

Australian

Rationalist

Journal of the Rationalist Society of Australia

THE ANTHROPOSHERE

Living in a man made Earth



How the rich attack the media

Science and the news

Twists in quantum mechanics

Is nihilism viable?

Glyn Davis on universities

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Contributors

Keith Ashman is an expert on proteomics and was head of Clinical Applications Development at the University of Queensland.

Warren Bonett is the proprietor of Embiggen Books in Melbourne.

Kevin Childs was a senior writer at *The Age*, where he spent a quarter of a century. A former editor of “*Australian Rationalist*” from 2002–2011 he is working on a book on Aboriginal warriors who resisted the invasion.

Sophie Constance is Director of Societal Business – Corporate Social Leadership, a strategic advisory that helps businesses create value through sustainability management. It focuses on values driven leadership and the reframing of issues like poverty alleviation and public/private sector collaboration.

Larry Cromwell is a director of the consultancy Scott Cromwell and has a PhD in anthropology from the ANU.

Gitte Lønstrup Dal Santo has a PhD and is a certified Coach. She is currently Assistant Director at the Danish Academy at Rome. As a coach and historian of mentalities (drawing on philosophy, psychology, sociology, religion, history, art and architecture), she explores and questions the construction of mentalities: thoughts, values, beliefs, behaviors and responses to change in life and in society.

Meredith Doig is the president of the RSA, and has a PhD in organizational design.

David Goss worked in the department of Foreign Affairs and Trade for 40 years, including roles as Consul General in Chicago, High Commissioner in Kenya and Ambassador to Israel. He was Deputy High Commissioner in London in 1992.

Samuel Green has a Master of Arts in Philosophy from Monash University and is a text-minder for the academic career development site mindyourway.com.au

Sherene Hassan is a director of the Islamic Museum of Australia, which is due to open in February, 2014 in Thornbury. She has served as vice president and secretary of the Islamic Council of Victoria. In 2007, Sherene was selected by *The Age* as one of Melbourne’s 100 most influential people.

Rohan Kapitany has a Bachelor’s Degree in Psychological Science (Hons) at the University of Queensland. He is co-founder of www.andinscience.com

Colin Kline is professionally qualified in Engineering (Power, Electronics, Communications and Information Theory), Science (Physics, Maths). He has been a Secondary Maths and Science teacher for four years, and has lectured in Engineering and Statistics.

Jonathan Meddings is a fencing coach, atheist and writer. He has a degree in Medical Laboratory Science with Honours from James Cook University. His research interest is comparative immunology, with a proclivity for turtles.

Terry Noone is a freelance writer.

Diane Preston is a lawyer and a committee member of the RSA.

John Scott is a director of the consultancy Scott Cromwell.

Alan Sparx is a scientist.

Sean Spence is a Melbourne based management consultant specialising in helping senior professionals with leadership and career issues. His background includes an international consulting and accounting career in London, Hong Kong and Australia. He still remembers some of the Physics and Philosophy of Science he studied at Oxford a long time ago. He is now more likely to be thinking about sailing or his art practice than hard science.

Olga Techera is a Uruguayan poet.

Ken Wright is the honorary treasurer of RSA and has a doctorate in accountancy.

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The Rationalist Society of Australia has published a journal almost continuously since the 1920s, interrupted only by war, internecine strife and lack of funds.

The ideas and opinions published in these pages do not necessarily represent the views of the RSA, its Committee or the Editor. Rather, we aim to publish material that furthers the RSA's mission to inform, to educate and generally to promote thoughtful and dispassionate analysis of issues of public contention.

We publish regular articles on Philosophy, Ethics & Religion, Science & Technology, and Law & Politics. We will also consider humour, poetry, short fiction and cartoons; excerpts from forthcoming or just released books; and previously published material if it has appeared recently in non-competing, low circulation periodicals.

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Editor

David James

Creative Director

Leonardo Carbonara

Layout Design

Mattia Scaranto

Inquiries

info@rationalist.com.au

President

PO Box 1312
Hawksburn 3142
Victoria, Australia.

Letters: dja02739@bigpond.net.au

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We are failing LGBTI students

A failing in our schools.

by Jonathan Meddings

I went to a private school, which like most private schools in Australia is religious – Christian to be more precise. It was made clear before my senior formal that gay students were not to bring same-sex partners, but in the five years before that I don't recall homosexuality once being discussed in the classroom. As a closeted gay student I wanted desperately for someone to tell me there was nothing wrong with my sexuality. I never got that reassurance, from home or from school, and as a result I withdrew socially.

No one was openly gay at my school, so I hadn't anyone to turn to for support. I was very reserved, and, although I had a few friends, I was never really open with them. My high school years were perhaps more stressful than most. Whilst there were certainly other stressors at the time (like puberty and schoolwork), there is little doubt that the chronic stress I experienced from the fear of being judged for my sexuality contributed to the development of an autoimmune disease at the age of just 16. It's something I've learned to live with, but my 'episodes' are a constant reminder of a time I'd rather forget.

It was the final year of school when I eventually came out to a few friends. To my great surprise, they were supportive. I still had the hurdle of telling my family to pass (that's another story, but

per cent of students surveyed from Christian schools in Western Sydney had been exposed to an ex-gay or gay conversion message. Nationwide, 7 per cent of those surveyed had been told by teachers that they ought to change their sexual orientation. This is a disgusting thing to be telling LGBTI youth, not least because it's wrong. Sexuality is not a choice, it's a predisposition, one which cannot be changed at will.

Here are the facts: we know same-sex attracted youth are several times more likely to commit self-harm and attempt suicide, that they experience more abuse at school than any other place, and that 7 per cent of the time the teachers they turn to for support are providing the opposite. Given all we know, it is clear something has to be done. Independent MP Alex Greenwich is set to introduce a bill in the NSW State Parliament that would remove exemptions from anti-discrimination laws for religious schools, but what have governments done to specifically address discrimination and homophobic bullying in schools? Nowhere near enough.

Well intentioned though it was, the sombre aspect of the 'It gets better' campaign that originated in the USA and soon went global was its defeatism. Gay teens were encouraged not to

“LGBTI youth are several times more likely to suffer depression”

suffice to say that they too came to accept me as I am). The point is the fear I'd lived with all those years turned out to be unfounded, at least in part, as I was to discover that as I'd expected many in society would not be as accepting as my friends.

I'm generally a rather stoic person, so I'm not usually one to share such a personal story, but I felt compelled to because I am one of the lucky ones – I got out of high school alive and relatively unscathed. My anger was always felt toward others for their ignorance and bigotry, rather than myself for my nature, so I never self-harmed or attempted suicide, but many others do. Indeed, it is now known that LGBTI youth are several times more likely to suffer depression and attempt suicide.

Given this fact, you would expect that all levels of government are doing their best to stop such a senseless waste of life, and you'd be wrong. Not only are religious schools in Australia exempt from anti-discrimination laws (meaning they can legally deny admission, or expel students simply for being gay) an exposé by Luke Williams in *The Global Mail* revealed that ex-gay counselling is going on in Australian schools.

Williams cited a study conducted by La Trobe University, which according to Dr Tiffany Jones, a contributing author of the report from the University of New England, found that 33

commit suicide on the promise it gets better when they're older, but why shouldn't it get better for them right now? Things would begin improving tomorrow if governments changed legislation. There currently exists no law at the state or federal level that prohibits or punishes the promotion of gay-conversion counselling in Australian schools. And as already mentioned, despite religious exemptions being removed for aged-care providers in the Sex Discrimination Amendment Bill 2013, exemptions for religious schools and other religious organisations remain.

Government is responsible for providing an educational environment that makes students feel safe and secure. It has clearly failed in its duty of care to LGBTI students, some of whom are taking their lives as a result. In light of this, religious exemptions from anti-discrimination laws are inexcusable. How many more LGBTI students must endure state-sanctioned discrimination before someone does something to put an end to it? Homosexuality is not a choice, homophobia is.

Acknowledgement

Thanks to my dear friend Ted Janet for his insightful comments, which improved this article.

The antibiotics crisis

Why we must look at the whole ecology.

by Keith Ashman

Science, and its cousin technology, which is essentially applied science, lie at the heart of not only how we understand the universe we occupy but also gives us some ability to manipulate it. I studied microbiology in the last century -- OK around 1975 -- and my final year project was on very smelly spoiled cheese. The finding that the spoilage was worse when a mixture of organisms was present has always stuck with me and one of my interests is still microbial ecology, a field which gave us antibiotics.

Humans and other animals are a walking microbial ecosystem with recent findings showing that the number of micro-organisms we carry in our gut outnumbers our own cells and genes by as much as 150 times (*Nature*, Vol. 464, No. 7285. (4 March 2010), pp. 59–65). Each of us hosts somewhere between 160 and 1100 species of micro-organism. The bugs are in general our friends, in fact we cannot digest our food to obtain certain nutrients without them. It is possible to breed mice with no bacteria in their intestine. They do not thrive.

Billions, if not trillions, of dollars have been made from scientific “discoveries”, though not always by the discoverer. In the case of antibiotics neither Fleming nor Florey (he is on the A\$50 note) profited personally beyond their scientific acclaim.

The worldwide market for antibiotics is estimated to reach \$US40 billion by 2016. These miracle drugs, which, like many other things, we have come to take for granted, are losing their power. I often read headlines about the rise of the superbugs which are resistant to many antibiotics. It is perhaps not generally realised that antibiotics have been isolated from micro-organisms and are part of the natural defense mechanism that they have evolved to survive in their ecological niche. For every yin there is a yang, so for every antibiotic there is a counter mechanism(s) to neutralise the killing effect. This is where the ecology becomes interesting and human behavior perplexing.

Let us suppose that another organism, us, comes along and starts to produce large amounts of antibiotics and release them into places where they would not naturally be found in such quantities. This introduces something into the environment that Darwin’s theory calls selection pressure. In effect, you push the dynamic balance of a system in a particular direction. In the case of antibiotic resistance the result is the reduction of susceptible bugs and an increase in the number of resistant types. That, coupled with the molecular gymnastics (i.e. mutation) that micro-organisms are masters of, has increased the level of antibiotic

resistance and brought us to the present situation where hospital acquired infection and infectious diseases such as tuberculosis are once again becoming a major problem.

Over prescription of antibiotics for viral illnesses such as colds, where they have no therapeutic effect, or, worse, uncontrolled over the counter sales in many parts of the world, are major drivers of the increase in antibiotic resistance. When Florey first treated an English policeman with penicillin, they had so little of the pure drug they collected his urine and repurified the penicillin from there, since much of it was removed from his body by his kidneys before it had the desired effect of killing the infection. This is also true of you and I when we take antibiotics, or any other drug for that matter, use the toilet and flush it away into the sewage system from where it ultimately ends up in the biosphere. The widespread use of large amounts of antibiotics in agriculture as growth enhancers in animals or to control infections in intensively reared animals, when all the occupants of a shed are treated regardless of whether they are sick or not, has also been an important factor in the rise of antibiotic resistance (<http://www.wired.com/wiredscience/2013/03/cre-cdc/>).

The simple fact is antibiotics are being widely overused, which is causing a rapid rise in resistance. They should only be used for treating relevant infections.

I am forced to conclude from this that even a basic understanding of ecology and how things are connected is a rare thing. Without that knowledge it is unlikely that you will ask yourself and others some relevant questions. I would go as far as to propose that all of us but especially the economists, accountants and lawyers who make up the bulk of government should be better informed in matters ecological.

As others have pointed out, this an acute problem. If we apply short term political thinking, the result will be a return to the time where infections are a major killer with massive economic as well as social consequences. The economy is part of the ecology, not the other way round. Mess up the environment and we all pay the price. Remember, you and I are walking ecosystems that need to be kept in balance while at the same time we are part of, and dependent on, a larger ecosystem called the earth. It took us thousands of years to understand how infectious disease is caused, and to find a very effective solution. But it took only a few decades to begin to unravel it.

Can materialism explain itself?

Some mysteries remain impenetrable.

by Terry Noone

The achievements of science are undeniable. I am very happy to live in a time when those achievements have provided antibiotics to cure infections that were formerly fatal, when I can travel to almost anywhere on earth at moderate cost and in a fraction of the travel time that saddled humanity for the vast bulk of its history, and when information and communication are readily available from any number of electronic devices. The question is: how has science achieved these and countless other things?

The popular history of science is that humanity lived in a dark age of superstition and ignorance until materialist philosophy enlightened it late in the seventeenth century. I am well aware of the bias towards western civilization in this view but merely note that the growth of science to what it is today occurred almost entirely, perhaps even exclusively within that civilization.

The materialist view essentially denies either the existence or the verifiability (and sometimes both) of anything that cannot be observed and submitted to the empirical method. Rather than merely theorising about the nature of things, the physical world was first to be subjected to observation. Only after observation and

the same nature of that of universal coherence.

The second assumption is that all things are caused by something, whether or not the cause has yet been identified. As above, the attraction of this notion is understandable since it is also necessary for the very existence of science. We can only observe things happening one after the other; to ascribe causality is to fall into the classic *post hoc ergo propter hoc* logical fallacy. This does not mean that causality does not exist, merely that it is not verifiable from an empirical, materialist point of view.

The third of these assumptions is that there are no influences on a situation which are not ultimately observable. The reasons for its attraction are similar to those of the previous two assumptions discussed above. This assumption leads to the circular reasoning exemplified in the classic literary and cinematic stories of the hero scientist: “We have not yet found the thing that causes this phenomena but by hard work and careful observation we will”. Perhaps more neatly summed up as: “It’s here because it’s here because it’s here and just because we haven’t found it doesn’t mean it’s not here.”

“What science cannot do is explain itself on its own terms”

using only that which was observed were theories to be advanced and these theories retained their theoretical status until such time as they could be verified by experiment.

One thing is undeniable: science works! All scientific and technological advances since the Enlightenment have been made in the environment of the above materialist approach. But does the approach explain itself?

Underlying the empirical method are a number of assumptions which are not themselves justifiable by that method, nor by any other product of materialism. The first of these is that the universe is coherent and will produce consistent outcomes in situations with identical circumstances. Without universal coherence there would be no science at all, so the attraction of the notion is understandable. But from a strictly materialist point of view there is no necessity that it should exist. The empirical evidence for the existence of universal coherence is simply that so far it seems to hold (although some rather astounding intellectual gymnastics have been necessary in the area of particle physics to maintain this position). It should also be noted that the view that because a thing has always happened it will continue to happen is an assumption of

The problem with all of these assumptions is that, in an empirical materialist sense, their existence is not provable by observation. They are classic examples of Goedel’s incompleteness theorem which states, more or less, that no system can explain itself from evidence arising exclusively within that system. This is not to say that the assumptions are incorrect. As stated above, science works and we are all grateful for its positive achievements.

What science cannot do is explain itself on its own terms and this should lead us to be at least cautious in embracing materialist empiricism as the sole acceptable method for acquiring knowledge in all areas of human experience.

The fundamental basis of science is not material, or susceptible to empirical examination. It is on a different level to the physical. It is in fact metaphysical. This may explain the traditional hostility of some philosophers of science to so called speculative philosophy. It may be that is simply too difficult to understand metaphysical concepts from the standpoint of materialism. It requires not so much pulling a number of rabbits out of a hat as pulling the hat itself out of nothing.

From the President

I have just come back from five weeks in Africa and had the great pleasure of seeing mountain gorillas in Uganda's Bwindi Impenetrable Forest. Only about 400 of these gorillas remain in the wild, some in Uganda and some in Rwanda.

To be confronted with the human-like faces of these beautiful creatures is an almost mystical experience. Our group of ten just stood and stared, for hours; they were mesmerising. I remember feeling similarly seeing whales off Fraser Island some years ago. There's something extraordinary about seeing wild animals who are not afraid of humans. But it makes you worried for them – given what humans have done, they ought to be afraid.

The trigger for going to Uganda was to visit a young Ugandan doctor, Angella Acham. I'd met Angella a few years ago though a program organised by Melbourne University that brings together alumni with Ausaid scholarship students – a way of trying to break down barriers that inevitably face international students. Well, we just 'clicked' and I subsequently met her husband Isaac and became metaphorical godparent to their baby daughter Danielle.

Angella now works managing Aids programs near her home town of Kumi, 300 kms east of the capital Kampala. While there, I had the privilege of visiting and having a meal with her mother Jennifer, an awe-inspiring matriarch who still lives in a traditional African hut, along with one of Angella's six sisters, two of her brothers and an assortment of children. When Angella was seven, she and her family had to flee from rebels coming down from the north and for several years they lived as refugees in their own country, unable to return home. When she was nine, she went to live with an older step-sister in a city a hundred kilometres to the south. But there was no money for her schooling, and for years she had to generate her own school fees by making and selling pancakes every day.

Angella and Isaac are incredible success stories from Africa – but they had to work hard for it, even from a very young age. The government provides free education for up to four children per family but women in Uganda have an average of 6.7 children! Drive anywhere in Uganda, down any road and it's lined with kids.

The Bwindi Impenetrable Forest is about 300 kms west of Kampala, close to the Rwandan border. On our way back, I realised we were going to pass through the town of Kasese, a relatively large city that used to be a railway centre in colonial times. Some readers may recognise the name 'Kasese' – it's here that a wonderful man called Bwambale Robert (not sure why Africans seem to take on Western names as their surnames ...) has put his life and soul into developing the Kasese Humanist School.

To put this undertaking into perspective, you need to know that Uganda is extremely religious. Eighty-five percent of the population of 33 million are Christian, 12% Muslim and less than 1% might identify as non-religious.



Realising quite late that we'd be passing through Kasese, I called Bwambale and asked if we could visit his school. Given the short notice, he and headmaster Mr David were wonderfully hospitable. We were introduced to the staff and I had to give an impromptu lesson to a fascinated class of students. They asked me questions like "Why are kangaroos only in Australia?" and "What is a humanist?" The first I could answer but I was unsatisfied with my too glib answer to the second, responding with my usual elevator speech of "We're in favour of science and evidence as opposed to superstition and bigotry." On reflection, this just didn't seem adequate and I later wrote: a humanist/rationalist is someone who (i) believes that the natural world we see around us is the only world there is and therefore does not believe in heaven and hell; (ii) believes that the best way for humans to improve their lives is through use of the scientific method – the systematic observation of the natural world – and use of the human capacity to reason; (iii) believes that as humans, we are responsible for our own lives, not any external Being, Force or Destiny, and must take responsibility for being good and doing good.

This school has about 350 primary students and it's housed in old railway buildings on rented railway land, windswept and barren. The classrooms have little other than a battered blackboard and much used wooden bench desks. They have built a hen coop for about 40 chickens, so they can feed eggs to the children ("Their brains need the protein.") They showed us their rudimentary computer lab, with a couple of old computers, and, proudly, the library which houses many free-thought books from all over the world, including a set of RSA journals we sent them some years ago.

Next year they plan to build a permanent school on land nearby but they desperately need funding. I can think of no better cause to support than this brave venture. To learn more, check out 'My Secret Atheist Blog' and look for 'Help Build a Humanist School in Uganda'. They need just \$35,000 to build their school – please, please help!

Will the real Mr Fraser step forward?

Dear Editor,

First, let me congratulate you with the new looking *Australian Rationalist*. Looking much more rational, but it is early days yet and there is, of course, no guarantee that the bug bears that have plagued the Rationalist Society for so many years have taken their leave on a permanent basis. However, I look forward with renewed interest, as an independent observer, to following rational developments rather than “irrational” goings on.

Now to the Right Hon. (I hope I’ve got that roughly correct) Malcolm Fraser and his not uncalled for homily on human responsibilities.

I have an observation here, which may be construed as being an *ad hominem* argument. But, since this is about responsibilities as opposed to rights -- and, let’s not forget, privileges -- it is intended to be to the point without being unduly personal.

Mr Fraser makes mention of Tony Blair, the former British prime minister who, in my opinion, could not fake sincerity to save his life. Mr Fraser, on the other hand, is one of those commentators who has evoked within me such a curious feeling of wonder whenever I read his homilies, prognostications and commentaries -- ever since he left the centre of the political stage. I wonder, however, if this person is truly as naïve and innocent as he appears to be. Or is he able to fake sincerity well enough to fool one into thinking that he is really a squire from yonder country seat who is still, after all these years, quite politically unaware?

At the end of the article Mr Fraser asks rhetorically: “How is it that both major parties in Australia agreed to these provisions?” This comment was made in relation to “the most curious and frightening provisions” justified in the

name of security since September 11, the Terrorism Bill of 2002.

I say “rhetorically”, but I am not at all certain that Mr Fraser is not also, and has been for some time, asking the question in innocence.

Perplexing. How can a person of his standing and experience not be aware of the darker forces at work in politics at the highest national and international levels? Does Mr Fraser ever consider himself to have been lacking in responsibility, as a mature member of the human species, as a politician, as a fully paid(-up) member of the political establishment, as a citizen?

The mind boggles.

That said, I sincerely hope this new push for human responsibilities, as opposed to human rights, can also apply to the wheeze that the politically and economically disenfranchised should work full-time in “jobs” that do not fit the description but are blatant attempts to grind down the downtrodden into final submission at hourly rates well below any decent minimum wage.

Jacob Jonker

Mickey Mouse, the elephant and Mr Magoo’s driving ambition

Dear Editor,

In the spring edition of the *Australian Rationalist* there was an article “Is Global Warming Our Problem?” by Stanley S Schaetzel. My interest was raised by the general attitude to solutions to the climate change crisis, especially “we should avoid Mickey Mouse solutions that do not provide a sustained baseload.”

As a general statement this seems reasonable, but perhaps it should be balanced with concern to avoid Mr Magoo Solutions of the Chernobyl and Fukushima nuclear fission type.

Not only was Mr Magoo obviously reckless in driving, he often mistook inanimate objects for Waldo, his favourite nephew. The solution that to me best fits his approach is nuclear fusion. I fervently hope to be proven very wrong, but it seems the fusion boffins have mistaken extreme government patience, untold tens of billions of dollars, lots of clever maths and complex machines, and a strange faith that ramping up the scale must make it work for actual net energy production.

I’ve yet to hear the nuclear people advocate for such generosity and indulgence towards the renewable energy side of things.

Right now, the prized Mr Magoo “solution that does not provide a sustained baseload” would have to be nuclear fusion with nuclear fission coming in a close second. To be fair, fission does provide a sustained baseload of weapons proliferation risks, troublesome waste, contaminated exclusion zones, lemon socialism and corporate slime, which will no doubt be sustained well past electricity production.

Still, I’m sincerely grateful that population was actually mentioned more than once and population growth was recognised for the negative impact it represents. For this alone, Mr Schaetzel has my gratitude. I believe however, that scientists are already “thinking seriously about geo-engineering.” They, and some political leaders, have quite rightly kept this very quiet because it would be a desperate last resort gamble. Should it go horribly wrong, it would become the Mr Magoo solution to beat all.

It is not enough to simply occasionally recognise an elephant in the room, and wish it away with some more technology/engineering. Instead, population should be taken seriously as an issue in its own right. Far too few have internalised the notion that accelerating population growth forever, inside a finite system, is the *modus operandi* of cancer, not an OK human attitude.

It is not OK to give lip service to the UN's long standing and never more relevant population stability policy and then do the very opposite domestically. It is not OK to mostly ignore the elephant in the room: lie to your neighbours, try everything to make it grow, and then talk of perhaps bashing more holes in the ceiling to make more room. Such an approach is far from rational.

Speaking of corporate slime, I was under the impression that renewable (especially solar) base load power was not only possible but actually being used in places like Spain and California. I had assumed assertions to the contrary were up there with the early "power to cheap to metre" nuclear industry spin. Could somebody in the Rationalist Society please check this question of baseload renewables, starting with the CSIRO?

Also, on the theme of enthusiasm for nuclear power in Australia, I have another question: my memory tells me that many years ago, Indonesian officials were asked what their response would be to Australia going nuclear. They clearly said they would soon follow. Is this true today? It would be good to know, in light of what that might mean for our security situation.

Contradictory doting on the "invisible" population elephant is quite foolish enough. When it comes to the energy/climate crisis, we should not be so taken with the idea of rejecting Mickey Mouse that we let Mr Magoo into the driver's seat.

Keith Raymond Adkins

Not much to like

Dear Editor,

I found plenty to dislike, and little to like in *The Australian Rationalist* June 2013 p. 28. Mr Manolopoulos who wrote *Creation As A Gift* brings in models of the trinity being very useful as they "paradoxically inter-penetrate each other". I am an atheist, but occasionally I say "God help us - what next?"

Another guy (p. 10) is bullied by climate scientists about climate change. If you have heard Andrew Bolt "It's the greatest pile of shameful lies" or Niel Minchen "people should examine their consciences" who believe in it.

Elsewhere (p. 35) a scientist has been denied credit by a California Institute of Technology faculty - showing "corruption of university campuses" - Really. "Scientists refuse to consider non supportive arguments." To me this is a wild attack on scientists, whilst elsewhere attacking Caltech and pushing religious concepts.

Brendan Murphy

Darwin's children

Dear Editor,

I was very taken with the article by Cori Wong on Darwinism. I believe she raises some very important points about how scientific theories are used. Science is supposed to explain how nature is, not make judgements about whether that is right, or moral or relevant to a value system. Calls to see something as being right because it is "natural" are self evidently flawed. Is cancer "right" or "wrong"? It just is.

What Wong showed is that when such arguments can be used to justify any position, it is a reliable indicator that they are nonsense. As a scientist, I am troubled by the willingness to use science for ideological purposes. It is bad for science, bad for philosophy and it is not much good for the ideologies, either.

Steven Pinkersmith

Cyber battles

Dear Editor,

The article on the potential devastation of cyber war underlines how difficult it is to maintain democracy in the face of rapid technological change. As the whistle blower

Edward Snowden has demonstrated, governments feel little reason to restrain themselves when they have the cloak of "national security" to protect them from criticism. Snowden's revelations showed that the NSA has absolutely no limits when it comes to intruding on the rights of their own citizens, let alone those of other nations. I expect they are pretty active in Australia.

The cyber war scenarios outlined by Scott Borg are likely to convince governments that the stakes are so high it is necessary to over ride citizens' rights. History is littered with examples of those in power using the spectre of danger or disaster to their own political advantage. I doubt that the prospect of massive cyber war will be any different. It will be used, either unconsciously or deliberately, to further erode basic democratic protections, which no government is inclined to observe.

At the moment democracy is little more than a vote for very similar parties every few years. Elected representatives all tend to behave the same way once in power. Witness president Barack Obama's different positions on surveillance before and after he was elected. Unelected government bureaucrats are usually worse.

Democracy is not a default setting for any society; it is relatively new. The default position tends to be some version of enslavement and severe social stratification. Borg is no doubt correct about the risk of war on nations in the cyber world, especially terrorism. But we should be just as worried about war within nations, as governments increasingly use cyber methods to control their own people.

Robert Anderson

The future of meat

Google's co-founder, Sergey Brin has part-funded the creation of a €250,000 (\$330,000) hamburger. Critics considered it to be "like meat" but "not that juicy". The meat consisted of cultured muscle cells, with powdered egg and breadcrumbs (for binding and beetroot juice and saffron to enhance colour. Stem cells were taken from two live cows, multiplied a trillion fold and then merged into artificial muscle fibres (myotubes), each less than 3mm long. The myotubes were wrapped around hubs of agarose, a gel-like polymer extracted from seaweed, and fed a diet of amino acids, sugars and fats derived from plants to increase size and strength.

The result is well short of conventional meat cuts; there were no fat cells. But it is a glimpse into where meat consumption is heading. Nearly a third of the world's ice-free land is used to raise livestock or grow fodder and the global appetite for meat is forecast to rise by 70% by 2050. This is not sustainable. However, it is estimated that a single sample of stem cells could yield 20,000 tonnes of "cultured beef". This is enough to make 175m quarter-pounders. To get the same result from conventional farming, it would be necessary to slaughter 440,000.

There are also climate implications. Husbandry is responsible for 18% of the world's greenhouse-gas emissions. Cattle produce prodigious quantities of methane—a gas whose warming potential is 20 times that of carbon dioxide's over the course of a century.

Shale gas and radiation

Critics of shale gas exploration in Australia would be unnerved by a recent American study. Elevated levels of radioactivity, salts and metals have been found in river water and sediments at a site where treated water from oil and gas operations is discharged into a western Pennsylvania creek. According to Avner Vengosh, professor of geochemistry and water quality at Duke University's Nicholas School of the Environment, radium levels were about 200 times greater in affected sediment samples. The study examined the quality of shale gas wastewater from hydraulic fracturing and the stream water above and below the disposal site. "The treatment removes a substantial portion of the radioactivity, but it does not remove many of the other salts, including bromide," Vengosh said. "Bromide increases the risks for formation of highly toxic disinfection byproducts in drinking water." The radioactivity levels in sediments near the outflow are above management regulations in the U.S. and would only be accepted at a licensed radioactive disposal facility.

Corporate social ambivalence

A recent study by the University of California and Boston University has found that American companies are less likely to disclose details of Corporate Social Responsibility (CSR) in locations with a strong religious presence, but will disclose more

in locations where religious groups are not evangelical. The common perception of evangelical groups as conservative and sceptical of climate change, puts companies off disclosing CSRs relating to social welfare and the environment. The study explored disclosures made by US companies over the period of 2000 – 2011. It found that portfolios constructed around religious attributes generate significant returns after disclosures.

A big fish

The picture of evolution has taken a large step forward with the discovery of a "missing link" fossil in China. The 419 million year old armoured fish, called *Entelognathus*, meaning "complete jaw" has solved a long standing debate in science and is being described as the most exciting fossil discoveries in 100 years. Scientists have disagreed about which early back-boned fishes were ancestral to modern fishes. Living jawed fishes fall into two major groups: sharks, rays and chimaerids (chondrichthyans) and true bony fishes (osteichthyans). The discovery in China shows beyond doubt that an extinct group called "placoderms" are the ancestors of all modern fishes. Placoderms are considered pivotal to evolution. They were the first creatures to evolve jaws, teeth and paired hind limbs (pelvic fins) and the first to have three semicircular canals in the ear for improved balance. They were also the first vertebrates to develop copulatory behaviour for mating. The fish fossil is the first appearance of the dentary bone which is found in all bony fishes, amphibians, reptiles and mammals and is the very same bone in humans' lower jaw. The fossil discovery consequently provides powerful new insights about the origins of the human body plan.

Open finding

A sting operation undertaken by *Science* journal has raised doubts about open access science journals' credibility. According to *Science*, the *Journal of Natural Pharmaceuticals* accepted an article on the anticancer properties of a chemical extracted from a lichen. "It should have been promptly rejected," the article said. "Any reviewer with more than a high-school knowledge of chemistry and the ability to understand a basic data plot should have spotted the paper's short-comings immediately. Its experiments are so hopelessly flawed that the results are meaningless."

Worse, the university and institutes cited, Ocorrafoo Cobange and the Wassee Institute of Medicine do not exist. In 10 months the author submitted 304 versions of the wonder drug paper to open-access journals. More than half accepted the paper, failing to notice its flaws.

The media, the rich and the law

How the law is being used against the media to gain advantage.

Rarely has the media been under greater legal attack. Unsurprisingly, it is mostly coming from the rich, who can afford the high costs. In many cases legal action is the first recourse. Mining magnate Clive Palmer, with characteristic humour, lists litigation as one of his hobbies in the Business *Who's Who*. Court decisions over the last two years have expanded the number of options available to those who wish to pursue journalists.

In one sense, legal attacks on the media are not new. The libel law has been a heavy constraint on the Australia press for decades. It is only necessary for litigants to prove that their reputations have been damaged and then the onus of proof, unusually, shifts to the defence to prove that the story was correct. Depending on the state, the story must also meet other tests such as being in the public interest.

Recent changes to defamation law have limited the size of payouts, but the risks remain, especially in a media sector that is under severe financial pressures. The libel law is very different in the United States. Litigants have to prove three things to succeed: that the story damaged their reputation, that it was incorrect and that it was done with deliberate intent. Libel actions consequently rarely succeed in America.

Over the last two years, the legal battle ground has broadened in Australia. There has been a rash of court actions aimed at forcing journalists to reveal sources. Fairfax Media lawyer Peter Bartlett commented that the problem started when Fairfax's Richard Baker, Nick McKenzie and Philip Dorling defended moves by businesswoman Helen Liu to uncover sources for a story detailing her relationship with former defence minister Joel Fitzgibbon.

A ruling in the first round of the Liu case in February last year by NSW Supreme Court judge Lucy McCallum found that a journalist's promise to protect a source "is not a right or an end in itself".

Bartlett said that this led to "an unprecedented number of applications for journalists to disclose sources." He described the decision by the NSW Supreme Court as "disappointing" because it has emboldened potential litigants. A number of journalists are now facing criminal convictions, fines or jail terms in cases that

are similar. The Media Entertainment and Arts Alliance is calling it an "an unprecedented assault on press freedom".

Investigative reporter Adele Ferguson has often been the target of legal attacks. Most prominent has been her high profile legal wrangle with Australia's richest person, mining magnate Gina Rinehart. Ferguson penned an unofficial autobiography about Rinehart and numerous articles for newspapers.

"You have to be so thorough to be sure you don't get a defamation suit," she says. "So that's what I did. It was checked and re-checked." Instead of being sued for defamation, Ferguson received a subpoena to reveal sources. This was an attempt to get her to give up more than to whom she spoke, which in any case was known (it was Rinehart's son, John Hancock). The aim was to get hold of her notes. A similar action was taken against Steve Pennells of the West Australian.

"It seems to be a growing trend with rich people and companies to try to stop you from writing," says Ferguson. "It is very daunting because in this case, as a journalist, you have a code of ethics which says you have to protect your sources and you have to keep some things off the record. You can't give over that information.

"However, the court of law doesn't see it that way. They see it as contempt of court if you are asked something and won't give it. In the case of Rinehart there have been some shield laws introduced; the Commonwealth and the states have different shield laws. But there are a lot of holes in them and in the Rinehart case it was a private arbitration with her family. I was subpoenaed to give information on her son. So she had named who she wanted the information from. It was confidential information accumulated over 18 months.

"If I had given that over I would have breached my code of ethics and possibly revealed other sources. She wanted information that could help her in her private arbitration. What was ironic is that we didn't know what the private arbitration was about."

At the time of writing, Rinehart has withdrawn from her action. In the case against Pennells, which would have compelled the West Australian to hand over all notes, Justice Pritchard

decided to let the shield laws prevail, commenting that "...in my view the operation of the shield laws is a factor sufficient of itself to warrant the conclusion that the subpoena is oppressive and an abuse of process."

Ferguson sees this as positive. "Shield laws are for court cases. This was pre-trial, a private arbitration. So the judge made a really positive call."

There are a number of legal techniques available to the rich or the powerful. The most common avenue remains the libel laws, but the way this is prosecuted is changing, greatly increasing the financial risk to media outlets.

"What they do now is issue multiple writs, which is part of newspapers owning a number of titles. My articles appear in *The Age*, the *Sydney Morning Herald* and the *Canberra Times* and most of the regional papers. Recently, I received eight writs. At the time my lawyer said he had never seen anything like it. The judge in the directions hearing (said he) had never seen anything like it."

Ferguson says the threat of libel actions makes journalists more thorough, which is a good thing. But it does scare many journalists off. "I've never gone to court. It usually goes away, thank goodness, but it is really arduous. You have to justify every single sentence, every single word in your piece has to be backed up and supported and it takes a lot of time. It is ages out of your day."

Another technique, used more rarely, is from the Commonwealth Crimes Act. In 2003, Ferguson was writing a piece on a major business figure and got a letter from the lawyers

statement of claim and I did the right thing and rang up Glenn Crisp and sent him an email to give him the right of reply. It had some serious allegations. I then get a phone call an hour before going to press from his lawyers saying 'You can't write this, if you do we will sue you'. I said 'Speak to my lawyer'. We just proceeded.

"Then at 6.45 I get an email from the lawyers saying 'You are requested to be at the Supreme Court by 7.30, in 45 minutes, we are requesting an injunction'. So the piece was enjoined on the grounds that they believed that the statement of claim hadn't yet been lodged because he (Crisp) hadn't been served with it. Then it was 'Who gave it to you?' We told the truth and said I was handed it by a source."

Ferguson said her source had got the statement of claim from the court. "If you had gone the next morning to the court it was there. But that was what their argument was. It was enjoined for several weeks. It was absolutely farcical. I recently was told that I might have to state in court that RSM Bird did not give me the statement, which they did not. If I do, then I have been told by the lawyers then I could get cross examined: 'OK, RSM Bird didn't give it to you, who gave it to you?' I can't answer, so I will be in contempt of court. Over some ridiculous, trivial sideline to the whole case." Ferguson says both sides have served her with subpoenas.

"You have a lot of very litigious people who have power," says Ferguson. "It really stymies the freedom of the press. It is as if they can smell blood. Newspapers are cutting costs, so they have to be a lot more prudent in terms of whether they can risk these stories going in. That is a really important factor. Also, you are

"The law is really expensive. It is very costly to defend something."

telling her that under the Crimes Act she was not allowed to discuss what had happened to the person's partner.

"There is a clause in the Commonwealth Crimes Act which prevents you talking about if someone has gone to prison (for a white collar crime)," says Ferguson. "If you knowingly do it, then you are in breach of the Crimes Act and can face a prison sentence, which is incredible. So in one case, I was writing a story on a very significant business figure and his secret past. He was in a very small partnership and one of them had committed sales tax fraud and had paid the consequences. But I couldn't mention it in the story, what had happened to this person. I could only say he had been disbarred but couldn't go to the next step about what had happened. It is only once you are made aware of (the clause) that you are in breach."

Legal technicalities can be used to stop journalists writing a story. Ferguson was writing a story about a case between Glenn Anthony Crisp and RSM Bird Cameron Partners. "I got the

getting a fragmentation of the media as well with a lot of small operators jumping up. They don't have any appetite for it at all. They can't afford it.

"The law is really expensive. It is very costly to defend something. Even when you win cases and are awarded costs you can still be out of pocket. Because the costs assume there is only one lawyer and maybe one barrister, whereas you may have a number of lawyers working."

Ferguson believes there should be national, uniform shield laws. "If you have got something wrong then you should be held to account. But if you are just doing your job and you are trying to protect your sources because people come forward and give you information, then that should be protected. Companies and rich people are using the law like a weapon like never before to get the truth from getting out. Whether it be subpoenas, defamation or other iterations of the law."

The hallowed halls go on-line

Universities are facing profound social and technological challenges.



In 2008, Melbourne University introduced a new system of tertiary education in Australia that allowed students to do a generalist undergraduate degree before specialising at graduate level. Known as the Melbourne Curriculum it was at the time considered to be a radical departure. Melbourne University vice chancellor, Glyn Davis had to face intense criticism from unions, student associations, academics and some media.

A few years later, the changes seem to be relatively unremarkable, at least when compared with some of the pressures facing universities. The internet is globalising all forms of education, including areas formerly considered the domain of universities. The appearance of Massive Open On-line Courses (MOOCs) poses a threat to the standard style of university lectures and tutorials, which may eventually prove to be as profound as the challenge that on-line publishing is posing to traditional newspapers.

The Economist recently commented that the ivory towers of academia have been shaken to their foundations. One MOOC, Coursera, has formed partnerships with 83 universities and colleges around the world, including many of America's top-tier institutions. EdX, a non-profit MOOC provider founded in May 2012 by Harvard University and the Massachusetts Institute of Technology is a consortium of 28 institutions "University brands built in some cases over centuries have been forced to contemplate the possibility that information technology will rapidly make their existing business model obsolete," *The Economist* opined.

Such claims may prove to be exaggerated, but it has certainly created a higher level of uncertainty. "No-body predicted MOOCs," says Davis. "The idea that you could have predicted that 10 years ago is pretty optimistic."

Universities, says Davis, have been transformed over the last few decades. They have evolved into a large industry, attendance at which has become the "aspiration of the middle class." Many private providers have emerged, expanding the sector further.

Davis believes the current teaching models "have run their course". The advent of computerisation has had the effect, contrary to appearances, of making education more personal. Rather than academics teaching the same material to a class of 60, computerisation makes it possible to craft material to individuals. This has resulted in a "big shift" away from more generalist teaching skills and towards specialisation. "The skills on line are so different. We are going to develop whole new groups (of students). It might mean there will be fewer (academics) in the middle. There will be more people at the top tier, and a group of people who work more closely with students. There will be less of the generalist."

Davis believes the Melbourne Curriculum initiative has proved its efficacy, although he acknowledges that he "would say that." He believes that it will increasingly be adopted in Australia. "The idea that students needed a broader base before they specialise is accepted overseas. It is just heretical in Australia."

Science teaching and research, he argues, is healthy. "Science remains so fundamental to many disciplines, it is at the core of many areas." He says there is increasing interest in biological sciences, sparked by intense student demand.

"There is a growing strength of biological sciences, both in industry and life. There is a whole range of disciplines where biology and information technology are intersecting. It has made possible work that was not possible before. Areas like bioinformatics and data mining have hugely expanded what biology can do."

Philosophy, Davis believes, is also in good health, but for different reasons. "I have been delighted by the expansion of interest in philosophy. It has a broader audience."

Much of the demand comes from older students who are seeking to explore their intellectual interests.

"It is more a generalist focus; (students) are less enamoured by the highly specialised philosophy. I guess the big questions don't go away. People want to spend time on them when they have solved their material problems."

What are the trends in the philosophy of science? In the 1960s the history of philosophy fell out of fashion, but it is now returning. "We are seeing a revival, often through an ethics framework, which ends up addressing the same questions as the older philosophy of science courses used to address. We used to worry about how we are going to tame nature and now we are worrying what we have done to it. (Philosophy of science) fell away in the 1990s, even though the problems were becoming more pressing. But developments like climate change have sharpened the interest. That debate has renewed on campus, big time."

Davis says student politics are more muted on campus than in previous decades. "I guess I would say it has become more conventional." There is less of a sharp divide between the student body and the world, in part because most students have to work part time; they are less cloistered. The advent of continuous assessment has also had the effect of "keeping students at their desks".

By contrast, the political relationship with governments has not altered. Davis says the expectations of governments about how they should regulate have changed little, even though they have less involvement in funding universities. "The partnership has been pretty stable over time."

Doubt

by Olga Techera

Where has all the energy gone;
the energy of the hearty laughter,
of the song that in the living voice enlivened us,
of young strong bodies
that with every sense
expressed themselves?

That which confronted an indifferent world
and which challenged the future
fearlessly?

Where has it gone?
Perhaps into the ether
or perhaps it took wings, perhaps it wished to fly.

Where has all the energy gone;
that of dreams and passions
so powerful
that swathed us moreover with love?
Let it not be that intensity of life
be dissipated into wasteland mists
but that something of it might be nurtured
that it might revive,
invigorated.

Little remains;
the energy, the powers and the dreams
are making their exits.
The winters are colder
and there are now strange flushes
where once there was
fire.

Where has all the energy gone?
Perhaps just into the soil
which welcomes ever and ever
the pitiable remains
to its breast.

A man made planet

The anthroposphere raises daunting political and ethical challenges.

One of the most famous figures in Ancient Greek mythology is Prometheus, who symbolised human striving, particularly the quest for scientific knowledge. When Prometheus disobeyed Zeus by giving fire to humans, he was sentenced to eternal torment, bound to a rock and daily attacked by an eagle.

The Prometheus myth has been interpreted as a metaphor for the dangers of over reaching. It can be seen as an analogy for what humans are increasingly doing in the world they inhabit. Except that there is a difference. Humans are increasingly playing the role of Zeus as well as Prometheus in what is becoming a battle against themselves.

Welcome to the Anthroposphere, or, to use the geological term, the Anthropocene. A time when humans increasingly fashion the world that they inhabit, which in turn shapes them. It is raising philosophical and moral issues that have not been faced before.

species. In 2010 the geneticist Craig Venter manufactured a new chromosome from artificial DNA in a test tube. His team then transferred it into an empty cell and watched it multiply. That is, it was ‘alive’.

The man-made single cell ‘creature’, which Venter named Synthia, is a modified version of one of the simplest bacteria on earth. It is expected to be a precursor of more complex creatures that can transform environmental waste into clean fuel, vaccinate against disease and soak up pollution.

Technological advance is speeding up and something of a race against time is occurring. The same technological progress that is destroying the natural environment is making it possible to create new environments. Adam Ford, director of Future Day, says technological progress is likely to accelerate. He believes it is not possible to pinpoint when these will lead to “large outcomes” but

“Programmers will no longer determine a system’s behaviour in detail. We must therefore also build them with values.” – Steve Omohundro

The economist Jeffrey Sachs, in his 2007 Reith Lectures, argued that the current era is unique. He said that the human race had never before experienced anything like the human pressures on the environment as well as the human successes in sustained and broad-based improvements of well-being. Ensuring that humanity can continue those successes “without going right over the cliff” will, he said “prove to be our generation’s greatest challenge”.

Sachs said: “The Anthropocene is felt in so many areas -- habitat destruction, rising greenhouse gases that are changing the climate and threatening us profoundly, water stress, human dominance of the natural nitrogen cycle through heavy use of man made fertilisers that allow us to feed a world population of 6.5 billion people on its way to 9 billion, new diseases that emerge when human populations and animal populations come into contact in new ways, and of course in the vast over-fishing, over-hunting, over-gathering, and over-exploitation of natural resources in large parts of the planet, leading to population collapses and species extinction.”

It is not just the destruction of the environment that characterises the Anthroposphere. Increasingly, new artificial environments are being created. Just as many species are being destroyed, scientists are becoming able to create artificial

the power of the engineering designs suggest big changes are in prospect. “What we need to be careful about is the way we guide the technology, although I am not into putting on moratoriums or bans on technology.”

Ford says there are massive potential gains in solar energy, and nanotechnology, which will lead to new types of materials and obviate demand for some mining. Likewise, biotechnology “has a big future”. Ford describes the race. “If we can extend a person’s life by 10 years, that is 10 more years to wait for the next generation of technology to come along. If we do survive the next 50 to 100 years we are going to be in a good position.”

The Anthropocene era is usually dated to the beginning of the nineteenth century when, for the first time, societies were able to move beyond a dependence on agrarian cycles and the accompanying vulnerabilities.

The French sociologist of science Bruno Latour noted in his Gifford Lectures that the ‘anthropos’, or human civilization, is already powered by around 12 terawatts and is heading toward 100 terawatts if the rest of the world develops to the level of the United States. “It is a stunning figure if one considers that plate tectonic forces are said to develop no more than 40 terawatts of energy. Having modified the flows of all the rivers, the ‘anthropos’ is now the most important agent of change for all the catchment

areas of the world; it is already the main agent in the production and distribution of the nitrogen cycle; through deforestation, it has become one of the main factors in accelerated erosion; and of course, its role in the carbon cycle becomes enormous as does the degree of its complicity in the disappearance of species to the point of being responsible for what is often called the 'sixth global extinction.'"

Latour makes the point that what is now seen as so dangerous was once taken as signs of great progress. "What is so depressing in reading the documents of the sub-commission on stratigraphy, is that it runs through exactly the same items you could have read in any twentieth century listing of all the glorious things that humans have done 'mastering nature,' except that today the glory is gone, and both the master and the slave -- that is, humans as well as nature have been melted together and morphed into strange new geological -- I mean geostorical -- forces."

There is little argument that unexpected vulnerabilities have emerged. By most measures, the human impact on the environment has increased a hundredfold. Human population has risen from six or seven hundred million in the middle of the eighteenth century to almost 7 billion today. Per capita economic activity has risen by about ten times as well. According to the Population Reference Bureau, 108 billion people have been born since the human species emerged. That means that about 6 per cent of all the humans ever born are alive today.

The industrialisation that transformed human life is, two hundred years later, taking some strange paths. For one thing, the rise of human population is not resulting in a vastly increased spread of people living across different parts of the earth's surface. According to the World Health Organization, there has been a massive migration from the country to cities or towns. One hundred years ago, two out of every 10 people lived in an urban area. By 1990, less than 40 per cent of the global population lived in a city. As of 2010, more than half of all people live in an urban area. By 2030, six out of every 10 people will live in a city, and by 2050, this proportion will increase to seven out of 10 people.

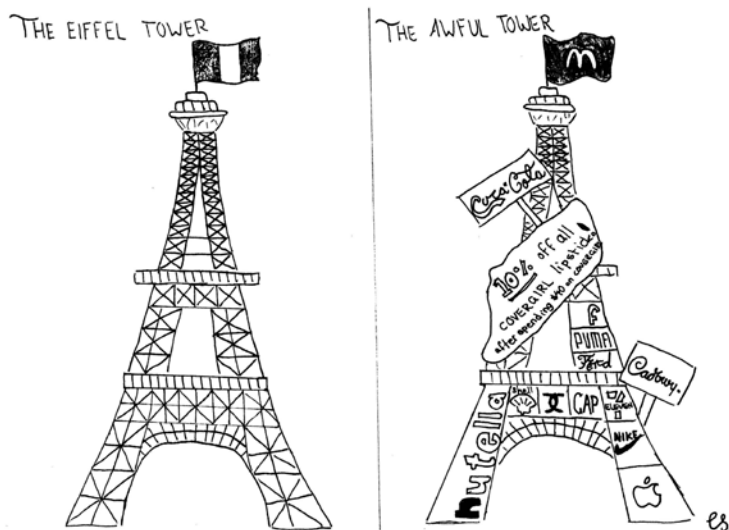
The global urban population is expected to grow roughly 1.5 per cent per year, between 2025-2030, which will mean that by the middle of the twenty first century, the urban population will almost double to 6.4 billion. Almost all urban population growth in the next 30 years is expected to occur in cities of developing countries.

It consequently does not really make sense to say that humans are running out of room. There has been too much geographical concentration. If all the world's cities were put together, it would only equate with 1 per cent of the earth's surface, or about half the size of Australia. The problem is what humans are doing, especially their polluting of the environment and how food is created. More than half the habitable land is used for food.

Steb Fisher, lecturer in environment and sustainability at

Monash University argues that even if the world's energy systems became wholly renewable overnight, the current industrial systems would "still wreck the world's ecosystems" on a timetable that is similar to the current trajectory.

Climate change, Fisher argues, is only one problem amongst many. "Without biodiversity in all its forms, which creates the complex web of interrelated systems that hold the biosphere in homeostasis, things that we take for granted such as temperature, the level of oxygen in the atmosphere or the even concentration of salt in the sea, will no longer support the life we know," he writes. "Something other than climate change is driving the current mass extinction. The impacts of climate change, though potentially catastrophic, are in the main yet to come -- albeit sooner than we have previously expected."



Fisher points to the predictable suspects: cutting down forests, over-fishing, chemical pollution, soil degradation and erosion, habitat destruction, desertification. He claims humans are well outside the reasonable limits of energy and material use. "Globally about 51 per cent of all energy use is industrial, 20 per cent is transport, 18 per cent residential and 12 per cent commercial. But all is interconnected and almost all demands over and above our basic needs lead back to increased physical and chemical destruction of ecosystems."

The most immediate imperative is to introduce limits, although how that is done will depend on how technology develops. The Global Footprint Network estimates that humans are consuming 1.5 times more than the earth is able to renew each year, which means resources consumption needs to be reduced by a third. Fisher argues that population increases imply a drop in consumption of about a quarter. When drops are also made to reduce poverty and build in reasonable safety margins for unexpected events, the drop in resource use would be 94 per cent. Fisher concludes that what is required is to "rethink the entire way we organise humanity: politically, economically and socially."

“We need to recognise that there are some risks we cannot afford to take, the financial (and social) costs are unthinkable,” says anthropologist Larry Cromwell. “The current way we approach risk must be altered for the benefit of citizenry. We need a new way of seeing systems and systemic risk. A whole-of-system approach is required to manage in a resilient fashion. The overarching message to your community and global society is that we have to confront the problem and gain control of what can be done -- in the time available.”

There are intellectual barriers to developing such a system-wide approach. One of the consequences of industrialization is an increasing emphasis on scientific specialization. Few are able to stand above the different fields of knowledge and make assessments of the whole system. This is a problem in so-called “climate science” for instance, which is not one discipline but about 20 different areas of study. By being so specialized, science has developed in a conservative fashion. And in the Anthroposphere, it is more likely that radical solutions will be required.

A further complication is that the Anthroposphere is interconnected in a way that has not occurred before. This is true both physically and socially. Physical systems are interlinked in new ways. For example, depending on the direction of the wind, air

(unless there was direct exploitation involved). But poverty in the world now tends to be seen as a global problem, involving all the nations on earth.

So how can such an interconnected system be made safer? One conclusion is that a sustainable Anthroposphere requires diversity, without which it is vulnerable. This is not a new lesson. As far back as the Middle Ages, the use of monocultures in agriculture made societies more vulnerable to disease and sudden shocks. Diverse systems are inevitably more resilient, because they dissipate any impact.

The most important element in that diversity is the number of species on the planet. Euan Ritchie, lecturer in sociology at Deakin University argues that there are reasonable estimates of species diversity in particular habitats which indicate that the rate of extinction is 1,000 to 10,000 times the background rate.

The International Union for the Conservation of Nature’s Red List of Threatened Species argues that 36 per cent of the 47,677 species assessed are threatened with extinction, which represents 21 per cent of mammals, 30 per cent of amphibians, 12 per cent of birds, 28 per cent of reptiles, 37 per cent of freshwater fishes, 70 per cent of plants, and 35 per cent of invertebrates. “An exclusive focus on extinction is inappropriate anyway, given that many

“The human race has never before experienced anything like the human pressures on the environment as well as the human successes in sustained and broad-based improvements of well-being.” – Jeffrey Sachs

pollution in Los Angeles is affected by air pollution from China. It seems inevitable that the level of CO2 emissions in some countries will affect all countries.

The level of social and technical interconnection is just as intense. This has many aspects: the use of the internet for personal communications, cross border commerce, and, especially, global finance. About \$US4 trillion of transactions spin around the world each day, a level of “money” that is vastly in excess of any seen before (the global economy is about \$US60 trillion a year). Just how deep the interconnection was became evident during the Global Financial Crisis, when mortgage failures in America had disastrous consequences for councils in Scandinavia, pension funds in Australia or banks in Iceland. Interconnection amplifies problems in the Anthroposphere because there are fewer places where the chain of effects can break.

Contemporary thinking about the world’s distribution of wealth assumes a high level of interconnectedness. A commonly cited statistic is that the top 20 per cent of the world’s population are 40 times richer than the bottom 20 per cent. These wealth levels are then treated as inter-related. This would not have been the case before the nineteenth century, when one nation’s wealth level would have been seen as having little bearing on another’s

surviving species are hanging on only by the barest of threads,” writes Ritchie.

The challenges of the Anthroposphere are not just physical, they are also intellectual and philosophical. There is a high degree of self-reflexivity built into the Anthroposphere. We are natural creatures, yet we increasingly control nature. That creates a loop whereby what humans think and imagine is increasingly patterned into the external world, which in turn increasingly shapes human thinking. The self referential aesthetic of post-modernism reflects this increasingly artificial dynamic.

Eventually, the Anthroposphere will change what being “human” means – a phenomenon called “transhumanism”. Medical advances that allow the creation of artificial human body parts are only in their infancy.

It is likely to become progressively possible to extend life using artificial techniques. This will create as many problems as it solves. It will reinforce disparities of wealth: the medical assistance will only be available to those who can afford it. It will extend life, which will have implications for population levels.

And it will pose questions about what in a human is natural and what is artificial. The analyst Francis Fukuyama, writing in *Foreign Policy* magazine, nominated transhumanism, which he defined as

“nothing less than to liberate the human race from its biological constraints”, as one of the world’s most dangerous ideas. He argued that it is incompatible with equal legal and political rights because it cannot be universally available.

“The view that individuals therefore have inherent value, is at the heart of political liberalism,” wrote Fukuyama. “But modifying that essence is the core of the transhumanist project.”

Similar challenges are likely to emerge from advances in the way that the brain and the mind are understood. While scientific advances that equate behaviour with parts of the body (such as the so called “gay gene”) imply many, largely insurmountable, philosophical problems, there will nevertheless be a steady increase in the ability to shape behaviour by employing artificial means.

The rapid advances of computerisation are also speeding up the development of artificial systems. Steve Omohundro, president of Self Aware Systems writes that there are over 1 billion PCs, 5 billion cell phones and 1 trillion web pages on the Internet. He believes that if the current rate of advance holds true, then there will be cheap computers with the computational power of the human brain within the next few decades.

“Next-generation systems will be deeply integrated into our physical lives via robotics, biotechnology and nanotechnology,” predicts Omohundro. “And while today’s technologies are almost entirely preprogrammed, new systems will make many decisions autonomously. Programmers will no longer determine a system’s behaviour in detail. We must therefore also build them with values that will cause them to make choices that contribute to the greater human good. But doing this is more challenging than it might first appear.”

The greatest challenge posed by the Anthropocene is political. A common observation is that economic growth – the cornerstone of capitalism – should end. “What can we do?” asked Sachs. “Do we have to end economic growth? Do we have to end the hopes of the developing world?”

While it is true that capitalism and growth are synonymous, growth is not necessarily the same as consumption of resources. Growth (usually defined as Gross Domestic Product) is, literally, the rate of transactions, and these can increase without necessarily

more consumption of resources. A case of point is the rapid “growth” in the financial sectors of most developed economies over the last decade, which in many developed has been the fastest growing industry. For the most part, this involved very little consumption of resources – most of the transactions were blips on a computer screen.

The problem is not growth in itself, but the consumption of resources that occurs with industrialization. And the destruction of the ecology and over-consumption of resources is not just a problem of capitalism, as was evident in communist China or the countries of the former Soviet Union. The challenge posed by the Anthroposphere is to move to post-industrial systems that are sustainable, and which reduce consumption. That, in turn, mainly means developing urban systems that consume lower levels of resources and which do not depend on production systems that destroy biodiversity. In other words, it is largely a design issue.

The emergence of the Anthroposphere is likely to have as profound effect on human thinking as the Enlightenment. Latour documented some of the intellectual implications. The first advantage, he said, of living in the time of the Anthropocene is that it moves humanity away from needing to reconcile nature and society. “To operate such a dialectical reconciliation you would have to accept the Great Divide of the social and of the natural. But the Anthropocene does not overcome this divide: it bypasses it entirely.”

Latour says there is a need to rethink the terms ‘natural’, ‘social’ and ‘symbolic’, adding that the gap between ‘physical’ and ‘human’ geography, or the one between ‘physical’ and ‘cultural’ anthropology is no longer clear.

“Neither nature nor society can enter the Anthropocene intact, waiting to be quietly ‘reconciled.’ In the same movement, the Anthropocene brings the human back on stage and dissolves for ever the idea that it is a unified giant agent of history.”

Human life is no longer a matter of their relationship with nature, Latour argued, but “something else entirely, another animal, another beast or, more politely put, a new political body yet to emerge. (We need) to define the scale, scape, scope and goal of these new people who have unwillingly become the new agents of geostory.”



Problems in the world of risk

A different way of seeing how to manage dangers.

by John Scott and Larry Cromwell

With the emergence of challenges like global warming, we need to recognise that there are some risks we cannot afford to take. The financial and social costs are unthinkable. We need a new way of seeing systems and systemic risk.

A whole-of-system approach is required. During the past half century we have gone through economic expansion which has been called globalisation. This has brought about changes not only in the global distribution of wealth and standards of living, but also in the manner by which states do business. The changes have profound implications: for communities, businesses, governments and for international economic institutions and collective security. At the most profound level, they already point to the urgent need for constitutional, economic and strategic adaptation. In many respects, the world is better seen through the lens of a shift in the International Order of States system: a shift from nation states to market states.

The backdrop for these changes is the growing urgency to address a growing global population—estimated to number some 9 billion people by 2050—and climate change. Nationally and globally we need to understand the systems we have created and how to bring about systemic change in order to anticipate and prevent our systems from failing, with potentially catastrophic consequences.

What is needed is a new way of seeing our systems, which are the result of purposeful human activity. Humans create systems. The system is realised through a combination of people and technology. The system is a network—of people, organisations and institutions, including global organisations and institutions.

Thinking critically about systems means not only appreciating their socio-technical and network natures. We need to understand more fundamentally that systems represent deeper, established patterns of thought about how to see the world and make sense of it.

Human systems can be appreciated at three levels: the system as it operates in society; the Idealised world-view of the various players and how they are expected to behave; and the paradigmatic: the deeper way of understanding the world that, in its time and place, makes sense to the policy elites.

The conduct of policy and regulation is anchored in the second, world-view, level. Systems that cross national boundaries almost invariably reflect differences in world-view among the policy elites. Risks, and particularly systemic risks, can be found at any or all three levels of appreciation.

The stakes are rising. A legal imperative to address vulnerability is emerging. The Australian High Court decision in the case of *Perre v Apand Pty Limited* in 1999 provides guidance.

Years ago an identified plaintiff was needed. Today, directors' duties are often imposed with the benefit of hindsight. Legal liability for economic loss is now squarely based on vulnerability. The High Court has made it abundantly clear; "it is the concept of vulnerability ... which is the relevant criterion for determining whether a duty of care exists" (see *Perre v Apand Pty Limited* [1999] HCA 36 at para 125 per McHugh J).

The Court went on; "the Perres were not in a position to do anything that could protect their economic interests.... The future of their business depended on events some distance away of which they did not know and could not avoid even if they had known. The vulnerability of the Perres to a risk of such a magnitude was very great".

It is vital that all third party vulnerabilities are identified before the risk assessment process is finalised. What gives rise to mass torts is situations where there is either an unidentified vulnerable third party; or an identified third party whose vulnerabilities are simply not understood. This is where due diligence must prevail.

Once the vulnerabilities are identified, they can be subjected to early negotiation and contract. Engagement, based on the vulnerability of the third party rather than the risk to the project, will engender trust and full disclosure.

For the High Court, following its decision, the question is where to 'draw the line'? At the individual company or equivalent level, the vulnerability exposed and the consequences of its exposure can be reasonably readily demarcated and assessed. The question becomes much more difficult when addressing the vulnerability of a whole industry or system.

What do the courts adopt as a standard of acceptable risk? How would they deal with expert opinion pointing out that the existing risk models are unsound?

One answer is to look at where the threat, once begun, cannot be stopped. This could be called the Pandemic-type risk. In this situation, the argument should be waged over whether there is a risk. Where the parties agree there is a risk—the Consequences of an 'unstoppable threat' could be argued, and held by the Court, to trump the (low) likelihood of the threat occurring.

To make this concrete, it will be necessary to compare two monetary values: the annual cost of the unstoppable threat occurring, and the annual savings / benefits to the accruing party or parties.

Present risk management standards do not calculate vulnerability. There is a fundamental mismatch between what the court has found in *Perre v Apand Pty Limited*, namely the "vulnerability", and what risk management standards identify, namely the likelihood of some consequences.

Question: What is the best way to introduce an Australian Republic?

Diane Preston is a committee member of the RSA and a lawyer.

The debate concerning Australia's future as a Republic is very quiet now. I think it may be time to wake from our slumber and give expression to what all Australians believe. We believe that we live in an independent sovereign nation, not subject to the monarch of another county. Australians hold this belief despite the fact that it does not correspond with our constitutional reality. We now need to fix this.

Over the century since Federation we have been in the process of transforming our relationship with the United Kingdom by utilising the powers found in our constitution. We know our origins. The Commonwealth of Australia was brought into being by an Act of the Parliament of the United Kingdom, an Imperial Act, namely, the Commonwealth of Australia Constitution Act 1900. We know that our Constitution is a Schedule to that Act. To be clear, our Constitution is not an Act of the Australian Parliament.

Two significant milestones transformed our relationship with the United Kingdom. The first is the enactment of the Imperial (Imp) Statute of Westminster 1931 and the enactment by Australia of the Statute of Westminster Adoption Act 1942. Section 11 of the Statute of Westminster, 1931 (Imp.), provides that the expression "colony" in any Act of the United Kingdom passed after the commencement of that Act shall not include a Dominion. Australia is a Dominion for the purposes of this Act.

Justice Gibbs in the 1979 High Court case of *Southern Centre of Theosophy Inc v South Australia*, said that "It was not until the passing of the Statute of Westminster Adoption Act 1942 (Cth) that the Commonwealth itself finally cast off its colonial status, and even then, within the meaning of earlier Imperial statutes, it remained a "British possession".

The second milestone is the enactment of the Australia Act 1986 (Cth) and the Australia Act 1986 (UK) known as 'the Australia Acts'.

By section 1 of each of the Australia Acts, it is provided that:

"No Act of the Parliament of the United Kingdom passed after the commencement of this Act shall extend, or be deemed to extend, to the Commonwealth, to a State or to a Territory as part of the law of the Commonwealth, of the State or of the Territory."

In other words, the United Kingdom will not make laws for Australia.

The High Court in the case of *Sue v Hill* in 1991 relied upon the Australia Acts to characterize a British citizen as an alien, namely a citizen of a foreign power for the purposes of eligibility for the office of Senator in the Australian parliament. Section 44(i) of the Constitution provides that an alien, a citizen of a foreign power,

cannot be eligible for office as a Senator.

The High Court said, "At the very latest, the Commonwealth of Australia was transformed into a sovereign, independent nation with the enactment of the Australia Acts. **The consequence of that transformation is that the United Kingdom is now a foreign power for the purposes of section 44(i) of the Constitution**"(emphasis added).

Those milestones indicate how far we have come in our relationship with the United Kingdom. It is apparent we have come a long way. What more has to be transformed in our relationship? What is left undone? What is not done is that the Australian Head of State, the official who holds the highest ranked position in the Sovereign State of Australia is the monarch of another country. It does not matter what title is given to the Queen, whether Queen of the United Kingdom or Queen of Australia. The fact of the matter is that our Head of State is the Monarch of another country, the very country that ruled us as a colony.

Under our Constitution, the role of the Queen, the role of our Head of State is as follows:

"The legislative power of the Commonwealth of Australia is vested in a Federal Parliament, which shall consist of the Queen, a Senate, and a House of Representatives.

"Section 61 provides that, 'the executive power of the Commonwealth is vested in the Queen and is exercisable by the Governor General as the Queen's representative, and extends to the execution and maintenance of this Constitution, and of the laws of the Commonwealth.'

"The Queen appoints a Governor General and proposed laws may be reserved by the Governor-General "for the Queen's pleasure"(see section 58) and laws may be disallowed by the Queen (see section 59).

"Section 2 of our Constitution provides that 'the provisions of this Act referring to the Queen shall extend to Her Majesty's heirs and successors in the sovereignty of the United Kingdom'.

"Section 2 has been the subject of great debate and rightly so. It means that our highest office is not only occupied by the monarch of a foreign power but it is inherited by the offspring of that monarch."

As we wake from our slumber, we can listen once more to leading voices in the debate, that of our now Prime Minister Mr Abbott and our former Chief Justice of the High Court, Mr Brennan.

Mr Brennan in a speech delivered in 2011 titled, 'Pathway to a Republic, Why a Republic' said;

"..Our Constitution – the principal charter of legislative,

executive and judicial power whether federal or state – does need fixing. Our Constitution was given to us as a Schedule to the Commonwealth of Australia Constitution Act 1900, an Imperial Statute. Appropriately to our status in 1900 when Australia was colonial in sentiment and in law, we were given the British Monarch as our Head of State by Covering Clause 2 which provided that references to the Queen in the Constitution “shall extend to Her Majesty’s heirs and successors in the sovereignty of the United Kingdom”. Yet, a century later, the United Kingdom has been found to be a “foreign power” whose citizens are ineligible to sit in our Parliament. **It is both anachronistic and anomalous to maintain the sovereign of the United Kingdom, a foreign country, as our Head of State**”. (emphasis added)

At the Neville Bonner Memorial Lecture, Australians for Constitutional Monarchy 11th National Conference, 21 November 2010, Mr Abbott said:

“[t]he wellsprings of [the Monarchy’s] appeal are instinctual as much as rational: more akin to loyalty to a team, solidarity within a family or faith in a church than they are to support for a policy. Deep down, they are the heart’s reasons that reason doesn’t know”.

In my view the voice of reason and not the “heart’s reasons that reason doesn’t know” is the proper basis for deciding on whether we retain the monarch of another country as our Head of State. Mr Brennan has hit the nail on the Head!

So let’s take the next step and complete the transformation in our relationship with the United Kingdom. Let’s work towards a transition to an Australian Head of State in the knowledge that the task will be difficult. Let’s not be deterred by that difficulty. After all, not one drop of blood will be spilt!

David Goss was Consul General in Chicago, High Commissioner in Kenya and Ambassador to Israel

We lost the 1999 Referendum when too many people put too much weight into the YES vote’s saddle bags. We should seek to change only the Head of State, leaving other aims for separate campaigns by those who want them. But proceeding by referendum risks the same obstacles that defeated the 1999 referendum. I suggest three specific steps that would produce an Australian Head of State sooner and more surely and without the need for a Referendum.

In his article in *The Rationalist* in June, Ron Walker identified three reasons contributing to the NO win in 1999. It appeared to be making more change than was actually involved, the word “Republic” raised negative connotations and the word “President” was misunderstood. Some voted NO fearing it introduced an American system and others because it did not.

Democrats advocated a Yes vote but some 25 to 30 per cent voted NO. Even with a lesser drift the Referendum would still have lost due to a NO vote in Tasmania, South Australia, West Australia and Queensland.

There were other factors. Most Australians have only a vague grasp of how they are governed. They are thus easy to mislead. There were a number of substantive issues which were politically important but not central to getting an Australian Head of State.

The 1999 referendum loss set change back two decades. Future losses will add similar delays. None of the factors that defeated the 1999 referendum have changed, so a future referendum would do no better. A Republic is divisive for the Coalition. The ALP might take an initiative precisely because it divides the Coalition so chances of bi-partisan support are low. Without bipartisan support

“Most Australians have only a vague grasp of how they are governed. They are thus easy to mislead.”

Four other factors were more important. History shows any referendum needs bi-partisan support to succeed and in 1999 there was not bi-partisan support. Contrary to the perceived view, most voters voted the way party leaders’ asked them. But the campaigns produced a differential drift which increased the NO vote. In rough outline, National and One Nation voters overwhelmingly voted NO. Liberal voters voted 80 per cent NO. The ALP, Greens and

Referendums do not pass. The ARM plans to have Plebiscites on becoming a Republic and on how to select the President, followed by a Referendum, hopefully, to implement it. While they plod along that stony path I suggest we start now with three separate incremental steps needing no referendum which would improve chances of a YES vote when it comes. We need to move incrementally from partial dependence to full independence.

To see how to move forward we must look at how past progress was achieved. At Federation, 1901, the UK still played a significant role in Australia. The Queen of England was our Head of State. The UK government selected and appointed our Governors-General and Governors. Our Generals, Admirals, Anglican Primates and even Catholic Archbishops came from the UK, which then included all Ireland. The UK declared our wars and handled our Foreign policy. Australia House in London was our only overseas mission until 1940. The UK Government could suspend Federal legislation.

Incremental changes altered this without any change to our constitution until the Australia Act of 1986 passed by Australian and British Parliaments finally severed all Australian constitutional links with the UK. “The Queen of Australia, her other realms and Dominions” and “the Queen of the United Kingdom of Great Britain and Northern Ireland, Defender of the Faith” are separate legal entities. It is my sad task to advise both those wanting the Queen to remain Head of State so as to retain links with Britain and

of consultation in appointing them. Even minimum consultation would have led them to look elsewhere. So Parliament should discuss and decide on a method to select and dismiss the Governor General. States should do the same with the Governors. This step should get bi-partisan support.

We would then have a Governor General who is selected by a democratic process in Australia. Germany, India, Israel and Italy *inter alia* elect their Presidents by an electoral college based on their Parliaments. Direct election of a President with largely ceremonial powers is the exception. Only Ireland comes to mind as an example. The reason it cannot be a direct election is that it requires a change in how we govern ourselves. The Prime Minister is not directly elected so why should we elect directly the one position which has virtually no powers? If we did so, we would be setting the stage for future conflict between the PM and the Governor General. Those favouring direct election should not try to smuggle it in the baggage of an Australian Head of State.

“Those who want an Australian Head of State need to take the excess weight out of the saddle and tackle one issue at a time.”

those opposed for opposite reasons that they are 27 years too late!

A Head of State is the National Symbol to project a country abroad. But because the Queen personally holds both titles and she is recognized internationally as Queen of the UK, not of Australia, she cannot be used to project Australia. It also gives a misleading impression that Australia is linked with the UK. Misleading symbols can matter.

The Australian Queen has in fact only two remaining duties: namely, to agree to the prime minister’s nominee as Governor General and to have Foreign Ambassadors’ credentials addressed to her. To remove these residual duties many Republicans say we need 60 editorial changes to the Constitution. I disagree. There is one significant step we can take to remove a current anomaly and the greatest obstacle to any YES vote in a future Referendum. And there are two other steps we can take to convert our Governor General into a Legal as well as de facto Head of State. Neither needs any change to the Constitution.

Those who want an Australian Head of State need to take the excess weight out of the saddle and tackle one issue at a time. The heaviest weight in 1999 was how to select and dismiss our Head of State. This issue should be resolved now so when we decide on Australian Head of State it does not become a diversion or an obstacle. It is in any event inappropriate that the Governor General, or State Governor, can be decided by the Prime Minister or Premier without consultation. The few embarrassments with our Governors General and State Governor came from the lack

In 1999, the Australians for Constitutional Monarchy (ACM) claimed that the Governor General was already Head of State. In law they were wrong but it helped add to the average voters’ confusion. Why not oblige the ACM and give the Governor General a key attribute of a Head of State by asking the Queen to agree to have Ambassador’s credentials addressed to the Governor General as she has already done with Canada? There is a precedent and the ACM can hardly object so we can expect bipartisan support.

Federal Parliament could then pass legislation declaring the Governor General to be the Australian Head of State and incorporating the method to select him or her in that legislation. The ACM noted in 1999 our Constitution has no reference to Head of State (or indeed to a Prime Minister). Legislation would correct that omission and make clear to Australians and Foreigners that we have an Australian Head of State. We would then formally be a “Commonwealth” with a “Governor General” as our Head of State. We avoid the words “Republic” and “President” which worried some people and can hardly be said to be an essential part of getting our own Head of State.

This incremental approach without Constitutional change gets us an Australian Head of State chosen by a political process. The Constitution would still have references to the Queen, which would have no effect. Some tidy minded Government could later amend the constitution by Referendum so it reflected actual practice. It could even add reference to the Prime Minister! By that time the amendments should be quite uncontroversial.

Science in the news

The way the media reports on science needs improving.

by Rohan Kapitany

I have spent a great deal of time questioning how science is portrayed in the news media and whether or not we should be satisfied by the status quo. This is certainly not a new discussion and those with an interest in science generally claim that science reporting is both infrequent and misleading. The easier of these two problems to address, I argue, is the quantity problem.

As a society we invest a great many resources into the creation and maintenance of science. We invest hundreds of millions dollars in the form of federal grants, we fund organizations like the CSIRO and the offices of the Chief Scientists, we devote a significant proportion of time in class rooms to its teaching, and we actively pursue international collaborations on matters of scientific and social importance. And yet we hear little of these matters from our news sources.

Considering the degree to which we fund our science, it seems reasonable to ask for more science representation in the news. But to understand the position science holds in the news landscape a more basic question needs to be addressed: 'What is the role of the news, anyway?' This question has many good answers but few adequately inform the role science ought to play. The 'And in Science' campaign, which I and a number of notable others have created, is designed to address this aspect of a complicated problem. We are not satisfied by the status quo and are actively campaigning for the inclusion of more science into our news.

'And in Science' is a petition asking the ABC's Youth Radio Station, Triple J, to increase their coverage of science in their hourly news updates. In the first month of campaigning we collected over 2000 signatures, received endorsements from various entertainers and public figures, including Wil Anderson, Adam Spencer, and Lawrence Leung. It is interesting to note that when I first raised the idea of campaigning for more science in the news with a friend (in a private conversation at a showcase of modern dance) a patron in an adjacent row turned around and said "I'm sorry to interrupt, but that's an excellent idea and I think you should do it". Could I do anything else but act?

It is difficult to know exactly what role editors think news fulfils within society. At the most basic level it is to keep people informed. At a more abstract level it is to critique and evaluate

happenings within the world and to provide an informed public commentary. Between either extreme, it seems reasonable to expect that the news not only appropriately represent the content of a story, but also the quantity of different types of stories. Certainly, some issues are more salient and pressing than others, but science, too, addresses pressing and relevant issues, and the production of science is itself an issue of social and political significance. Let us consider the role of news as simply satisfying only the need to inform. The Australian Research Council (ARC) in 2011–2012 administered \$800 million worth of grants. In the same period CSIRO generated \$1476 million in revenue, half of which was derived from the government, and half from other sources. While it is not an easy task to reckon the quantity of science that these values represent, it certainly isn't small, and such values are obviously nationally significant, if only from an economic perspective (which of course is not a good way to measure science).

If the role of the news is to inform, then a conservative estimate for the current year would be that there is around \$800 million dollars worth of domestic science to report upon given that scientific output represents several years worth of time and financial investment. To the extent that science is something our government demonstrably values it warrants a fair representation in the media – if only so we know that science is something we are paying for and benefiting from economically.

If the news serves to do more than just inform, and aspires to critically evaluate and provide commentary of important issues, then science, again, needs increased coverage. Enquiry into, and scrutiny of science can reveal the values we as a society hold. Prior to the election the Liberal Party infamously promised to cut wasteful funding for 'obscure' research topics in favour of medical research (such as dementia and diabetes). This, in my opinion, is a cynical and populist promise; and woefully misrepresents the value of science.

It does, however, reveal how science is valued. While I certainly do not equate obscurity with a lack of worth, I do argue that we should be critically evaluating research and that obligation should be fulfilled, in part, by our news media. There should be more science in the news, and that news should focus not only on

outcomes, but the process, the funding, and the questions. We need a critical and investigative media, parsing the state of affairs, and providing informed public commentary.

If we accept that science isn't covered frequently enough, we have to question what kinds of stories we are missing out on. In 2005 Ben Goldacre published a blogpost, now recognized as a classic, with *The Guardian* describing and lamenting the quality and characteristics of science news. He observed that three kinds of stories get published: Whacky stories, Scare Stories, and 'Breakthroughs'. This is the kind of science we see reported, and it serves to misrepresent what science actually is.

Scare Stories and Breakthroughs intuitively satisfy our need for personally relevant information (that cancer will kill us, or that we can kill cancer); whereas 'Whacky Stories' are distinct and more closely aligned with what isn't reported: the commonplace. Other commonplace topics are reported reliably, like sport and crime, but we shun the commonplace occurrences of science.

Presumably, we value the commonplace as synecdoche:

knowledge. The status quo is to prioritize answers over questions. Great emphasis is placed on the purpose an answer serves ('how can we cure diabetes?') at the expense of the motivation for the question, or the generation of the question in the first place.

Yet as a process, science is driven by questions. The 'breakthroughs' are valuable only because they resolve important questions. The reporting of science news ought to focus on these questions, and in so doing, engage the public in a conversation regarding what we, as a society, value answers to. When the news aims to entertain and treats the product of science as a curio to be displayed in a window, we miss the real value of the object; it trivialises the entire process for the sake of a quirky by-line.

Rather than the news misrepresenting the 'answers' science provides we ought to focus on the kinds of projects we are funding and the long-term gains we can realistically expect. In so doing, we more carefully articulate and question the value of science, and the role of science in society. It would provide a way for journalists and the news media to examine the decisions and values of our society

"There is no useful information in most science stories." – Ben Goldacre

individual crime stories are a barometer for social wellbeing, political reporting provides us a sense for our leaders, and weekly sports are a part of greater leagues. Yet, commonplace science – the kind of science that is actually happening every day, that we actually pay for, and that we as a society benefit from in the long-term – is not reported. The parts presented do not represent the whole. We need more commonplace science if we are to develop a sense for what the general body of scientific endeavour has to say about our world.

When presented with arguments for more science in the news, a common response is that 'science is already reported in the news'. Unfortunately, the science that is reported is not what a scientist would recognize as science. Coverage consistent with the status quo has skewed how the public has come to understand the nature of the beast.

Ben Goldacre made the following point: "The problems here all stem from one central theme: there is no useful information in most science stories". He's right, and it speaks to the third, and considerably less noble, role news plays within society: to entertain. Within the current framework science is only reported when it's whacky ('scientists create glow in the dark kittens'), or to provide personally relevant information (how to kill cancer or how cancer will kill).

The lack of quality in science reporting is related to the kind of information science produces. It is commonly argued that it is too complex, or that there is too great an expectation of assumed

through the lens of scientific endeavour, while simultaneously representing the current state of Australian science and critically informing the public.

Science is popular enough to hold its own as a unique category of news. In 2010 the Australian National University found that science news was considered 'more interesting' than sport, politics and music, and to some degree more interesting than crime. These results are not unique. A 2010 'Special Eurobarometer Report', commissioned by the European Commission (who represents the interests of the European Union) reported very similar results. Science is popular enough to satisfy even the least noble motivation for producing news, if that's the standard we're going to accept. Science is entertaining.

Editors and journalists seem well aware of their duty to inform, critique, and entertain in the domains of crime and sport and politics, but have relegated science news to the occasional and the quirky. This lack of coverage is totally disproportionate, it does not match the public's investment and interest in science. In the long-term, we need the frame of science news to shift, we need fewer answers for the sake of answers and more questioning of questions. We need an appreciation of the commonplace and we possibly even need a more critical evaluation of the role science plays within our society as a way for understanding the values of society.

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Coaching that is all in the mind

A consideration of some deep human needs.

by Gitte Lønstrup Dal Santo

“Religions have understood the value of training our minds with a rigour that we are accustomed to applying only to the training of our bodies ... The secular world offers no true parallels. Our closest equivalents ... serve only to reveal our shallowness.” These words from Alain de Botton’s *Religion for Atheists* (London, 2012) rang through my mind on a long flight back to Europe from Australia. I was coming home after attending ‘The Renaissance of the Humanities’ conference at the University of Melbourne in July and de Botton’s insights seemed particularly relevant to an enriching conversation I had there with Meredith Doig on the spiritual life of non-religious people. As a humanistic coach with a background in the history of mentalities, I am intrigued by what even non-believers can learn from religion. It is a question many of us seldom explore.

What is lost when we leave religion behind? How can religions inspire us in the ways that they respond to fundamental human needs? In replacing the role of religion in society, what sort of institutions, education, aesthetics, beliefs and practices does humankind need as support on its long and winding path through the tribulations of human existence – heartache, anger, anxiety, professional failure, disappointments and loss – to happiness? These are some of the grand questions de Botton raises.

His answer is courageous and thought-provoking. Community, kindness, tenderness, perspective, forgiveness, gratitude and beauty are among the fundamental human needs that religions like Christianity and Buddhism speak to. By urging their adherents to put these ahead of other things that come more naturally to us – like self-pity, selfishness, narrow-mindedness, greed –, they have encouraged a disciplined training of the mind. De Botton’s view is that the modern, secular, post-religious world has lost sight of the importance of this kind of discipline, with important consequences for our mental and physical well-being.

De Botton goes on to explore his personal encounter with what he sees as the closest alternative: meditation. But the context is still one of religion – Buddhism. Is religion then unavoidable? Is it in fact an essential human need? They are questions I will leave others to answer. But all the same I believe the secular world does offer another and wholly non-religious alternative to de Botton’s recourse to Buddhist meditation. And that alternative is coaching, a purely rational practice of mind that acknowledges the importance of bodily anchors. Indeed, I think coaching has the potential to fill the void left by the training of body and mind traditionally performed by religion, with a range of tools to help

us cope with the demands of human existence and assist us in our search for happiness.

Like its equivalent in sports, a personal coach helps train the mind. Comparing athletes to ‘coachees’ is also useful: athletes are usually strong and healthy individuals who work with a sports coach to develop and maximise their talent at any given level. Athletes look to a sports coach to deepen their self-awareness and enter into understanding of the motivational factors that affect performance – and take control of them. In this respect, it’s probably not a coincidence that the athlete is one of the most common metaphors St Paul uses to describe the serious religious life in the New Testament, and it’s possible to think of the coach as performing a similar role to that of the spiritual director for religious people.

Like athletes, ‘coachees’ are strong and healthy people who have chosen to work with a personal coach at a particular stage of their professional or private lives to unfold their untapped potential and deepen self-awareness with the conscious aim of self-improvement. Like athletes, coachees take a coach to be challenged and grow. For this reason, coachees always choose the topic of each session. The coach’s role is to ask clarifying and challenging questions to help deepen self-awareness, define personal values, goals, physical and mental obstacles and motivational factors (whether these are related to pleasure or pain, craving or avoidance), and draw up an action plan. The kind of goals a coachee might have in mind range from career change and work satisfaction to defining and implementing a sustainable and value-based change in life style or outlook.

While coaching has a psychological dimension, it isn’t psychotherapy, and it doesn’t aim to heal or deal with mental pathologies – just like the sports coach who leaves the treatment of injuries to physiotherapists and doctors. The coach’s task is awareness, motivation and action. As Timothy Gallway put it in 1974 in his famous book *The Inner Game of Tennis*: “Every game is composed of two parts, an outer game and an inner game [... This] mindset has grown to extend far past sports – into a way of life.”

According to de Botton, “the specifics of the exercises taught at Buddhist and other retreats are perhaps not as significant as the general point they raise about our need to impose greater discipline on our inner lives.” It’s true that, in coaching, there is no set of exercises, postures, positions or movements to support the mental training. Rather, the bodily dimension is adapted to and defined with each client.

Take, for example, a client who uses a coach to become a more effective speaker. While all speakers focus on developing and preparing content and expression, many overlook the bodily and mental side of public speaking, despite the fact that our bodily and mental state counts as much as, if not more than, what we have to say as a speaker. And both affect the impression we make on the audience. The coach will work systematically with the physical and mental dimension of public speaking, assisting the client in becoming aware of those postures, gestures and breathing patterns that will support and energize him or her in a given situation. The coach will help develop strategies for handling nerves, addressing self-doubt and fear of failure. Above all, the coach will encourage the client to work with the inner dialogue, the things we say to help or punish ourselves before and while we're speaking.

Coaching also has a philosophical dimension that has been particularly developed in the branch known as 'humanistic coaching'. While maintaining a focus on the needs of modern people in the modern world, humanistic coaching acknowledges the legacy of ancient philosophy in the process of training the mind. Few would dispute the ancient motto *mens sana in corpore sano* ('a healthy mind in a healthy body') or Socrates' dictum – 'know yourself for the unexamined life is not worth living'. As Marcus Aurelius put it, 'Look well into yourself; there is a source

offer a structure for dealing with challenges like anger, irritation, frustration, difficult relationships, disappointments and worries, while non-religious people are somewhat left to their own devices. Becoming aware liberates immense resources that allow us to handle such challenges differently than we might have before – and to focus on what matters most.

In my own case, I've worked systematically with a coach on consciousness training over several years. I've been struck by the depth of the insights that have emerged during the process and by the empowering act of questioning one's thoughts and behaviours – and how useful this would have been earlier in life too! I'm still surprised by the persistence needed in the process of 'coming home'. The human mind is a lazy companion that will automatically jump over where the fence is lowest – even when it comes to knowing itself. It takes repetition and practise to implement new patterns of thought and behaviour. In other words, discipline and commitment are a means to an end, but not the end in itself. And to be sure, the process (like life itself) is full of ups and downs, backtracking and progress. Coaching doesn't aim to change this, only to help us live life in the best possible way. The mental training that coaching offers can thus be seen as a secular, rational and yet spiritual alternative to the practice offered by religion.

"The coach's role is to ask clarifying and challenging questions to help deepen self-awareness."

of strength that will always spring up if you look' (Meditations). This shouldn't be read as an invitation to retreat to our garrets, or the ivory tower, and work out the meaning of life on our own. On the contrary, ancient thinkers saw philosophy as a life practice and stressed the importance of interacting with other people. Self-knowledge was something one found through conversation with others. And this is what a coach can help us practise – the art of questioning one's thoughts and beliefs in the pursuit of self-knowledge.

As for the "need to impose greater discipline on our inner lives", my guess is that most people would associate the words 'impose' and 'discipline' with pain and lack of freedom. Although many exercise ruthless discipline over their mind and body in sports and at work, mental discipline remains an unattractive thought. I believe we need to be clearer about the value of training our minds. What exactly do we get out of practising a systematic, conscious and rational training of the mind? How can we implement it?

Of course, none of us gets physically fit from going to the gym once, twice or even ten times. To become and remain mentally fit, we must integrate mental training into our daily routine; for it to work, it has to be motivating. As de Botton points out, religions

When the goal, purpose and method are clear, what de Botton calls disciplined training of the mind can take the form of a mental fitness program – an exciting exploration of what the best version of our life and self look like. So I'll put it boldly: what we get out of the process is a more satisfying life! When, for example, our work with a coach helps us cultivate trust in and forgiveness of ourselves and others, gratitude for what is and acceptance of things we can't control, we increase our feeling of happiness. These are some ways in which non-believers can profit from what looks religious, but which in reality is pure consciousness work and mental training.

To return to *Religion for Atheists*, de Botton is right: the modern world does lack secular institutions to support our development. But we can take the initiative as individuals. A reviewer from *The Times* described the book as one that has the potential to 'improve and alter the way we live'. I agree – but also think that meditating on its insights is best done with a coach that can help us apply them to our lives.



Understanding Islam

Widespread ignorance and prejudice about Muslims has become irrational.

by Sherene Hassan

Aristotle said “It is the mark of an educated mind to be able to entertain a thought without accepting it.” Many of us have become so entrenched in our own ideas, so averse to difference, that we struggle to do this. Nothing exemplifies this more than the xenophobic attitudes that are so pervasive in our society towards Muslims.

As someone who has been a community leader for nearly ten years, I have conducted over a thousand talks on Islam to diverse audiences. I find staggering the level of misunderstanding that exists regarding a religion that dates back 1400 years. Here are some of the areas of contention.

Shariah

The topic of shariah is often met by the wider community with an hysterical response. This is largely due to the abhorrent abuses of human rights carried out in the name of shariah, such as rape victims being stoned to death. Cases like this have come to represent shariah in the West, but most Muslims view this as a departure from Islamic teachings based on pre-Islamic practices, patriarchal misinterpretation and sheer ignorance.

The word shariah means ‘path to water’ and in a religious context, ‘path to God’. The objectives of shariah are generally considered to be the preservation and protection of five things – a person’s life, their religion, their family, intellect and their property and wealth. On this basis, not one ‘Muslim’ country in the world implements a just shariah system. The term ‘shariah law’ is a misnomer. Shariah is not law but a set of principles. Contrary to widespread opinion, and, it must be admitted, the misguided opinion of some Muslims, shariah is not set in stone. It is dynamic and fluid and should take into consideration historical and societal context. The principles behind shariah remain the same, but the practicalities and applications are wide and varied and are adapted according to time and place. They are judged by an individual scholar on a case-by-case basis.

According to Muslim scholar Abdul-Azim Ahmed, the only people who attempted to crystallise and codify shariah were the British Government during the colonial era when they created the ‘Anglo-Muhammadan Law’ in an attempt to better control what was an otherwise democratic and decentralised system.

Because shariah is based on the Quran and Hadith (sayings of the Prophet Muhammad), it is divine and sacred. However, the application of shariah where it manifests in Islamic jurisprudence (fiqh) is the human attempt to understand the divine will.

According to Islamic law, Muslims are supposed to uphold the laws of the land in which they reside, regardless of whether they

live in a Muslim majority or Muslim minority country. The caliph Umar stated, “It is necessary upon a Muslim to listen to and obey the ruler, as long as one is not ordered to carry out a sin.” The term ‘Islamic state’ is not mentioned in the Quran and the Prophet Muhammad himself did not try to implement an Islamic state. It is well documented that the Prophet led a pluralistic society. The Prophet did not impose the prohibitions that existed in Islamic legal tradition on minority groups, so Jews, Christians and Pagans were permitted to drink alcohol, maintain their own places of worship and retain their own dress code.

Islamic empires were multi-religious and multi-cultural, and religious minorities were governed by their own laws. The term “Islam as a religion and state” was coined in the 1920’s as a reaction to Western colonisation of the Muslim world. The fact that there are only 80 legal verses in the Quran out of a total of 6200 further supports the notion that the overwhelming emphasis of the text concerns spirituality. And while it is often stated that Islam is incompatible with democracy, democratic concepts such as shura (consultation) and aqd (contract between the governed and the governing) are inherent in Islam.

Status of women

More than ever, Islam has become inextricably linked with misogyny. One of the contributing factors to this are the many cultural practices that violate the teachings of Islam, yet exist in so-called Muslim countries, such as female genital mutilation (FGM), honour killings and forced marriages.

A recent UNICEF report has warned that more than 30 million of the world’s girls are at risk of genital mutilation over the next decade. This deplorable act is an African tribal practice that predates Islam. Evidence from mummies indicate that it occurred 3000 years ago. In the 21st century, there are Muslim, Christian and animist Africans that practice FGM. Both Christian and Muslim leaders in Egypt have publicly denounced the practice of FGM since 1998. In March 2005, Dr Ahmed Talib, Dean of the Faculty of Sharia at Al-Azhar University, stated: “All practices of female circumcision and mutilation are crimes and have no relationship with Islam.”

The debate about honour killings has been brought to the fore in the wake of shocking revelations about cases in Canada. In response, over thirty Imams from the US and Canada signed a fatwa unequivocally condemning honour killings, domestic violence and misogyny, which was issued by the Islamic Supreme Council of Canada.

On a similar note, forced marriages are forbidden in Islam.

According to Islamic law, a marriage contract is null and void if either of the two parties entering that marriage is coerced into that marriage.

The problem is that the actions of Muslims are interpreted as a faithful and legitimate representation of their faith. Thus, if a Muslim girl is forced into marriage the assumption is that this is because of Islam, not in spite of it. It is assumed that all Muslims, always, act in accordance with their faith -- an essentialised, religiously determined Muslim. This is not only dehumanizing, neglecting the obvious diversity and complexity in how Islam is lived out in individual Muslim lives (1.2 billion lives in fact), it also holds Muslims to a standard to which no other faith community is held. For while we are capable of exercising common sense in not assuming that a self professed Catholic or Jew's actions will be motivated and informed by their faith, we presume that any action, norm or value enacted by a Muslim is a performance of their religion. It is a gross conflation of cultural or individual action, on the one hand, and the teachings of Islam on the other.

Islamic teachings espouse equality between the sexes. This is evident in the saying of the Prophet Muhammad, "All people are equal like the teeth of a comb. There is no merit of an Arab over a non-Arab, nor of a white over a black nor of a male over a female." Patriarchal misinterpretation, however, has undermined these egalitarian principles and resulted in institutionalised injustices against women in the name of Islam. These distorted, gender biased interpretations of the Quran and hadith have been challenged by numerous female and male scholars. Islamic feminism explicates the idea of gender equality as part and parcel of the Quranic notion of equality of all human beings and calls for the implementation of gender equality in the state, civil institutions and everyday life. There are countless examples around the world of women claiming their place in Islamic discourse.

In Turkey for example, 400 female scholars (vaizes) have been appointed by the government to monitor the work done by Imams across the nation. Human rights organisation Sisters in Islam continues to advocate for legal reform and social equality for women and promotes human rights and civil liberties both in Malaysia and worldwide. Saudi Arabia's cabinet has passed legislation recognizing all forms of abuse, including domestic violence as offences punishable by law, a significant breakthrough for female activists in the region.

Although many western feminists claim to champion the cause of Muslim women, in reality their actions are counterproductive. All they achieve by lambasting a faith that has enriched the lives of millions is to alienate the very people they purport to serve. I have encountered many western commentators who perceive Muslim women to be a monolith; victims of a misogynistic religion. They

maintain enlightenment and liberation can only be achieved through the abandonment of Islamic practice and the aping of western culture. To the Muslim ear, western feminist discourse reeks of colonial imperialism. Often feminists only defend a woman's right to choose when she chooses to abandon Islamic norms, not when she chooses to adopt them.

Violence in Islam

Commentators routinely failed to contextualise the verses permitting warfare in the Quran. When Islam started in Arabia 1400 years ago, Muslims suffered persecution at the hands of the pagan Arabs. The Muslims were instructed by the Prophet Muhammad not to retaliate and to persevere patiently. As a result of this divine requirement for absolute pacifism, many Muslims were tortured and killed by the pagan Arabs. After 13 years of suffering, verses were revealed in the Quran permitting the Muslims to fight back against the disbelievers. There are exhortations to peace which in almost every case follow these violent verses; "Thus if they let you be and do not make war on you and offer peace, God does not allow you to harm them." (Quran 4:90).

Sanctity of life is paramount in Islam. It is stated in the Quran (5:32), "If one kills an innocent person it is as if they have killed the whole of humanity." Injunctions to blanket violence against non-Muslims stem from misreading of the Quran and grow out of social and political conflict.

Politicians often employ divisive rhetoric and constantly single out the Muslim community. The more this group is problematised and demonised, the more likely Muslims will become insular and less inclined to engage with the wider community. Commentators are often quick to point out the failure of multiculturalism in Europe and lament that Australia is going down the same path, however, the situation in Europe is vastly different to that of Australia. In Germany, for example, it wasn't until the year 2000 that Turks were allowed to take up citizenship. Professor Jytte Klausen from Brandeis University studied Muslims in six European countries. She identified a direct relationship between restrictive citizenship laws and economic, social and political isolation of Muslims hypothesizing that the greater the hurdles to citizenship, the worse the plight of Muslims.

The vast majority of Muslims are committed to justice and promoting social cohesion. By judging Muslims by their worst examples and tarnishing them with the same brush we undermine their humanity and demean over a billion people -- one in five of those who inhabit our planet. Clearly a more nuanced approach is needed rather than the constant placing of Islam and Muslims in the dock.

Not asking for permission

Moral nihilism is not necessarily an invitation to behave badly.

by Samuel Green

When I tell people I'm a moral nihilist they often respond with, "What a miserable, depressing view you must have of the world." Alternatively, a friend of mine (a self-professed moral nihilist) recently said to me, "It's great to be a moral nihilist; I can do whatever I want." Both parties are making a similar mistake. Moral nihilism is not the pessimistic, negative view its name might suggest.

The moral nihilist denies the existence of any objective moral values: there is no absolute truth about what one ought – morally – to do. But is this the same as saying that one is permitted to do anything? First we need to clarify what we mean by the word 'permitted': there are different types of permission. I can get permission from a friend, Rosie, to drive her car: inter-personal permission. I am permitted to drive her car on the left-hand side of the road (but not the right): legal permission. I am not permitted to chat on my phone at the cinema: social permission.

Moral permission is another type of permission. So when my friend the moral nihilist says he can – is permitted to – do whatever he wants, his claim is either mistaken or nonsensical. Firstly, he is simply mistaken if he claims he is inter-personally, legally, or socially permitted to do whatever he wants. There are clearly legal, inter-personal, and social rules in place that limit his permissions in many ways (he is clearly not legally permitted to commit murder). I am being unfair though; this is not really what he means. He means he is morally permitted to do whatever he wants.

Yet this is nonsensical when considering the basic premise of moral nihilism: morality (at least of a certain kind) does not exist. One cannot be morally permitted to do something without morality there to 'do' the permitting (just as I cannot be personally permitted to drive Rosie's car if she is not there to grant permission). Now it is certainly true that there is nothing that is morally impermissible; but this is not the same thing as saying that everything is morally permissible. Rather, morality just doesn't come into it. Morality does not grant us, nor deny us permission to anything.

We can see, now, the mistake that my moral nihilist friend was making: we may have no moral reasons to limit our behaviour, to curtail our murdering and thieving; but there remain plenty of legal, social, cultural and personal reasons to limit our behaviour.

Now what about the first response to moral nihilism that I

mentioned? How is that making a similar mistake? First, we need to understand what is intended by this response: why people take moral nihilism to be a miserable and depressing view of the world. There are many possible meanings here, but my interpretation in the contexts in which I have experienced this response is that people think moral nihilism encourages selfishness and anti-social behaviour. They are not making the nonsensical claim above: they are not saying we are permitted to do whatever we want, but that without morality to constrain us we will act as though we are permitted to do whatever we want. While this is not nonsense it is still mistaken.

This claim overlooks the many kinds of permission mentioned earlier. Without morality to constrain us we still have legal, social, cultural, and inter-personal rules to constrain us. Let us refer to these constraints as non-moral rules (i.e. the rules that still exist when we take away morality). Some people argue that without morality these non-moral rules would be ineffective or unsustainable. The idea seems to be that we must believe in objective right and wrong in order to be motivated to adopt and maintain such rules. As plausible as this may sound, I find it utterly unconvincing. Do you really only avoid murdering and raping because you believe such acts are objectively wrong? Do you really only rush to call an ambulance for someone because you believe it is morally required? It seems to me that the basis of such behaviour is our sympathy or empathy for the terrible suffering experienced by the victims in these scenarios. We care about each other. We can't help it. As much as evolution may have guided us to look out for number-one, it has also created a species that tends to value other people.

One might object that there are counter-examples. There are murderers, rapists, and others who fail to care about other people's interests. But these are just as much a problem for the moralist to explain: if morality encourages us to follow the non-moral rules (described above), then why do these people continue to break such rules? Clearly, morality does not always succeed at making us follow these non-moral rules. Nevertheless, you might say, we will still make things worse by taking morality away. Morality may not always be successful in this regard, but it is at least sometimes successful. Take morality away and we lose any successes it does have.

This overlooks an unusual sounding possibility: what if

morality can be harmful? We should not just question whether morality encourages us to follow these useful non-moral rules, or whether it fails to encourage us; but whether it might sometimes discourage us from following useful non-moral rules. In other words, we need to do a full cost/benefit analysis. If morality could be shown sometimes to be harmful then the issue becomes far more complicated. Take morality away and we lose its benefits (the encouragement it gives us in following useful non-moral rules); but we also lose its harms (the encouragement it gives us in following harmful non-moral rules).

You might think this is ridiculous; morality could not possibly be harmful. But what about the objective morality which encouraged the Crusades, or which encourages religious extremism today? Richard Dawkins and others regularly argue that religion is a terrible thing, causing a great deal of global suffering. Perhaps it is not religion itself, but the objective moralising that underpins most religious doctrines that leads to conflict and suffering. Indeed, many religions encourage compassion, or tell us “thou shalt not kill”. How can this be harmful by itself? It is when we combine such seemingly positive religious beliefs with the belief that one is on the side of objective morality that we run into trouble. When we believe that any who disagree with us are

If we take morality out of the picture we will continue to act pro-socially for pretty much the same reasons as we do currently.

My beliefs are even more optimistic than that. I do not just think that we will continue to act pro-socially, we will become more pro-social in our behaviour once we take morality out of the picture. Two central features of conflict resolution are cooperation and compromise. It is hard to cooperate with others when you believe they are mistaken about the objective moral facts. Moreover, if you believe you are right about the objective moral facts then how can you possibly compromise? Objective morality is uncompromising by its very nature. Immanuel Kant gave us the categorical imperative that tells us what we ought to do, independently of what we actually want. Unlike hypothetical imperatives which are open to compromise, categorical imperatives leave no room for compromise.

Of course, sometimes a conflict is so fundamental that there is no agreeable resolution; but morality cannot help us when there really is no agreeable resolution.

It may sound like I am mostly talking about large scale conflicts here, such as warfare. However, I think equally important are our small everyday conflicts: conflicts with our partners over household chores; conflicts with our children who refuse a

“Moral nihilism is not pessimistic.”

morally wrong (evil) and deserving of punishment and suffering, when we add objective morality into the picture we find reason to do harm ‘for the greater good’. (Ironically, Richard Dawkins is a firm believer in objective morality, which I think is the source of the very harm he attributes to religion).

If we take away belief in objective morality, not only will we continue to follow our non-moral rules simply because we care about each other, about society, and about ourselves enough to maintain such useful rules; but we may even cease to encourage harmful behaviour.

This is all very rhetorical, you might say. Where is the empirical proof? Excellent question; and unfortunately there is not yet much clear empirical evidence either way. Clearly humans do sometimes have altruistic desires which encourage us to follow the non-moral rules: we genuinely care about other people for their own sake. Equally clearly, humans sometimes have anti-social desires that encourage us to break the non-moral rules. I believe that currently our care for others, along with our self-interest, are enough for us to recognise the value of acting pro-socially: adopting and maintaining shared non-moral rules to govern our behaviour. Moreover, I believe that objective morality is something we tack on at the end to (mostly falsely) explain why we act pro-socially.

healthy diet; conflicts with our parents who try to control our lives; conflicts with our friends who sometimes betray our trust; conflicts with ourselves as we struggle to reconcile our sexual preferences with what we have been taught is morally acceptable. If we can improve the thousands of tiny relationships we engage in every day, if we can become more cooperative and more able to find agreeable compromises on an inter-personal level, surely this is the first step in improving our society’s ability to cooperate and compromise on an international level.

I acknowledge that these beliefs are optimistic in nature. I have found some evidence for them during my postgraduate research, but more research is necessary. For now, my beliefs are a hopeful, excited view of the world and the way we may improve it as the truth of moral nihilism spreads. But there is an alternative view. It may be that we humans, upon learning that objective morality does not exist, lose all constraint. We may unleash our once-morally-controlled viciousness and selfishness as the world becomes a darker place, with even more suffering. It may really be that human nature requires a belief in objective morality to keep our inherent cruelty and anti-social behaviour in check. When I consider this viewpoint you know what I think to myself? “What a miserable, depressing view you must have of the world.”

The logic of many logics

Different ways of defining what is logical.

by Colin Kline

It is often assumed that logic is a touchstone for determining the validity of arguments. But there are many logics. Consider some of the variants. First, and perhaps most readily appreciated is binary logic, also called Boolean logic or deductive logic. This is used in syllogisms. Here is an example:

Major Premise: "All cats have four legs."

Minor Premise: "This animal is a cat."

Conclusion: "(Therefore) This animal has four legs."

There are umpteen ways in which syllogisms can be incorrectly used and there are only a few correct ways. The list of syllogistic fallacies is long: affirmative conclusion from a negative premise, the fallacy of exclusive premises, negative conclusion from affirmative premises, the existential fallacy, the fallacy of the undistributed middle, illicit major, illicit minor, the fallacy of necessity or affirming a disjunct, to name just some. The basis of all deductive/propositional logic is that the premises are binary; they can only be True, or False. A premise cannot be half-true, or half-false. This is formally called "The Law of the Excluded Middle".

Another approach is inductive logic. Whereas deduction is a logical process where 'the general' leads to 'the particular' – that is, a major premise leads to many particular conclusions -- induction is the process where many particular observations lead to a major premise. Thus we are advised to set up sizable test populations, ensure double-blind testing, ascertain means, variances, and correlation coefficients, and only then generalise, or induce a general truth. But then some ninny will cavalierly dismiss such testing by uttering a modern platitude "Correlation does not (necessarily) mean Causation." How did this admonition become so misused and so widespread? One should note: "While correlation does not prove causation, it sure as hell provides a hint!"

A third type is ternary logic. It is still common for computers to be accused of being binary -- only being able to say "Yes" or "No", or "True" or "False" (accompanied by a jerky mime of robot flailings of limbs, spoofing "robot thinking"). It is thought, wrongly, that tiny internal transistors inside a computer can just switch On or Off. Unfortunately, there is utter ignorance about the correct nature of computers.

If a computer contained one, and only one transistor, then indeed such a computer could only assert two logic values. No argument there. But if a computer contains two transistors, then the two transistors – combined – could represent four logic values at their combined output. This is called quaternary logic. If we extrapolate from this, a computer that uses 64 bit logic (that

is, it has 64 output transistors in parallel inside the computer processing unit) then it has $2^{64} = \approx 20E18 = 20$ Exa-logic-state-spaces! Moreover, every logic variable inside the program has this range of truth choice. Between the extremes of Yes and No, a computer can fit such a large range of finely graded answers, that a human could even think that this Digital Computer was not so far different from an Analogue Computer, or "human reasoning". Though individual computer components are certainly bound by binary logic, their combined state space logic becomes much more complex.

Next is statistical logic, or *a-priori* vs *post-priori* premises. To see how this works let us take a premise related to coin tosses. It is asserted that it is possible to find a "fair coin", such that after extensive testing, there is yielded an equal number of heads or tails. This collection of test results is called *post priori* data, i.e., data known after the fact. Some call it empirical data.

This "fair probability" is determined by the equation: $p = h / (h + t)$, where 'h' = number of heads, 't' = number of tails, over, say, 1000 trials, and p = probability, a number between 0 and 1. If it is a fair coin, then there will occur an equal number of head and tails, and $p = 0.5$, or 50 per cent. It is entirely possible that there could occur a run of 50 tails in sequence, but the essence of this "fair probability" is that at each and every toss of the coin, it is equally probable that a subsequent head, or tail, could occur.

Another kind of data is where the probability is determined by the mathematical logic of the test event. If one possesses a fair die (plural dice), then logically there are only one of the six faces can remain upward after the die has stopped moving. Therefore the probability of any face turning upwards is: $1/6 = 0.166666 \dots$ (repeating fraction), or 16.6%. This prior estimate of probability is called "*a priori*" data, i.e. data known before the fact. Some call it predicted data.

Errors are common when people use statistical conjectures. Consider these common examples:

Question: What is the probability of finding an Earth-like planet?

Answer: The probability is one, for it already exists, as Earth.

The mathematical proof goes like this: $p = \text{successes} / (\text{successes} + \text{failures}) = 1 / (1 + 0) = 1.0$. Therefore an Earth-like planet is certain to be found -- and it has been.

Those who assert that our planet and its life is impossible without a creator are obliged to offer data – either *a-priori* or *post-priori* – about their definite number for the probability of a planets existing. No-one has ever offered such probabilities, nor can they offer any justification for estimating such a figure. There is considerable *post-priori* probability about beliefs in

Earthly planets occurring but that is a quite different ‘event’ to a post-priori probability of life supporting planets existing, which is unknown.

Consider another statistical conundrum:

Question: What is the probability for the event of our sun “failing to rise” tomorrow?

Answer: There is no post-priori data for our Sun not rising.

The proof is stated this way: $p = \text{successes} / (\text{successes} + \text{failures}) = 0 / (0 + 1) = 0.0$. Therefore the probability of the event “sun failing to rise” = 0.0.

However, there is much *a priori* evidence (before the event) data about evolutionary life-cycles for our species of star, seen in other galaxies. Our Sun was ‘born’ about 22 million years ago and follows a well known stable evolutionary cycle for its mass and temperature. It will expire in about 17 million years (no cause for concern yet!).

Another probability proposition is known as Pascal’s Statistical Wager. The French philosopher Blaise Pascal said: “We cannot know if a god does, or does not exist; but one has much more to lose by not believing in him/her/it, than by believing, so it’s far better ‘theological insurance’ to believe than not”.

His error? Not properly specifying the betting outcomes in this wager. Should one make a wager on only a xian god, or also on the many Mayan gods, or a pagan god from 10,000 years ago? Should one also wager on fairies, elves, unicorns, and the whole diorama from Valhalla? Worse, perhaps there exists a God who absolutely despises people fawning about him/her/it, and so it would be better insurance not to believe or pray at all. And so on.

Solution? Everyone should properly characterise the outcomes of the probability/wager event being discussed.

This leads us to another area of logic: probability distributions. There exist a great many well known probability distributions (profiles) which can be selected for suitable applications. For example, the Gaussian (or Normal) distribution, is often applicable to biological matters, such as height, weight, IQ, although it is quite inaccurate for adult IQ, because it does not represent the total population, as born. Many handicapped children, with IQ below 85, suffer multiple handicaps, and thus do not survive much beyond age 20. They therefore do not get sampled into the adult profile, although they should, to properly represent IQ over all ages.

To represent such an adult distribution, one could instead employ the F-distribution, where the lower level IQ scores have been “deleted”. Crudely expressed, one is more likely to meet an adult person with IQ well over the average, rather than below! An interesting probability distribution is the ball/roller/taper bearing, as often used in conveyor belts. This distribution is perfectly flat, meaning a bearing under a conveyor belt, or pouring mining product into a ship’s hull, is equally likely to fail five minutes after installation, as 50 years after installation.

Another is the “Electronic Device Bathtub Distribution”, where all such devices – whether a transistor, or a TV, or a whole TV transmitter, have extremely high rates of failure within the first 10 per cent of its life-time (called “burn-in”), and also within the last 10 per cent of lifetime (called burn-out). But it will sail along without any trouble for the middle 80 per cent of its lifetime.

A rather less exalted form of logic is Pub Logic, if indeed it



is logic at all. Who has not heard, in the local rubbity, these “truths”: “Everyone is a liar.” “Ya (no one) nivva knows!” These generally fall into a category known as “The Epimenidean Liar Paradox”, whose shortest version is: “This statement is false.” It is typically backed up with: “and that’s Absolutely true”, or just “Absolutely.” But, for any notion to become an Absolute Truth, it would have to attract the concordance of every observer in the Universe. Gathering results from every observer in the Universe, is currently impossible. We could modify, by asking every observer on this planet. Again, practical experience will undoubtedly reveal discordance about most matters. Even one’s own family rarely agree. So, Absolute Truths? Not bloody likely!

Next is Bayesian logic, which is also termed Fuzzy Logic or Certainty Logic. Alas, the word “Fuzzy” can be used as a derogatory term in English; it can mean “imprecise”, “inaccurate”, “shoddy”, “fake”, “not kosher”, “not halal”. Yet it has now become a serious and respectable word in Maths and Engineering.

Lotfi Zadeh was the creator of Fuzzy Logic, establishing the discipline in about 1970. Soon after, Matsushita Electric Company adopted his ideas, and used it in dishwashers, washing machines, air conditioners, microwave ovens, cameras, camcorders, TV’s and copiers. Nowadays most upmarket luxury cars utilise Fuzzy Logic in their automatic gearboxes for selecting gear ratios, estimating the time of changing gear, disengaging and engaging dual clutches, and limiting the torque applied to any particular gear.

old. Thus h_0 is given certainty 0.1, h_1 certainty 0.1, and so on until we attribute h_9 with certainty = 0.1

Experiments are then undertaken, and normally some hypotheses acquire additional confirming evidence, and others may acquire none at all, or even disconfirming (negative) evidence. Older hypotheses can bring with them a substantive legacy of previous experimental evidence. It is proper that older hypotheses should be tested again, rather than implementing a common error of asserting that only new hypotheses “put-up or shut-up”.

Thus, instead of each hypothesis being equal the certainty profile becomes: $h_0 = 0.7$, $h_1 = h_2 = 0.1$, $h_3 = 0.8$, $h_4 = 0.1$, and so on (note that the sum of all certainties does not have to equal 1.0, as is the case for probabilities). How do we choose between equally good competing explanations? There are several strategies:

1. We say we “don’t know” which hypothesis is best, and use either hypothesis h_0 or h_3 as suits circumstances.
2. We suspend implementing any hypothesis, and say “more evidence is needed.”
3. We demand that any successful hypothesis must surpass its competitors by a large amount (e.g. the “5 Sigma Proof”, in Physics).

After this iterative hypothesis is complete (for the current round of evaluation), the “winning hypothesis” is not awarded the status of “Absolute Truth”, but rather “The Least Wrong Hypothesis” (following the so-named world-wide movement

“Unfortunately, there is utter ignorance about the correct nature of computers.”

This type of logic deals with Real-World-Vagueness versus Digital-World-Crispness. Every day language abounds with vague and imprecise concepts, such as “Sally is tall”, or “It is very hot today.” But crisper (scientific) language would say: “Sally is $152\text{cm} \pm 0.5\text{cm}$ high”, or “Today’s temperature is $30\text{C} \pm 0.2\text{degree}$.” Fortunately, Fuzzy logic provides a scheme for dealing with this imprecision, so often used by humans.

The central notion is that all truth-certainty values fall within the range from 0 to 1. This is quite alarming for those brought up with the well honoured Law of the Excluded Middle. Fuzzy Logic subsumes Boolean Logic, which states that 100 per cent certainty = True, and 0 per cent certainty = False. Fuzzy Logic permits certainty values in-between True and False.

Certainty is not the same as probability. Say there is a new scientific phenomenon, for which there is no fully established explanation yet. Let us postulate that there are 10 separate hypotheses to explain this phenomenon, but there is not much experimental data. Given these 10 contending hypotheses, Bayesian hypothesis selection or induction asserts that we must equally apportion initial allocated Certainty (technically called informatic entropy) between all these hypotheses, both new and

started by Elizer Yudkowsky). These logic certainties do not at all correspond to the probabilities of gaming theory or statistics. Certainty measures the degree of belief in a probability outcome, rated between 0 and 100 per cent. Probability measures how often a particular outcome occurs, as a number from 0 – 100 per cent. Each and every time a probability figure disagrees with factual reality, then the certainty in that probability is reduced. Certainty incorporates past performance, whereas Probability (for example the tossing of a coin) is said to be the same with each test, no matter how many heads or tails appeared in the past.

An analogy may help understanding here. In acoustic engineering, humans’ ears can hear or tolerate an acoustic loudness level from 10 decibels to 110 decibels. But if the sound is speech or music, then no matter how loud or quiet this sound may be, the message becomes incoherent if the Signal-to-Noise-Ratio (a ratio of signal power to noise power) falls below 5 decibels. One may crudely analogise Probability to Loudness, and Certainty to the Signal-to-Noise ratio. They are two different but important aspects of logic, like the two different but important aspects of sound.

The rise of pseudo-science

How to make the rational effective.

by Sean Spence

Despair. For the first time in ages, I launched my little trailer-sailer at the weekend. Almost catastrophically. In front of an unhelpful audience. My internal dialogue was interesting. There's the daemon commenting on what I missed, or did wrong ('you're an idiot'). There's the other one explaining things ('It was gremlins'). And the other, other one who knew what to do and isn't sure why he didn't do it.

This is the path to despair because, obviously, I'm incapable of fixing important things, such as the Planet or Poverty. I'm not alone; despair is more broadly systemic. Recently, Justice Julian Burnside on Australia's treatment of refugees (<http://goo.gl/unplSK>), David Suzuki reflecting on a lifetime of environmental campaigning (<http://goo.gl/2yybDh>), or Yale law school professor Dan Kahan on why political alignment and irrational views (<http://goo.gl/PNS4yW>) touched on aspects of this.

I cope personally with my situation by inventing 'logics' that provide temporary relief, such as the 'gremlins' process. It's a good dodge. My gremlins dialogue gets me off the hook of having real responsibility for working out the task while also getting on with it.

However, it's a bit of a concern to notice how we're using 'gremlin' logic at the societal level for how we're screwing up more broadly. Pseudoscience is filling the vacuum, created by the loss of religion, for dealing with complex questions. Pseudoscience uses a similar explanatory structure to religion. Some foundation 'facts' are held as self-evident truths, based on an unchallengeable 'authority'. An evidence structure is proffered that cannot be challenged, but which feels true because it echoes some facets of our unexplained individual experience. A logic that embeds desire in some form (just as religion embeds our desire not to die) and is in some sense circular ('you've got to believe'). It also explains away, or spuriously simplifies, the actual complexity of phenomena, so that we feel we 'understand' them.

Now, I'm not sure I'm a qualified rationalist and the epistemologists will have better structured arguments around this. I used to be Catholic, I'm trained in Reiki, I'm MBTI accredited, I'm an artist in my spare time and I've done my share of Zen meditation, psychotherapy and other forms of inner exploration. I know the impetus to engage with this pseudoscience stuff, and know how these schemes, can be, actually, experientially very useful (and are getting better understood by neurophysiologists & neuropsychiatrists). But their explanatory frameworks (the existence of Qi, Heaven, auras, the zero-point field) are sometimes simply nuts.

Their power comes from a set of human needs that clearly transcend rational truth. Has rationality, the 'Aristotelian project',

therefore failed? There are some real tasks for any rationalist to undertake. The first step is to address the timeframe. We can feel rational within our lifetimes, without it adding up to rationality across an intergenerational timescale. The fishing industry, for example, has globally destroyed its own fish stocks over the last century. Indigenous cultures have much better frameworks for engaging with long timeframes (elegantly simple and effective, such as coded rock paintings or songlines).

Next, we need to get the system levels right. Personally comprehensible, transactional logic feels solid, like propositional logic, but it doesn't scale up for global discourse. It is rational for me to seek more now to survive as an individual. But it is also rational to seek less on average, over history, for all, if we are to survive as a population. How do we work back from that conclusion to individual consequences?

There needs to be a path. Being right is a form of safety that rationality brings. However, being right is not enough to influence others. The anthropogenic climate argument can be rationally 'right' but fail to persuade. It can sound like 'You're an idiot'. When I'm working with clients, their way forward often means relinquishing an apparently logical set of rules and a corresponding set of assumptions that are collectively no longer working. Yet even when it is blindingly obvious, it is supremely hard for us to make the first step to something different, no matter how right. We need to see a path.

There is a need to explain one's own process. Science is a social process (Kuhn). Scientific truth requires falsifiability (Popper). Science confronts some things that are actually, irreducibly complex (Mandelbrot).

What I'm seeing is a real difficulty amongst politicians and the public in grasping what makes scientific truth true, and not a belief. It must be a core function of the rational community to do a better job of explaining the difference between 'just a theory' (for example Creationism) and 'just another theory' (eg Evolution). Theory, hypothesis, notion, belief, desire – they are different.

Do scientists get these essential points across? Falsifiability and peer validation (or refutation) distinguish scientific truth-making from pseudoscience. While scientific discovery can be deeply disturbing to the discoverer's beliefs, pseudoscience seeks comfort and reinforcement of existing beliefs. The job of rationalists is to address not only individual rationalism, but how individuals can engage with and understand a systemically rational framework. What approach to truth, what logic, will generate a societal equilibrium with the planet and at the same time deal with human desire? However it's done, it needs to engage the feeling that keeps us all moving forward.



Now you see it

A tale of quantum mechanics and academic difficulties.

by Alan Sparx

The price of rationalism is eternal open mindedness. Many in physics today prefer to accept metaphysical notions rather than simply admit that we have no satisfactory explanation to date. A good example of this is the mainstream interpretation of Thomas Young's twin slit experiment, first performed in about 1806. The astonishing results of Young's remarkable experiment provided for the first time evidence that supported Christiaan Huygens 1678 theory of light as a wave.

In 1672 Newton presented to the Royal Society his theory of light as a particle, mainly based on the observation that light travels in straight lines and waves appear not to. Newton's theory had reigned for about a hundred and thirty years, and was now for the first time challenged by Young's results. Then, in 1905 Einstein conducted his one and only actual experiment, (as opposed to his Gedanken thought experiments), the photo electric effect experiment, for which he won the Nobel prize. The results of this experiment are interpreted as strongly supportive of the particle theory of light thus restoring Newton to regality. Thomas Young's results, however, are not easily dismissed, so a whole new theory of light was devised.

For the first time the description of light as having, at the same time, the behaviour of both particle and wave was presented. It is known as wave-particle duality and is one of the key concepts in quantum physics. Einstein's experiment showed that not only did light behave as a particle but also that the energy in each particle may only be of certain discrete values. Enter the term "Quantum" of energy. The particle of light is called the photon. Einstein's comment on quantum-mechanics was "This double nature of radiation (and of material corpuscles)...has been interpreted by quantum-mechanics in an ingenious and amazingly successful fashion. This interpretation...appears to me as only a temporary way out..."

For some reason, what is little discussed is the fact that every other type of wave known to exist is motion of particles of some kind. Why this receives so little attention is a bit of a mystery. It may be associated with the fact that Einstein intentionally left the aether theory out of his description of light. Aether was the medium essential to all of James Clerk Maxwell's equations describing electromagnetism and electromagnetic radiation of which light is a part.

So, what is all the fuss about Young's experiment, done over two hundred years ago? Young, in a dark room, with a single beam of direct sunlight, interrupted the light beam with a large piece of cardboard with a pinhole in the centre allowing a narrow defined beam of light to be observed. This narrow beam he then interrupted

with another piece of cardboard with two slits close to each other, in anticipation of two new, narrower beams of light, as one would expect if light were particles. Much to his surprise he in fact found many more than two beams. Intrigued, he covered up one of the two slits, only to find that the multiple beams disappeared and returned to a single beam of light going through the unblocked slit.

Young came up with the hypothesis that this observable behaviour of light could best be explained by considering light to be a wave, and that, like waves in the ocean, interference between wavelets results in both constructive and destructive interaction (see diagram 1).

Thomas Young's experiment showed that light produces multiple beams, interpreted as an interference pattern. Tiny particles fired at twin slit will go through the slits and collide with the screen producing the dispersal pattern.

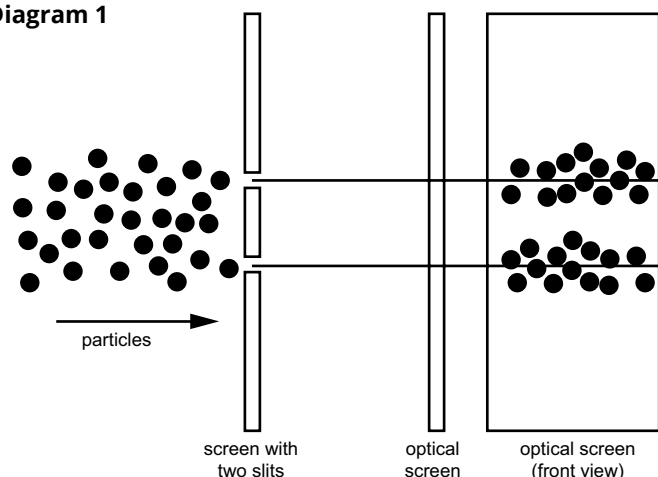
So far, so good. But there was a rabbit hole ahead, in which weirdness became the norm. With the advent of modern electronics it has become possible to measure the behaviour of light in much greater detail. As recently as 1998 in Japan, Young's experiment was repeated with not only photons, but electrons and other objects with mass. This time it was possible to observe and record the results at very high speed. Photons which had passed through the two slit plate were observed to illuminate the screen (see diagram 2) one at a time, but still at the end of the experiment, once enough photons had been allowed through the slits to produce statistical significance, still observable were multiple beams, currently interpreted as an interference pattern!

If you are not saying 'Wow' by now then I have not explained this well. How can a single photon interfere with itself to create multiple beams? Or an electron for that matter? Does the photon go through both slits at once? So. Let's observe when the photon goes through the slit. One photon detector was placed on each slit. The result was, wait for it, no multiple beams! Second 'Wow'!

This is where some physicists opt for metaphysics. Their idea is that the very act of observing the experiment changes the outcome. This may not seem new to philosophers who ponder questions like: "If you are not in the forest to hear a tree fall does it make a sound?". But to non-metaphysical scientists it simply means that we have observed some aspect of the photon detectors of which we are not yet aware.

If it sounds implausible that mainstream scientists would think that it is possible for something with mass, like you and me, to be in two places at once, then you have only to become acquainted with the popular TV show on physics presented by Columbia University Professor Brian Greene. You will find his description

Diagram 1



of each of us being in hundreds of places at once, until someone looks, or observes. Whereupon, where ever we are seen to be, that is the actual place we are, just like the photon which is conjectured to be in both slits of Young's experiment, at once, to create the interference pattern.

For Einstein and this writer such a conclusion is giving up on finding a rational solution. Rather, we simply have not yet found a satisfactory explanation for our observations. Those who consider that the photon detectors in some way affect each photon as it passes through the detector, in such a way as to nullify the photon's ability to create what is called an interference pattern are given little or no research funding. What prevails in physics today is the notion that, by observing, the observer affects the outcome of the experiment.

In this writer's opinion, this is not a rational view of the world and seeking funding for a more rational explanation is a fruitless exercise, as those results are not wanted. The so-called "interference pattern" is routinely observed, having been constructed one photon at a time. Trouble is, if there is only one photon passing through either slit at any one time, interference is impossible. Scientists conducted the same experiments with electrons, and then alpha particles and even with 'buckyballs' which are molecules of sometimes sixty or more atoms. Each of these particles produced to some extent the patterning we have come to call an interference pattern implying that even large molecules are in two places at once.

It seems that some level of 'interference' applies even to particles that have mass – every day stuff of the real world, in

other words. Enter quantum physics where particles, or humans or stars, can not only be in two places at once, but limited only by probability, can be in an infinite number of places at once. Enter the Multi-verse. To hear of infinite universes, some of which have different versions of us is, I think, true metaphysics. We simply wish to acknowledge the source of the strange, some would say, non – rational ideas present in science today.

Other possibilities

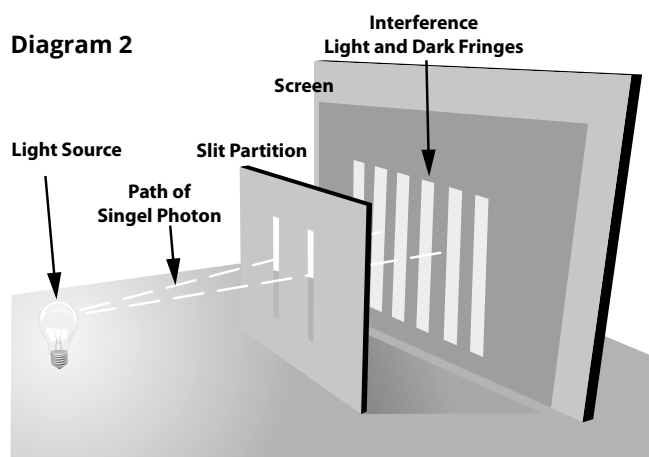
Until 1905 the universe was considered to be filled with aether, the medium through which light passed. Einstein gave us a physics where aether is not necessary. Just because its existence is not necessary for our mathematics does not mean that it does not exist. Many scientists have not abandoned the notion of aether and like Michelson himself, do not accept that the Michelson – Morley experiment of 1887 proved the non existence of aether.

One Australian physicist, Professor Reg Cahill of Flinders University has reviewed the Michelson Morley and later interferometer experiment results and has presented several very exciting papers which appear to me to confirm the existence of what formerly people called aether. For many reasons, beyond the scope of this article, Reg does not use the term aether, or ether, but has a new term for the measurable stuff of space which he calls '3 – space'.

His results should have sent shock waves around the world of physics, yet didn't. It is likely to have far more impact on our future over the next hundred years than the discovery at CERN of the Higgs – Boson which received widespread media coverage around the world in recent times.

Acknowledgement of the existence of an aether -- or whatever it is eventually called -- will lead finally to a rational explanation for Thomas Young's famous experimental results. Perhaps one of the reasons professor Cahill is virtually ignored is that his work

Diagram 2



spells the end for the meta-physicists in physics. His work has also led to a new appealing theory of gravity.

One proposal

In the following, I will use a term of my own making, for the sake of simplicity. The aethon is the name I give particles of the aether, for the purposes of clarity. For the non-metaphysically inclined physicists, one only need think of a photon as one or more aether particles in a temporarily excited state, transferring energy from one instant to another, from one aethon, to another. The existence of aether would explain the fixed speed of light, just as the speed of sound in the medium of air is fixed, with temperature and pressure.

In the universe, these two parameters may be considered the same for the aether, though again this statement requires a very detailed explanation beyond the scope of this article. Many universities have been absolutely closed minded to the idea of aether believing it to be that which must not be spoken of.

This idea, which is not conventional wisdom, is not likely to be examined any time soon in academia. It is hard to escape the

about a third of the way through her research project at Kitt Peak National Observatory, her data was reviewed by committee, which was heavily swayed by a leading extra galactic astronomer, who dismissively said “She is getting this result, it doesn’t fit, it has to be wrong, I recommend that we stop the program”. The committee was swayed and were it not for a department head with integrity Rubin would not have been allowed to complete her research and we would not have the extraordinary revelations on the galaxy rotation problem. Probably we would not be searching for dark matter. Much of Rubin’s early work was controversial. Her case also demonstrates that humility is a scientist’s best friend and that ego and self aggrandisement hamper good science.

The mantras of Western tertiary education today are: make money, support the paradigms and don’t ask questions, lest you be ridiculed, ostracised or dismissed by the keepers of the paradigms. Even doyens discourage questioning. Richard Feynman, founder of quantum electrodynamics, famously said, ‘don’t ask how it works, just learn it!’ He was an excellent physicist and teacher who knew how the system works and had to work within the system.

“This is where some physicists opt for metaphysics”

conclusion that closed mindedness, intellectual laziness and a deficit in rationality and integrity, exist in many faculties in many campuses of the Western world, significantly hampering the search for scientific truth. The graduates and undergraduates who have interesting questions to be answered by research have neither a platform to test science’s current paradigms nor the possibility of employment. A student may produce good data, confirmed by multiple methods and triple checked for accuracy, only to have his or her research stopped or actual data replaced or fudged, to suit current views or what suits the research fund provider. This can happen even when the data is in fact extremely important to the field.

Although this situation is getting worse with modern funding models, it has been there for a long time. An infamous case was that of astronomer Vera Rubin who was actually asked to stop doing her research because the results were not those wanted. It is Rubin’s data that has brought about our quest for dark matter; her tremendously significant work almost did not get into the text books.

Rubin became an astronomer in the days when chauvinism ruled, completing her studies in 1951. She had not been accepted into Princeton because females were not permitted to study astronomy, yet she is today an exemplary multi award winning scientist who has demonstrated the essence of integrity in science. A year, or

British universities once gave graduate research students almost complete freedom and even encouraged sensible questioning of existing paradigms. This is in fact how to get the best of any faculty, though it would probably mean many more students would accept a life of research.

To quote Fred Hoyle, speaking on research in Britain “... graduates were independent and could thumb their noses at the professor, and in fact the best way to get ahead was to do something that the older people didn’t agree with”. Another astronomer supportive of a structural review of our Tertiary education systems is Jack Sulentic, to quote, “I think there is a problem with graduate education. I think graduate education is not teaching students to think, to be independent researchers. I think it’s teaching them to be part of a scientific society, ... especially students at the so called elite institutions; I think they are taught too much the paradigms of their advisor.”

Myopic governments are neither rational nor open minded, when they treat universities as profit making enterprises, in which there is no room for the luxury of true scientific research, which is to say, allow the exploration of unanswered questions no matter where they may lead, and allowing students to pursue those questions that interest them.

How about duty and citizenship?

Consumerism and corporate fads are not enough.

by Sophie Constance



We humans are consuming our future by over consuming scarce resources. One way to address this is to consider the lapsed, or perhaps unexplored, concept of social duties alongside our calls for social rights. We can achieve this by rediscovering our role as citizens. Let us examine a fresh view of ‘duty’ or ‘duties’.

As citizens, we have grown used to mute tabulation of our political will, taught to express our identity in other, more problematic ways – consumption or the rampant, vile comments on social media.

Strong opinions based on our rights could evolve from our values and acceptance and respect for our responsibilities.

What are rights? They are legal, social or ethical principles of freedom or entitlement, normative rules about what is permitted or owed to people according to a legal system, social convention or ethical theory. Rights are often considered essential to civilization, being regarded as established pillars of society and culture. Not surprisingly the history of social conflicts can be found in the history of each right, its development and maintenance.

“There is a huge disconnect between seeing ourselves as consumers and understanding our role as the people of a society and nation.”

Consumerism has taken on a life of its own: credit cards, 24 hour shopping, super sized super deals. This is seen as not only normal but essential for our continued economic growth. Meanwhile we seem helpless to resolve issues such as water rights, rising temperatures and sea levels, the global financial crisis, the worsening rich-poor divide, dwindling oil supplies, uprisings and violent suppression.

To develop a vibrant and interactive democratic system, rather than simply being critical and empowered consumers, we could and should become concerned, engaged and empowered citizens.

According to the *Stanford Encyclopaedia of Philosophy*, “The connection between rights and struggle cannot be overstated.” Rights are not as much granted or endowed, they are fought for and claimed. The essence of struggles past and ancient is encoded in the present political and governance systems.

Most people have a rudimentary knowledge of rights and what their rights are.

“As long as I don’t hurt anyone I have the right to do anything,” says Jack. Yet if Jack were entirely right, our society could be crumbling. Does that mean that if everyone decided not to work

because they wanted a quality life that it would be in the best interests of the nation? What would happen to business, services and infrastructure. Wouldn't it all collapse?

Remember the chaos that occurs whenever just one sector goes on strike or a train is broken down and hundreds of commuters are stranded. Whether they like it or not their carefully planned lives have to be interrupted. Don't they have a right to efficient and safe transport?

The debate over rights is strong in Australia. However, it seems quite strange that hardly anyone seems to talk about the

becoming involved in societal and community issues. It fosters engagement in the running of society – and it needs to begin with our youngest citizens.

If children are encouraged in this direction, they will interpret, in their own way, how to achieve this. Rather than seeing community or environment issues as separate add-ons, as they're so often seen in business, all these interconnected parts of life will be integrated and be more transparent.

This more engaged approach would lead to an easier transition into the workforce and, hopefully, result in employees who are

“It is as if duties are invisible. We need to consider a fresh view.”

equally important, if unrecognised, area of duties. It is as if duties are invisible. We need to consider a fresh view.

When we have our rights satisfied, we experience ease, peace, and security. This privilege, though, has a sister. Like yin and yang, we can achieve a balance to view these issues more holistically and comprehensively. Within the contentment of having our rights met, it could lead to a recognition of what, if anything, we are passionate about and in turn align into a sense of duty, to contribute to the society we live in. Duty usually refers to an act or course of action that is required by position, social custom, law or religion, as in ‘do your duty for the country’ or for the family honour.

Much is now assumed. Over time, many people have fought for democracy. Through the fight against injustices over race or gender, against political and social corruption and the like, society has become stronger and more protective. We are fortunate to live in a safe, structured society where we don't have to worry about the issues that affect our general well-being, issues that form so much of the struggle for existence in many less privileged societies. Although terrorism has changed things globally, on the whole we are still relatively lucky.

To our shame, though, many of us have become disengaged with civic life. The general consensus is to take things for granted and shrug off responsibility: someone else will always do something about it, or the government will take care of it.

It is not enough to expect others to take care of things. Every one of us has rights and duties – and duties are a more effective way of engaging with people than ‘responsibilities’. The current fad for ‘responsibility’ is overstated and lacks effectiveness. Responsibilities are usually didactic, whereas duty implies ownership and making up one's own mind, leading to action.

The principle of duty is significant in a number of ways. It goes towards rebalancing consumerism, through an increased focus on what we put into society, not just what we take out of it. It leads to a greater sense of individual meaning in one's life, through

more capable of working in an integrated manner. Currently, most businesses are working in silos – segregated parts which may not be fully aligned to the core business strategy, other departments, and stakeholders. This is highly inefficient and unproductive, duplicating effort and wasting resources.

The silo approach is also responsible for the failure of corporate social responsibility (CSR). Without employees living the values of the organisation and without integration of those values throughout the whole organisation, not just at the top tiers, CSR is simply not effective at engaging people. It doesn't offer a sufficient level of involvement. It is usually too prescriptive and may not in fact describe the company's real approach to business. Jericho Chambers describe CSR as an “ugly discipline, a perfect example of a secondary market created through the failures of leadership and shortcomings of the market.” In other words, slight tinkering at the top of business, as usual. It is interesting to note how many once-successful now failed companies such as Enron, WorldCom, One-Tel, and HIH all had glowing and in some cases award-winning CSR reports.

Usually, CSR is part of a specific department, unaligned with the rest of the people and organisational divisions. That is a faulty approach. Instead we should look to corporate citizenship, which is congruent with the whole notion of a citizen and relates to a more complete societal picture of the role of the individual -- not just in the office, but as a person, a citizen, in all parts of society.

The next issue to tackle is rebalancing consumerism and culture so as to re-discover what it means to be an ‘engaged citizen’. There is a huge disconnect between seeing ourselves as consumers and understanding our role as the people of a society and nation. During the Howard administration, the word ‘citizen’ was not even uttered, except as an immigration issue. We need to renew citizenry and become engaged citizens. Employers need to be reminded that their employees are citizens too. Schools should teach this area in conjunction with sustainable consumption and production. Future Australians will develop a greater sense

of personal ownership of their duties and role in life, with less emphasis on the consumerist culture and its accompanying apathy and disillusion. Fostering engagement from a young age will strengthen tomorrow's adults and leaders.

Recently there has been an explosion in the use of online social media and "clicktivism", a term coined by journalist Micah White in 2010 referring to the growing trend whereby activists can participate in social movements through their laptops or smartphones. But how much of that is constructively harnessed for more effective democratic outcomes and social and political progress beyond protests and boycotts? Evidence from 2010 shows that the number of Australians belonging to the major political parties has halved since the 1960s. With this lack of interest comes a lack of knowledge. Most Australians, says Professor Andrew Leigh in *Disconnected*, know just the basics of our political system.

The fundamental problem with clicktivism, as Micah White observes, is that it only values what is measurable. Clicktivism neglects the vital, inner immeasurable personal epiphanies of which great social ruptures are made. The history of revolutions demonstrates that upheaval is always improbable, unpredictable and risky. A few banal announcements about democracy in action along with an online petition will not usher in social transformation.

This type of activism tends merely to stroke people's desire to "do the right thing" rather than engaging them in meaningful political struggle. Policy development would be best commenced in person and then maintained via online communities.

Policy development should also have a central focus on duties, along with rights. This applies to new citizens when they are naturalised. While politicians posture in the media about teaching immigrants 'Aussie Values', the essential basis of 'mateship' is responsibility to those around us, not rights. Through a more coherent approach to teaching the balance of duties and rights, rather than knee-jerk criticisms, we can have a more integrated multiculturalism, as opposed to enclaves of communities that are segregated, a situation that routinely leads to socio-economic problems such as unemployment, illiteracy, boredom, frustration, crime and addiction.

In 2005, Britain introduced a National Citizenship Test to improve integration, testing new citizens' knowledge of systems and political institutions. After the riots at Cronulla around Christmas 2005, Australia decided to introduce a similar program, announced on 1 October 2007. The test's objective was to prove an applicant's grasp of the English language and understanding of Australia's 'values', history, and traditional and national symbols.

We could, however, implement a broader citizenship test with a worthy incentive for taking it not just for new immigrants but existing citizens. For example, to renew vehicle registration, you would have to undergo and pass the test; otherwise you would not be allowed to drive. Refreshing our memory with these principles would be a bit like the renewing of vows, a strengthening of social capital.

Not many countries actually have duties stated in their citizenship charters; most only list rights. Canada is one of the few to include duties, although it is referred to as responsibilities. There is debate in Australia about having a national Bill of Rights charter. Victoria has had a rights and responsibilities charter since 2006.

The key issue is the relationship of public and private worlds, according to Dr Steve Kreis, Professor European History at Meredith, North Carolina. The ancient Greeks, the founders of democracy, did not really see two distinct worlds in the lives of the citizenry, public and private; rather, the two were joined, ensuring the proper functioning of the society. All citizens were intimately and directly involved in politics, justice, military service, religious ceremonies, intellectual discussion, athletics, and artistic pursuits. Greek citizens did not have rights, but duties. To shirk one's responsibilities was not only rare but reprehensible and socially disruptive in the eyes of the Greek citizen.

Australians are increasingly dependent on their government. Doing things for ourselves tends to be undermined by the welfare state and large government. The moral requirement is that individuals make a contribution. Sadly, the need to contribute to your own wellbeing wherever possible has been lost in our policy debate.

Greg Lindsay, of The Centre For Independent Studies believes that "without personal responsibility, an activist state will continue to take over more functions that individuals could do themselves." Without personal responsibility, compassion can be taken advantage of and caring can become unsustainable. The chaos in southern Europe is an example of how things can turn out.

If we understand the significance of democracy, and especially our role in society, then we need to become part of the democratic process: engaged in the issues of our society. There are many potential positive outcomes, the largest of which is forefronting our constitutional right to democracy, rather than leaving that in the background. We have a duty to maintain our freedom.

Before considering the issue of rights, we should work towards a fuller picture of what type of society we would like to have, where we foster not only Australian rights but also personal duties. In some cases, like the National Disability Care program, there has been bipartisan support and citizens are happy to pay a little extra for the greater good. In many others, such as the personal wellbeing issues of health and obesity, government action is viewed by some as too interventionist. The issue of personal responsibility needs to be examined to arrive at a more realistic view of what we want from our government and how and why we must make our own contributions.

By focusing on duties we can create a total citizens' charter and benefit the whole nation. And this should go beyond just another document to influence people to explore living this way. It should become part of a shared governance model to counteract the current political dysfunction.

Best we forget

by Kevin Childs

What will it take for Australia and Australians to recognise the history of atrocities that marked white settlement? Back in 1981 Henry Reynolds published a pioneering work, *The Other Side of the Frontier*, showing what historians had ignored. He followed this with *The Law of the Land*, six years later, then books that were correctly characterised as morally charged, such as *This Whispering in Our Hearts* (1998) and *Why Weren't We Told?* (1999).

Yet, despite these and other outstanding works, little has changed. Along the way, the so-called history wars popped up, with bizarre and unsteady efforts to say the slaughter and the atrocities did not happen, or were only on a small scale. Arguing about just how many Aborigines were killed in various attacks seems about as morally valid as contesting the number of people gassed by the Nazis.

Leaving aside this pathetic wrangling, in this important, vigorous book Reynolds goes straight on the attack, seizing on the 'relentless, lavishly funded public campaign to make war the central, defining experience of national life'. This campaign will grow as we approach the centenary of the Gallipoli landing and will 'inevitably elbow aside all other competing interpretations of our history. Bravery on the battlefield outshines all the achievement of civil society. The soldier, not the statesman, has become the paragon of national achievement'.

But not the black soldier who defended his or her land. While Aborigines who fought in foreign wars are honoured at the National War Memorial in Canberra, those who took up arms as their duty in the face of an invasion are shunned. Without any intended irony, on the other side of Lake Burley Griffin is Reconciliation Place, chosen arbitrarily to recognise 'the importance of understanding the shared history of Indigenous and Non-Indigenous Australians' and commit to reconciliation as an important national priority. Among the monumental artworks one installation marks service in 20th century wars, but nowhere is there a mention of the wars in every part of the continent from the 1790s to the 1930s.

There is, however, a memorial near Mt Isa to mark a battle during the slaughter of perhaps 900 Aborigines in the six years to 1884. The Kalkadoon won a big night attack in January 1883. This is remembered by a plaque of a warrior. I was sent a photo of the plaque. It is riddled with bullet holes. One can but imagine the outcry if any of the thousands of war memorials across the country were to be shot up.

Australia's approach to this central part of its history was summed by the great anthropologist Bill Stanner in 1968 as '... something like a cult of forgetfulness practised on a national scale'. Yet we were told by Bill Deane and Mary Gaudron, sitting on the

High Court in the Mabo decision in 1992, that the 'conflagration of oppression and conflict' was to 'dispossess, degrade and devastate' the Aborigines, leaving 'a national legacy of unutterable shame'.

Not for us however, writes Reynolds, any examination such as the Germans did of the Holocaust or the searching and traumatic public investigation that South Africa undertook after the end of apartheid. 'Aborigines declared that memory must be kept alive, that coming to terms with the past was a prelude to true reconciliation'. Forget it.

The start of all this could roughly be put at the decision by Governor Arthur Phillip to send for the heads of ten clan members after his convict gamekeeper was speared in the chest. One person present that December day in 1790 noted that while the innocent might suffer, the punishment of a few would be an act of mercy because it would impose peace. So it began. The aim was to 'infuse a universal terror' as the leader of the futile hunting party, Lieutenant Watkin Tench, later wrote.

This, writes Reynolds, was an example of a military commander treating the Aborigines as enemies of the state. 'Violence necessarily underpinned the whole colonial project'. In Tasmania the solicitor-general echoed this, declaring the Aborigines in a state of warfare with the King, meaning it was open season on them. No one was ever tried and convicted for crimes against them.

Martial law, harassment, slaughter and eventually exile to offshore islands was the fate of Tasmanians, while over in the West the Governor impressed on colonists the need to carry guns for protection. And in Queensland, like Tasmania, the talk was of the need for extermination. Such was the fear among settlers that some women practised for half an hour daily with their revolvers, carrying them everywhere. Arsenal of Colt revolvers, Snider rifles and double-barrelled guns were everywhere, as a Queensland paper reported in 1885 of the 'constant border warfare on the verge line of settlement' '...when they rob, steal or murder, they must be treated as enemies to the state and shot down...' opined the *Rockhampton Bulletin* in 1870. The wisdom of the frontier was that only a display of awesome force could tame such a savage race.

The para-military Native Mounted Police were wheeled in on the frontiers of Queensland and NSW, including Port Phillip. White officers commanded young Aboriginal men in carrying out the 'dispersing' of Aboriginal camps. The Queensland Parliament was told in 1880 that these troops dispersed Aborigines and patrolled to drive them from contact with settlers. For Queensland, writes Reynolds, this meant 'a protracted and highly destructive form of warfare' over the second half of the 19th century.

Townpeople saw or heard the shots as families were gunned down and then burnt.

‘They saw the defeated remnant living in fringe camps on the outskirts of most towns. Saw them bashed and routinely humiliated. Heard townsmen boast of gin-busting forays into the nearby camps.’ This is the truth of history that needs to be understood and acknowledged.

Colonial consciences were eased by ideas about evolution now seen as barmy. After all, he writes, the white race had been selected by cosmic forces to rule the world, deliver civilisation and replenish the earth.

The same punishment was handed out for the systematic and skilful use of fire to create open, lightly wooded grasslands that the settlers found so appealing.

A conservative estimate is that between 25,000 and 30,000 Aboriginals died and between 2500 and 300 settlers – scale on the level of casualties in the two World Wars. And so they were brought in, malnourished, so that they would beg, scavenge or work for nothing. Their camps on the edge of towns were often without sewerage, clean water or rubbish collections. The death rate was fearful.

More than this, the killing of mature men and the kidnapping of young women and children disrupted a society governed by complex rules and kinship obligations. The custodians of law, and rich oral culture were gone. Sacred objects were stolen by marauding white men and artefacts destroyed. Coupled with the loss of land and sovereignty, it was the perfect formula for destruction.

Aboriginals had practised a sophisticated form of land management that was far removed from the European presumptions about hunters and gatherers. The vast stone fish and eel traps in western Victoria are but one example of evidence of this. Most whites could not comprehend the complexity of kinship networks and the Aborigines’ world of territories and linguistic boundaries that ran in parallel with strong traditions of independence. These were locked in with cooperation, through trade and ceremonial exchanges. Nor could they come to grips with a central issue, as shown by the High Court’s inability to deal with sovereignty. As Reynolds writes, ‘There is no authoritative determination of whether the Indigenous nations exercised a form of sovereignty. There is no account of how the Crown acquired that sovereignty and when it occurred.’

This book should be on the national school syllabus. That would be a small step towards ending what Reynolds sees as the gulf that still separates black history from white history.

Forgotten War, Henry Reynolds, University of NSW Press, \$29.99.

I thought I knew who I was

by Warren Bonett

Who are you? What can be known about you? And who knows it? Imagine all the bytes of your identity floating around you like a cloud of data points. Each mote representing a fact. Connecting them up we might find that you are a confident 28 year old white male with unrequited travel aspirations; you like black gadgets more than silver ones; you are more *Star Trek* than *Star Wars*; you like geek t-shirts, indie music and play the online game Nation States; you like others to think you’re knowledgeable about things and feel vulnerable if they don’t — so you’re happy to embellish a point in order to stay comfortable; oh and you currently have 8 web pages open on your phone, one of which you’d prefer no one knew about. Millions of these factoids are produced, sifted and collated by various companies and governments. This is the realm of Big Data and it is the astonishing landscape in which the two nonlinear storylines of *Lexicon* are swiftly laid bare.

First we meet Wil who’s seriously confused as to why people are sticking needles in his eyes and killing each other to tell him what to do. Next up is Emily a street kid/card hustler who tries to con the wrong guy and then finds herself being flown first class across the country to a very strange and exclusive school. Peppering both storylines are the Poets, people whose ability to persuade is so complete you’d kill yourself to prove it. Eliot, Yeats, Bronte, Plath and Woolf whose real identities, needs and desires remain concealed behind expressionless faces and words. They are members of a shadowy unnamed organisation whose international reach provides it and them with power unrivaled in history.

Poets are armed with a comprehensive ability to rapidly assess your psychographic segment (the answer to that, ‘who are you’ question) and then use a type of primal language tailored with this information to slip past your neural defenses. If you crossed Noam Chomsky with Mr Smith from *The Matrix* a Poet is what you’d get. Masters of language, a touch paranoid and very dangerous.

There have been a number of sci-fi books that describe the power of language to control people. Neal Stephenson’s *Snow Crash* was one, *The Babel Effect* by Daniel Hecht another and of course *Dune*. All excellent books and *Lexicon* easily deserves to stand alongside them.

In his previous book, *Machine Man*, Barry deftly wielded the big themes of artificial intelligence, neural plasticity, consciousness, corporate responsibility and ethics into a compelling novel. It was the most entertaining read I’d had since the aforementioned *Snow Crash*. *Lexicon* is every bit its equal. Not only are the central concepts smart and the characters beautifully fleshed out, but the

storyline moves like the car chase scene in *The French Connection*. And the writing itself becomes invisible, as the story takes you into the early hours of the morning.

Lexicon is an ingenious blending of psychology, great storytelling and social issues. The novel leaves me in no doubt that Max Barry is a poet.

Lexicon, Max Barry

Published by Hachette. 2013.

The Future of Blasphemy

by Ken Wright

The *Shorter Oxford English Dictionary* defines blasphemy as “profane speaking of God or sacred things; impious irreverence”. Under Mosaic law, blasphemy was a direct offence against God, to be punished by death through stoning by the entire congregation. (Leviticus 24:16)

It is not difficult to see the rationale for this penalty. Jehovah was seen as a vengeful God whose wrath would fall, not only on the blasphemer, but also on anyone who tolerated the blasphemy. Inflicting the death penalty was a convincing way of demonstrating one’s intolerance, and stoning by the whole community would show that the horror of the offence was shared by all.

Today, Western societies are not too worried about how a deity might react to being verbally abused. In Great Britain, no one has been executed for blasphemy since 1697. In France, blasphemy is not a criminal offence except in Alsace-Lorraine where, for some strange reason, the German penal code applies. In the United States, the First Amendment to the Constitution protects blasphemers against prosecution, even in those States which still have unrepealed anti-blasphemy laws on their books.

In Islamic countries, however, a very different attitude prevails. The penal code of Pakistan prohibits blasphemy against any organised religion, with penalties ranging from a fine to death. Kuwait and Saudi Arabia also retain the death penalty; in Indonesia the maximum penalty for blasphemy is five years’ imprisonment. In Europe, though the penalties are less drastic, prosecutions for blasphemy can still be launched, sometimes successfully.

In 1948, the United Nations issued a Universal Declaration of Human Rights. Article 19 of that Declaration guarantees freedom of expression; Article 18 guarantees freedom of religion and conscience, including the freedom to doubt and dissent. These freedoms having been universally recognised, how can blasphemy still be subject to criminal sanctions? It is with this question that

The Future of Blasphemy, by Austin Dacey, is largely concerned.

The United Nations Declaration was merely an assertion of those freedoms. It was followed in 1966 by the adoption of International Covenants on Civil, Political, Economic, Social and Cultural Rights, which came into force in 1976. Together, these documents constitute an International Bill of Rights, but the United Nations has no means of enforcing it.

This stands in sharp contrast to the European Convention on Human Rights (ECHR), adopted in 1953, which is binding on all member states of the Council of Europe and is enforced by the European Court of Human Rights. Article 9 of the ECHR reads:

“Freedom to manifest one’s religion or beliefs shall be subject only to such limitations as are prescribed by law and are necessary in the interests of public safety, for the protection of public order, health or morals, or the protection of the rights and freedoms of others.”

The most controversial of these limitations is the last one. Do the rights and freedoms of others include the right not to be offended? The judgments in two cases decided by the European Court of Human Rights seem to be based on conflicting answers to this question.

In 1994, that Court ruled on a play which presented a decrepit and feeble God, a wilful and lascivious Mary, and a cretinous Jesus depleted by the continuous consumption of his flesh and blood by his loving flock. On this occasion, the Court took the view that, in a pluralistic society, believers “must tolerate and accept the denial by others of their religious beliefs and even the propagation by others of doctrines hostile to their faith.”

Two years later, the Court considered a publication which alleged that the Prophet Mohammed had broken his fast through sexual intercourse. On being convicted of blasphemy in a Turkish court, the publisher appealed to the ECHR. But the Strasbourg Court upheld the conviction on the grounds that it was necessary “to provide protection against offensive attacks on matters regarded as sacred by Muslims”, thus meeting “a pressing social need”.

The author comments:

“The thought that it is the majority audience and not the blasphemer whose liberties are in peril is, on its face, preposterous. And yet, the Court adduced no evidence in support of this claim. (p.82)”

Great Britain repealed the common law offences of blasphemy and blasphemous libel in 2008, but that country now has a Racial and Religious Hatred Act which criminalises threatening words or behaviour intended to stir up hatred. What is important in practice is how such provisions are interpreted by the courts. Two British court decisions cited by the author (pp. 85-7) show how tempting it can be to collapse provocative religious criticism with hostility towards the members of a religious community.

Though Australia is not mentioned in the book, it is worth

-- continued page 46

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noting that section 18C of our federal Racial Discrimination Act prohibits any speech or text that is “reasonably likely to offend, insult, humiliate or intimidate” listeners or readers. According to Professor James Allan of the University of Queensland, this provision has been interpreted by the courts, bizarrely, as one to be judged through the eyes of a reasonable member of the criticised group. In other words, it is those claiming to be victims who will be used as the test of what offends, insults, humiliates or intimidates. (*The Australian*, 9 July 2013)

The book’s overall thrust is conveyed by this excerpt:

“The best the state can do is maximise the freedom of citizens

to participate in the public deliberations that will influence its actions. That means refraining as much as possible from interfering in public discourse by way of content-based regulations that prevent certain viewpoints from being heard. (p. 101)”

The scope of the book is extremely wide, ranging from the legends of ancient Greece and the Indian Vedas to recent debates in the United Nations Human Rights Council. The philosophical analysis is profound, and the bibliography massive.

The Future of Blasphemy: Speaking of the Sacred in an Age of Human Rights. Austin Dacey. Continuum Books, London, 2012.

Australian Rationalist

Journal of the Rationalist Society of Australia

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To promote the fullest possible use of science for human welfare.

To promote a secular and ethical system of education.

Freethought in Europe Today

published in The Rationalist, 1938.

In view of the World Congress in London some notes on the position of Freethought on the Continent are of special interest to us today.

France

Freethought reached its highest point in France in 1905 when the International Congress was held in Paris. Between 100,000 and 200,000 Freethinkers took part in a procession to the then recently elected statue to the martyred Chevalier de la Barre at Montmartre. Enthusiasm subsequently waned and the National Federation lost interest and members. We are now witnessing a revival of interest. Faced with the menace to liberty presented by the Fascist organization, the Croix de Feux.

Czechoslovakia

At the present time we are all keenly interested in developments in this country which is menaced by Hitler's mad dream of a greater Reich extending to the East. All churches are established in Czechoslovakia, and all shades of religious thought are entitled to conduct classes in schools. Czech freethinkers are turning this regulation to their own end and have established classes in secular moral instruction. In November 1937 there were 38 such classes in Prague, 40 in Brno and 10 in Pardubice.

Belgium

Limited broadcasting facilities are granted freethinkers in Belgium. The school system is nominally secular, but grants are given to Roman Catholic schools so that in some communes the only schools are Catholic.

Luxembourg

Owing to local circumstances, the Freethought Association has been forced into political activity. "In Luxembourg many Catholics were forced to stand shoulder to shoulder with Freethinkers on a political platform and from this were led to what the Freethinkers had to say on religious matters. A satisfying increase in membership resulted.

Switzerland

The position in Switzerland is not so encouraging. Protestantism is disintegrating and Modernism spreads, but there have been disintegrating forces within the Freethought ranks. Reorganisation has taken place and it is expected that this will lead to revived strength.

Germany

The German freethought societies are denied a legal existence. It is significant that the German representatives at the World Congress are refugees of the Nazi regime. The German Federation now works from exile.

Russia

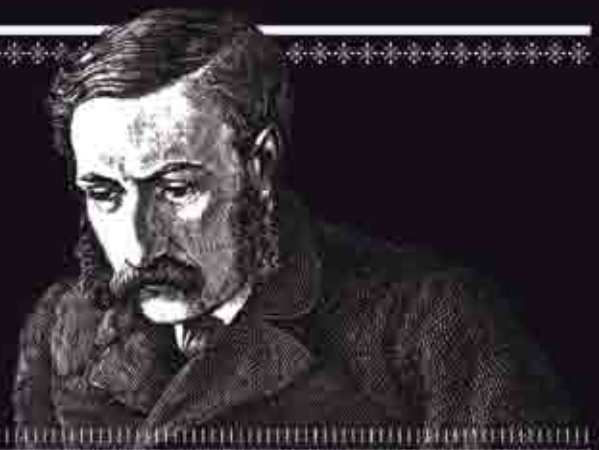
For the first time in history we have in the U.S.S.R. an administration which consciously and of set purpose takes science as the salvation of mankind. This devotion to science as the instrument of man's command of nature is of greatest importance. There has been an explicit denial of the intervention of any God in the universe. Marx and Engels took up a position of uncompromising atheism and Lenin insisted on a resolute denial of there being any manifestation of the supernatural. It is not surprising that the Soviet government completely secularised all schools and that the social atmosphere is unfavourable to the development of supernaturalism. Sydney and Beatrice Webb, in their detailed analytic and critical survey of the whole structure of Soviet Communism, say that as far as they can ascertain there is nothing that can properly be termed persecution of those who hold any religious creed. It would seem that the position is this – that just as in Australia the whole social atmosphere is unfavourable to atheism and its propagation, and religion is given a good deal of support in official quarters (for example the Prime Minister's call to prayer), so in the U.S.S.R. supernaturalism finds itself in an unsympathetic environment and official support is given to a purely secular view of things.

Freethought propaganda is undertaken by individuals, local groups and societies all combined to form the "Union of Militant Atheists". In 1929, when this Union was formed, it counted 9,000 local branches with an aggregate membership of half a million. Within the next few years the numbers increased to over 70,000 with an aggregate membership running into the millions. Over 100 different racial and language groups are represented. There is an illustrated weekly called "Besboshnik" (The Godless). In November 1937, the circulation of this weekly was 150,000. A popular scientific review, issued by the Union of Militant Atheists exceeds 35,000 copies a month. The Moscow Society provides 2400 lectures in 12 months.

Summing Up

It will be seen that there are grounds for optimism in this survey. Admittedly, these are difficult times for Freethought groups, particularly in the totalitarian states. But in such times as these, "the times try men's souls", we are also faced with great possibilities. A progressive policy that takes into account the realities of the present situation can win to our cause those who in settled times would be indifferent. We in Australia are part of a world movement which is playing an important role in the defence of that freedom of the individual, which is fundamental in rationalism, and which also provides the fundamental basis for a good society.

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