2006 the documentary *An Inconvenient Truth* was released, featuring Al Gore's efforts to raise awareness of global warming. The film was an artistic and commercial success, winning two Academy Awards, and it has now been 15 years since it drew large audiences worldwide. People don't remember that the film documented a slide

show he had already presented more than 1000 times since first giving it in 1989, the year DDT was banned in New Zealand. Gore received the Nobel Peace Prize in 2007 for his efforts on behalf of climate change.

But Al Gore was hardly the first. In the 1820s, French mathematician and physicist Joseph Fourier was the first to describe the greenhouse effect. While he didn't get the science quite right, the name stuck.

Forty years later, Irish scientist John Tyndall would start to explore exactly what kinds of gases were most likely to play a role in absorbing sunlight. Tyndall's laboratory tests in the 1860s showed that coal gas (containing CO₂, methane and volatile hydrocarbons) was especially effective at absorbing energy. He eventually demonstrated that CO₂ alone acted like sponge in the way it could absorb multiple wavelengths of sunlight.

By 1895, Swedish chemist Svante Arrhenius became curious about what would happen if CO₂ levels were doubled. The possibility seemed remote at the time, but his results suggested that global temperatures would *increase* by 5 degrees Celsius or 9 degrees Fahrenheit.

By the 1930s, at least one scientist would start to claim that carbon emissions might already be having a warming effect. British engineer Guy Stewart Callendar noted that the United States and North Atlantic region had warmed significantly on the heels of the Industrial Revolution.

Callendar's calculations suggested that a doubling of CO₂ in Earth's atmosphere could warm Earth by 2 degrees Celsius (3.6 degrees Fahrenheit). He would continue to argue into the 1960s that a greenhouse-effect warming of the planet was underway.

While Callendar's claims were largely met with scepticism, he managed to draw attention to the possibility of global warming. That attention played a part in garnering some of the first government-funded projects to more closely monitor climate and CO₂ levels.

Most famous among those research projects was a monitoring station established in 1958 by the Scripps Institution of Oceanography on top of Hawaii's Mauna Loa Observatory.

Scripps geochemist Charles Keeling was instrumental in outlining a way to record CO₂ levels.

Data from the observatory revealed what would become known as the “[Keeling Curve](#).” The upward, saw-tooth-shaped curve showed a steady rise in CO₂ levels.

The early 1980s would mark a sharp increase in global temperatures. Many experts point to 1988 as a critical turning point when watershed events placed global warming in the spotlight.

The summer of 1988 was the hottest on record (although many since then have been hotter). That year also saw widespread drought and wildfires within the United States.

One year later, in 1989, the [Intergovernmental Panel on Climate Change \(IPCC\)](#) was established under the United Nations to provide a scientific view of climate change and its political and economic impacts.

Last December 21 was the 30th anniversary of UN negotiations to stop global warming. Their efforts have not been without some success. Three multi-national treaties were put in force, the last being the Paris Climate Agreement in 2015, the backbone of which is to prevent a 2-degree Celsius global temperature increase.

There are positive signs. From 2016 through 2019, 64 countries — including most wealthy nations and one-third of the middle-income bracket — slashed roughly 160 million metric tonnes of carbon dioxide per year, thanks to a slate of roughly 2,000 new climate laws worldwide.

Unfortunately, keeping the planet from warming to a maximum of 1.8 Celsius above preindustrial levels requires multiplying those cuts by 10, to roughly 2 billion metric tonnes per year by 2030. No worries. We have nine years to reach that goal.

Clearly, urgency is required by governments and business. We need to claim our political and economic power to push them, while we stop pushing the river. By which I mean we can't continue nurturing our cognitive bias that climate change is naturally occurring and we are powerless to stop it. There is no debate in the scientific community that global warming is caused by our good intentions to live lives of comfort and convenience even as we divorce ourselves from nature, of which we are a part. We can stop creating the problem we created, no matter what the cost, or we can become extinct.

Conversation starter:

How does the immensity of the problem of global warming affect you?

What does “not pushing the river” mean in your life?