

The Hour is Getting Late

Yoga teaches us to become aware and make changes in the world, but too often it is only directed inwards. Yet, as David Spratt suggests, if we take seriously the yoga teachings, we must face the inconvenient truth of global warming and become active in efforts to avoid climate catastrophe.

Yoga teaches that ignorance – of ourselves and of the world – is painful; attachment and emotional resonances draw a veil over our perceptions. The first verse of chapter two of the Yoga Sutras by Patanjali says that discipline, study and surrender constitute the practice of yoga.

If study is a path to discernment, what more important object of study can there be than global warming, which threatens the world in which we live?

Every day the evidence gathers around us. Water shortages afflict all the mainland Australian state capitals, and a sunburnt, drying land is becoming desert as the Murray-Darling system collapses. America's Great Plains are turning to dust, and the North Pole's floating ice will be gone in summer within decades as polar bears stagger towards extinction, their habitat melting from under their feet. In 2004, when global temperatures had risen just three-quarters of one degree, the first extinction directly attributable to climate change was recorded: the last Golden Toad died in the Monteverde Cloud Forest of Costa Rica, unable to breed as the water pools it called home dried out.

There are good reasons not to want to know more: it is painful to admit that human behaviour may become responsible for the death of most of the world's species. The great environmentalist James Lovelock suggests that "the acceleration of the climate change now under way will sweep away the comfortable environment to

which we are adapted". He urges "a sustainable retreat" as a better option than the alternative: "a rocky path to a Stone Age existence on an ailing planet, one where few of us survive amongst the wreckage of our once biodiverse Earth."

Retreat into yoga?

Part of us yearns for better news, because climate change will unsettle our lives, and many, many millions will not survive. Bob Dylan captured it in the lyrics to *All Along the Watchtower*:

"There must be some way out of here," said the joker to the thief,
"There's too much confusion,
I can't get no relief."

If yoga provides a space for self-reflection, and cultivates a distance between the swirl of the world and inner calm, cannot yoga allow a retreat from all this confusion? In our practice, yes. How about in our world? Can we retreat to our own cave in the snow?

Unfortunately not. Even in the Himalayas, our cave will be under threat. As the Himalayan ice sheet melts relentlessly with rising temperatures, the long-term water flows into Asia's great rivers and breadbasket valleys – the Indus, Ganges and Brahmaputra, the Mekong, Yangtze and Yellow Rivers – will fall dramatically. If global temperatures rise by three degrees, and that's becoming the unofficial target for Western governments, water flow in the Indus is predicted to drop by 90 per cent by 2100. The lives of two billion people are at stake.

Even today our cave in Nepal is no safe retreat. Researcher Mark Lynas tells the story:

"As the mighty glaciers of the high Himalayas melt, the run-off they produce tends to pond up behind walls of moraine rubble left behind by the retreating ice, forming legions of new glacial lakes. These lakes hold huge amounts of water behind their unstable natural dam walls, and breaches can trigger catastrophic mudflows which hurtle down river valleys, sometimes for distances of up to 200 kilometres, wiping out everything in their path."

As a shocking example, Lynas reminds us that in 1985 a 10-metre-high wall of water from a glacial lake swept down the Bhoté Koshi and Dudh Koshi rivers and destroyed a hydro-electric plant, 14 bridges, and 30 houses. The torrent even undermined the Everest airstrip at Lukla.

How hot is too hot?

"No reason to get excited," the thief, he kindly spoke,

"There are many here among us who feel that life is but a joke.

"But you and I, we've been through that, and this is not our fate,

"So let us not talk falsely now, the hour is getting late."

The world has been aware of the greenhouse effect for several decades. As humans relentlessly pour more carbon dioxide into the air, global temperatures rise. But while journeying through my

recent years as a yoga practitioner, a yoga teacher for a while, and a working life in a yoga business, I had assumed that international agreements, governments and peak green organisations were doing their bit to stop the world short of catastrophic climate change. But that isn't the case and the hour is now late.

"Outside in the distance a wildcat did growl,
"Two riders were approaching, the wind began to howl!"

Thus concludes *Watchtower*. So how can we make sense of all of this?

The average global temperature has risen 0.8 degrees Celsius since the late 1880s but, due to lags in the system, there is a latent temperature rise still to come of about 0.6 degrees which will, in the end, result in a rise of 1.4 degrees for the present level of atmospheric greenhouse gases. British researchers calculated that an increase of just one degree would eliminate fresh water from a third of the world's land surface by 2100. Yet our emissions are increasing quickly. If we continue like this then global warming is headed for four degrees or more.

Global warming writer George Monbiot says that "all climate scientists are now agreed ... that to avert catastrophic effects on both humans and ecosystems we should seek to prevent global temperatures from rising by more than two degrees above pre-industrial levels". James Hansen, the Director of NASA's Goddard Institute for Space Studies, says warming of more than 1.7 degrees will constitute dangerous climate change, and warming of two to three degrees would produce a planet without Arctic sea ice, a catastrophic sea level rise of around 25 metres, and super-droughts in the American west, southern Europe, the Middle East and parts of Africa. "Such a scenario threatens even greater calamity," he warns, "because it could unleash positive feedbacks such as melting of frozen methane in the Arctic, as occurred 55 million years ago, when more than ninety per cent of species on Earth went extinct".

Even two degrees is far from safe. At this level, over a third of species will be committed to extinction. Glacial loss in the Andes will reach 40-60 per cent by 2050, reducing summer run-off and



subsequently causing devastating water shortages. Europe will be hit every second year by heatwaves like the one in 2003 which killed 22-35,000 people, caused 12 billion dollars in crop losses, reduced glacier mass by 10 per cent, and resulted in a 30 per cent drop in plant growth, adding half a billion tonnes of carbon to the atmosphere in that year.

Are we getting the third degree?

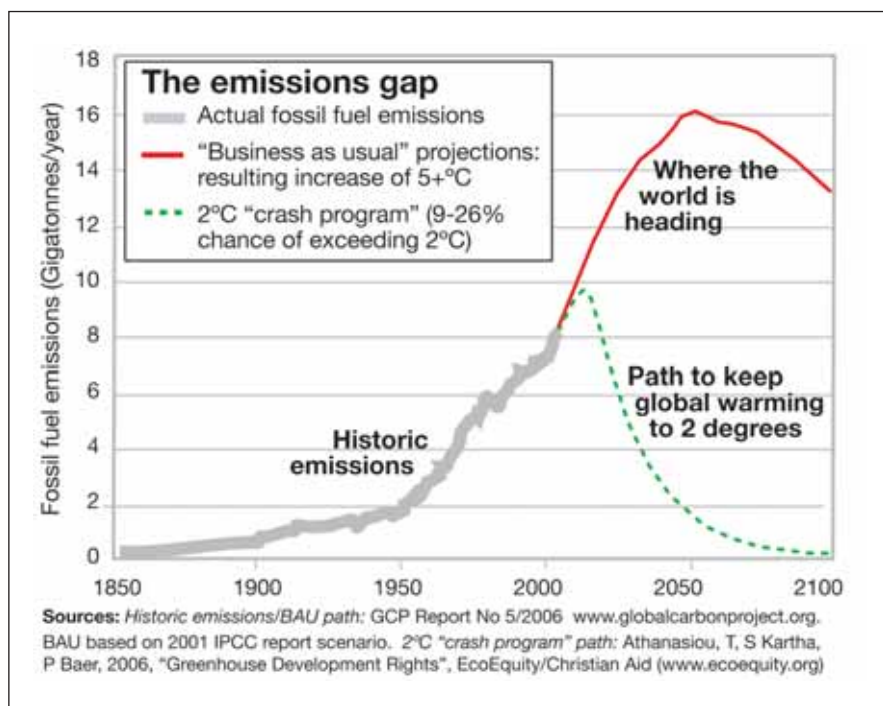
Whilst bodies such as the UN and the European Union have set a target of two degrees, unbelievably politicians and their bureaucrats have lifted their target to three degrees. In his report to the British government last year, Sir Nicholas Stern said keeping the temperature rise to two degrees is "already nearly out of reach" because it means emissions "peaking in the next five years or so and dropping fast". In other words, it would require strong action now which Stern judged to be neither politically likely nor economically desirable.

Instead, Stern said, three degrees was a more practical target. So did Australia's lead delegate to the May 2007 climate change meeting in Bangkok, Dr Brian Fisher, who said a two-degree target shows "the peaking times for carbon dioxide for low level concentrations in 2015 – frankly that is

exceedingly unlikely to occur. That's only eight years away and ... global emissions are growing very strongly ... on the current trajectories you would have to say plus three degrees is looking more likely."

So what will a three-degree world look like? It is a world of positive feedbacks (where one climate warming event triggers the next), where tipping points (when human action will no longer be able to stop the process) will be crossed such that global heating will continue until the climate system restabilises at five-to-six degrees, even as much as eight degrees above pre-industrial levels.

In 2006, predictions on the final demise of the Arctic's floating ice were brought forward from 2100 to 2030-40, and its melting is now considered unstoppable. Data presented to the American Geophysical Union last December suggests that the Arctic may be free of all summer ice as early as 2030, "a positive feedback loop with dramatic implications for the entire Arctic region" according to Dr Marika Holland, because the earth would lose a major reflective surface and so absorb more solar energy, potentially accelerating climatic change across the world. With no ice, the Arctic



region will begin to rapidly heat up, by as much as 12 degrees. This will put further pressure on the Greenland icecap, whose irreversible melting, together with a sea rise of five to seven metres in as little as a hundred years, now seems inevitable.

Global warming so far has been greatest in the high latitudes of the northern hemisphere, particularly in the sub-Arctic boreal forests of Siberia and North America. This has severe implications for the rate at which vast quantities of methane held in the Siberian permafrost will be released into the atmosphere, driving the level of greenhouse gases upwards.

Mark Lynas found that, at between two and three degrees, effects verge on the catastrophic:

"Warmer seas absorb less carbon dioxide, leaving more to accumulate in the atmosphere and intensify global warming. On land, matters would be even worse. Huge amounts of carbon are stored in the soil, the half-rotted remains of dead vegetation. The generally accepted estimate is that the soil carbon reservoir contains some 1600 gigatonnes, more than double the entire carbon content of the atmosphere. As soil warms, bacteria accelerate the breakdown of this stored carbon, releasing it into the atmosphere."

The carbon cycle will be thrown into reverse, Lynas says: "Instead of absorbing

carbon dioxide ... vegetation and soils start to release it. So much carbon pours into the atmosphere that it pumps up ... global warming by another 1.5 degrees."

And it's already happening. A recent study found that the calculated increase in carbon lost by UK soil each year since 1978 is more than the entire reduction in emissions the UK has achieved between 1990 and 2002 as part of its commitment to Kyoto.

With an increase of between two and three degrees, the Amazon rainforest will turn to savannah, as drought and mega-fires first destroy the rainforest, then turn trees back into carbon dioxide as they rot and decompose. "Catastrophe" is almost too small a word for the loss of the rainforest," wrote Richard Girling in *The Times* newspaper in March. "Its seven million square kilometres produce ten per cent of the world's entire photosynthetic output from plants. Drought and heat will cripple it; fire will finish it off. In human terms, the effect on the planet will be like cutting off oxygen during an asthma attack."

Cut emissions – or face catastrophe

Humans are producing double the amount of atmospheric carbon that the biosphere can absorb, and greenhouse gas levels are rising at an increasing rate. Globally we need to reduce carbon

production to below the sustainable level of half a tonne per person, but in Australia our production is five tonnes per head, the world's worst. The Great Barrier Reef is on the edge of extinction, and Kakadu and the north Queensland rainforest will not be far behind.

The really inconvenient truth is that the world is charging towards uncontrollable climate heating where dramatic temperature rises become unstoppable. It is now too late for half measures; only bold and sweeping changes and quickly executed deep cuts in our carbon emissions can steer us away from that fatal moment. This global emergency requires us to set aside other priorities in an effort to prevent catastrophe.

To avoid a three-degree increase we need a crash program now to reduce emissions. To achieve a 50 per cent chance of preventing more than two degrees of warming requires a global cut of 80 per cent by 2050 and a 95 per cent cut by 2050 for high-polluting nations such as Australia, according to new data from Oslo's Centre for International Climate and Environmental Research.

The seriousness of our circumstances is articulated in a recent report by Christian Aid and EcoEquity:

"... the pace of our response has been profoundly inadequate ... and science now tells us that we're on the verge of committing to catastrophic interference. Given the slow progress to date, a heroic effort will now be required to have a high likelihood of averting a climate catastrophe, which the emerging consensus takes to mean keeping overall planetary warming below two degrees."

The report shows that emissions must peak in 2010, and then drop off at a resolute 4 per cent per year. In Australia, where our emissions are so high, that means a cut of more than 95 per cent by 2050. Such a target means a challenging program of action in the developed world that would end the period of affluence in which we have splurged our way to gross overproduction of carbon emissions, massive environmental destruction, and increasingly commodified identities.

A yogic response: aware and active
It's grim, so how do we respond to climate change? Is ignorance bliss? Is it easier not to want to know?

A year ago I became aware of my glaring lack of knowledge about the detail of climate change, so I set out to educate myself on the issue. It requires some effort, but there is more than enough information for a lifetime of study. In understanding the issue, we are invariably drawn to act. Talk to friends and colleagues. Learn how to reduce your own carbon footprint, how to change your workplace, how to make your voice heard. Why aren't we hammering on the doors of our politicians every day, demanding they take action? Why do we let them off the hook? We have the technological know-how to build a low-carbon economy. In Australia, the problem is political and social.

Yoga is about seeing ourselves and the world as we really are. This includes global heating and what we must do about it. Incorporating this understanding into our daily practice as citizens of our planet and as teachers and

[things to do]

Be informed:

- Read a book such as *Six Degrees* by Mark Lynas (Harper Collins) or *Heat* by George Monbiot (Penguin)
- Sign up to receive a once-a-week email summarising recent global warming news: send a blank email to: carbonequityproject-subscribe@topica.com
- Download this article from AYL's web site and send on to others: www.ayl.com.au
- Check out the climate change special at www.newscientist.com
- Have a look at carbon rationing at www.carbonequity.info

Make your voice heard:

- Talk to friends and work or study colleagues
- Set up a climate awareness group at work or in your neighbourhood

- Ring talkback radio; write letters to the paper
- With others, make an appointment with your local parliamentarian and raise specific points and demand specific answers

In the yoga world:

- Ask your yoga school to make available copies of informative climate change information, for example this article or fact sheets from sites such as www.greenpeace.com.au
- Ask your yoga association what they are doing / saying about the issue

In your world:

- Find out how you can adjust your lifestyle – have a look at sites such as wwf.org.au/ourwork/climatechange/reduceyourimpact/

"Be the change you want to see in the world" – Gandhi

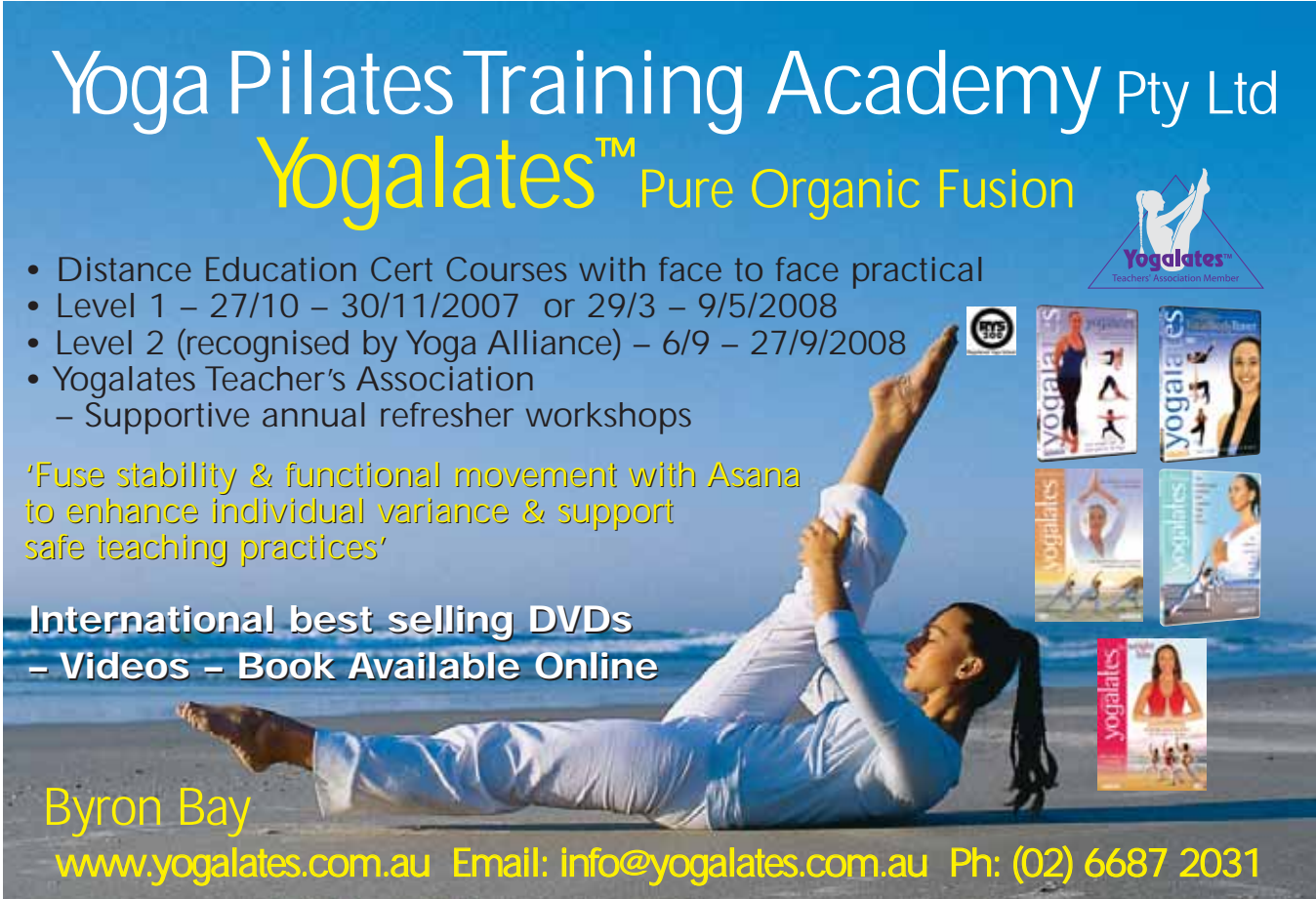
students of yoga is our challenge. The yoga community is large and growing, and together we can make a difference.

It is not too late to act, but time is short as the winds begin to howl.

David Spratt is the manager of Yarraville Yoga Centre and spokesperson for the Carbon Equity Project www.carbonequity.info

Yoga Pilates Training Academy Pty Ltd


Yogalates™ Pure Organic Fusion



- Distance Education Cert Courses with face to face practical
- Level 1 – 27/10 – 30/11/2007 or 29/3 – 9/5/2008
- Level 2 (recognised by Yoga Alliance) – 6/9 – 27/9/2008
- Yogalates Teacher's Association
 - Supportive annual refresher workshops

'Fuse stability & functional movement with Asana to enhance individual variance & support safe teaching practices'

**International best selling DVDs
– Videos – Book Available Online**



Byron Bay
www.yogalates.com.au Email: info@yogalates.com.au Ph: (02) 6687 2031