
Achieving wisdom: how to seek out truth

DR GEOFFREY CHIA

Dr Geoffrey Chia is a cardiologist practising in Brisbane. He believes we should focus less on the seductions of flashy technology and machines that go 'bing' and place greater emphasis on the pursuit and practice of wisdom. It's wisdom that will save the world. He believes wisdom can and should be taught to children in schools.

clude that although it may have been fun to let the hairless apes run the lab for a while, in the long run it was probably a bad idea.

So when I say we need to 'save the world', I refer to saving human civilisation and the present ecosystems we depend on. It is an entirely selfish proposition.

Your next question then may be whether humanity and our ecosystems need saving in the first

place. The answer is a definite, indisputable, unequivocal 'yes'. The blind optimists and economic simpletons who favour an endless grab for natural resources and unbridled profligate consumption to generate short-term profits would like nothing more than to label people such as myself Chicken Little alarmists. Common arguments by them are:

1. Life now is materially better than ever before in the history of humankind, so what the hell are you talking about?
2. Malthus was wrong, therefore human populations can continue to increase indefinitely and exponentially.
3. The Club of Rome was wrong.
4. The collapse of ancient societies is irrelevant to modern civilisation.
5. The famous bet between Paul Ehrlich and Julian Simon in 1980 regarding the future prices of five metals was won by the optimist, Simon.
6. Global warming may not be real, and even if it is, perhaps the benefits may exceed the disadvantages or perhaps we may break even.
7. New technologies will save us.
8. The free market will save us.
9. God will save us.
10. The 'end times' are nigh anyway, hence we needn't bother. Good Christians will rise up to

Seeking truth in science and medicine

I guess you have made your name in the game of fame when you receive hate email forwarded via the ABC. That's the badge of pride I now wear following my previous *Ockham's Razor* presentations on Radio National in June 2005.

After my talk entitled 'Science versus Pseudoscience, Truth versus Lies'¹, one irate individual took exception to my ridicule of Graham Molitor, the former American presidential adviser and global warming denier, and said I should stick to cardiology. Another revolted against my assertion that the invasion of Iraq was primarily about oil, arguing that, because the Americans didn't say so, it couldn't have been so. Such revolting people cannot be answered with one-line replies; hence this elaboration.

What I wish to say encompasses a wide range of seemingly disparate issues that can probably be summed up under the banner of 'how to save the world' and that, ultimately, boil down to just one thing: the application of wisdom. But *does* the world need saving in the first place, you may ask. This planet will continue to exist for billions of years to come, albeit with a rather different biosphere, irrespective of all human activities, whether destructive or constructive. In the long run, human existence is monumentally irrelevant to the rest of the universe. Our presence here represents but a tiny blip in the geologic and evolutionary timescale of the earth. Even if global human civilisation were to collapse as a result of nuclear Armageddon, climate change or petroleum depletion, the biosphere will ultimately recover, whether it takes a thousand or a million years. To paraphrase the archaeologist Ronald Wright, nature will merely shrug its shoulders, move on and con-

heaven in the Rapture, and vile sinners (like the author) will suffer in well-deserved torment on earth in the ensuing chaos.

That last point may sound utterly ludicrous to you, but it was and is seriously taken by many of the evangelical persuasion, including the late US president Ronald Reagan. The ten points above are misleading at best and deceitful at worst. Rebutting them is beyond the scope of this article, and in any case they have already been comprehensively demolished in



the exhaustively researched books by scientists such as Jared Diamond, Ronald Wright and Tim Flannery.

I am not a climate scientist, environmentalist or economist. What possible constructive contribution can I therefore make to this debate?

I would argue that the solutions to our global problems will require multidisciplinary input from experts in many fields. I would argue that the single factor required to bind these experts together to make the right decisions to achieve favourable outcomes *must* be — *has* to be — the element of wisdom.

I cannot claim to be a particularly wise individual, however I have had the good fortune to learn the tools of wisdom from my training in and practice of medicine. I would argue that we *can*, we *should*, we *must* adopt many, if not *all* the principles of good medical practice as we cobble together the curative prescription for this sick civilisation of ours, and for the juggernaut of progress presently pulverising the natural world we depend on like a giant rampaging steamroller gone amok. We must avoid superficial tactics that merely suppress the symptoms of our disease — the cheap and nasty bandaid approach. We must deal with the underlying causes of our problems, and address them with courage and determination, which *will* involve short-term sacrifices. There is no such thing as a free lunch. We must stand up to the obfuscators, nay-sayers, warmongers and deniers of scientific evidence, the most powerful and the worst of whom reside on Capitol Hill in Washington. There may have been a time when America was the last best hope of the world but, under the neo-cons, America has become the last best *joke* of the world. If I offend any Americans by these words, let me simply say this: if you do not wish to be ridiculed, you should not vote incompetent fools into the White House.

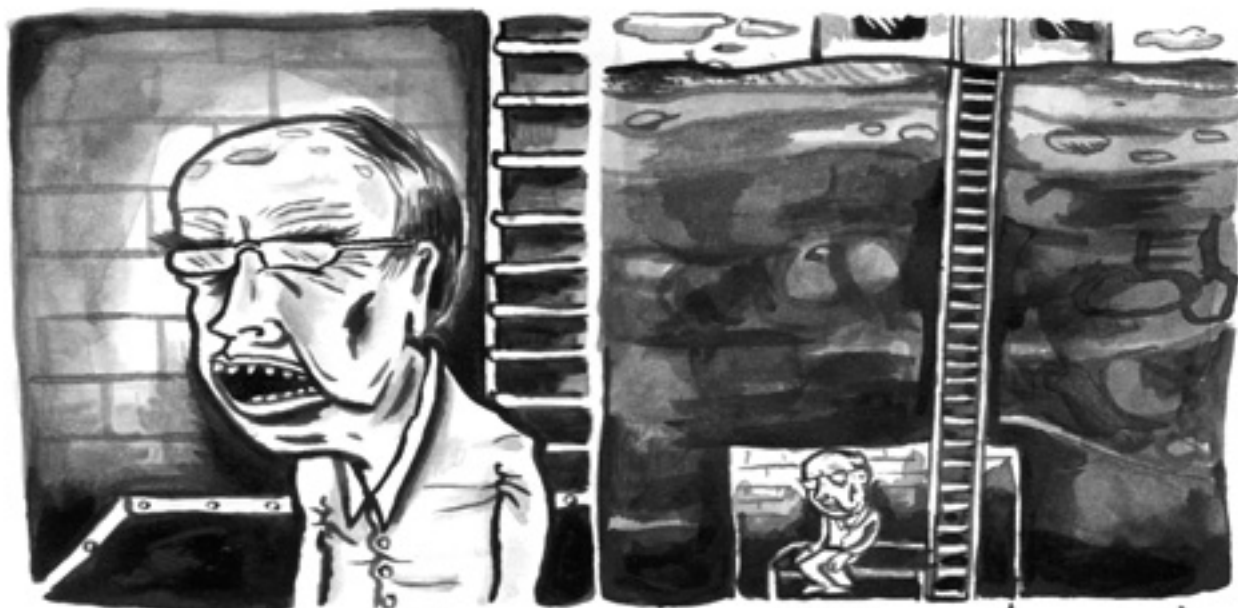
So how does one achieve wisdom? What is wisdom anyway? Rather than define wisdom, let me describe the characteristics of a wise person. A wise person is one whose opinion we respect and trust.

Why? Firstly, he or she is able to determine the truth of situations; to achieve accurate and realistic assessments of situations. Secondly, he or she makes good decisions, consistently choosing the best options with the greatest chances of achieving favourable outcomes. My third characteristic of the wise person is benevolence. Some individuals possess rat cunning: they can size up situations well and manipulate circumstances to suit their short-term personal agendas. Such people may be Mafia mobsters or even deceitful prime ministers. I do not include them among the

ranks of the wise. To me, the wise sage is one who takes into consideration the difficulties and suffering of others and seeks the greatest amount of good for the greatest number of people on a long-term basis. Such benevolence earns our respect. Before you label me a communist, let me remind you that Jeremy Bentham was a great supporter of Adam Smith.

Next question: how can we determine truth? Some may argue that there is no such thing as absolute truth; that everything is relative and is dependent on one's personal value system. Whereas each of us may *interpret* reality differently, the belief that reality is actually *dependent* on human perception is anthropocentric arrogance and utter nonsense. Heisenberg's

exactly to reality, 'truth' in most cases represents our map, our model, our approximation of reality. It is a dynamic map, which requires revision if new and better evidence comes to light. Unfortunately, in most situations there is no single test for truth. I would regard the 'natural laws' of the basic sciences of physics, chemistry and biology as 'Hard Truths', with a capital 'T'. They are experimentally verifiable, reliably reproducible and hence indisputable. Indisputable, that is, until a genius like Einstein comes along and causes major paradigm shifts — which we encourage as an essential aspect of progress, provided the new models can be properly validated. As Sagan said, extraordinary claims require extraordinary



From my position I see **NO** evidence to support the claims that Global Warming exists.

principle and the theories of relativity do not negate this. There *is* an external objective reality that exists independent of human perception or non-perception, whether we like it or not. If a tree falls on us in the forest, it will kill us whether we hear it coming or not.

Finding out truth is important for many reasons, not least of all being that if we base our lives on false assumptions, things tend to fall apart and nothing goes according to plan. We may be tremendously enthusiastic hikers, but no matter how fast or how long we walk, we will not get to our intended destination if we're using the wrong map.

My definition of truth is: 'that paradigm which conforms best with reality'. Since we can never be absolutely certain that our idea of 'truth' conforms

proof — which Einstein certainly provided in spades. Application of scientific Truths to technology has transformed our modern lives beyond recognition. Who would claim, after watching a jumbo jet take off, that Bernoulli's principle is not true?

Determination of truth is trickier outside the realm of the basic sciences. Tests for truth may be different in other fields and harder to apply. Assertions may not be amenable to experimentation and results may not be 100 per cent reproducible. Analysis becomes more difficult when multiple factors interact in complex ways resulting in variable outcomes. Despite this, we can still explore the validity of assertions by systematic methods, often applying statistical principles, with very useful results.

Medicine is one such field that has utilised these methods to great benefit. Evidence-based medicine is a revolutionary development of our times. The powers that be have defined grades A to C of evidence, ranging from 'randomised controlled trials' to 'cohort studies' to 'expert opinion'. They have also specified classes 1 to 3 of therapeutic recommendations, ranging from 'Hey, this is really good mojo' to 'not much better than snake oil'.

These levels of evidence imply a hierarchy of reliability, which is achievable when information has been carefully collected without bias and properly analysed. But this is not always the case. Unfortunately, the forces of commerce have of late discovered how to pervert controlled trials to their advantage; I could cite several such examples, however that is beyond the scope of this article. Suffice to say that measures are being taken against such corruption of science, including the registration of trials before their commencement as a requirement for future publication. Some of my more pedantic medical colleagues will accept nothing less than randomised double blind placebo controlled crossover trial data before being convinced about anything, which just goes to show it is possible to possess intelligence without much wisdom. At the other end of the scale from controlled trials, often times a wealth of circumstantial evidence obtained retrospectively,

when consistent, strong and plausible, may be more than sufficient to prove a case beyond the shadow of a doubt. This has been admirably demonstrated in the field of epidemiology, the study of disease in human populations. Epidemiologists have laid down criteria for determining the causal factors of disease. These are:

1. A strong and consistent association must be demonstrated between factor and disease.
2. There is scientific plausibility for the link.
3. An appropriate time sequence is demonstrated between exposure to the factor and development of the disease.
4. A dose-response relationship exists, that is:
 - Increased exposure to the factor increases disease risk;
 - Reduction or removal of the factor reduces disease risk.

Back in the 1950s and 1960s, investigators such as Doll, Hill and Peto used these principles to demonstrate the link between cigarette smoking and lung cancer as follows:

1. Prior to widespread cigarette smoking, primary lung cancer was extremely rare. The association was strong: those who smoked had a risk of more than ten times of developing lung cancer as compared with non-smokers. Confounding factors were cited by critics, such as air pollution in industrial areas. But the association was consistent: whether in polluted cities or in the rural areas, it was the cigarette smokers who tended to get lung cancer.
2. A plausible mechanism: experiments showed that polycyclic aromatic hydrocarbons and nitrosamines from the tar of cigarettes could induce malignant tumours in animals. Later on, the biochemical and genetic basis of carcinogenesis would be better elucidated.
3. Appropriate time sequence: the cancers only developed after prolonged exposure to cigarette smoke — not immediately after starting smoking and certainly not before starting smoking.
4. Likelihood of developing lung cancer was directly related to the number of cigarettes smoked per day, the number of years the patients smoked and whether they inhaled or not. Those who stopped smoking had a reduced risk of developing cancer, falling to that of non-smokers ten to fifteen years after cessation.



The evidence is now indisputable that smoking causes ninety-five per cent of primary lung cancers. And yet this firm conclusion of causation was arrived at using observational data, without the need for gold-standard prospective randomised controlled trials — which would of course have been unethical.

How do physicians determine truth regarding disease afflicting the individual patient? First, we gather information in the form of symptoms and signs. We collect evidence. Second, we list our differential diagnoses; that is, we form several hypotheses as to what we think may be going on. Third, we perform diagnostic tests, which may increase or decrease the likelihood of each hypothesis. Fourth, we select the most likely diagnosis. Fifth, we institute treatment for that diagnosis. If we achieve the expected outcome of therapy, that is, improvement of our patient, we conclude that our diagnosis was correct. There is no known strategy superior to this approach.

Some conditions have a gold-standard diagnostic test: for example, the coronary angiogram, despite its limitations, is regarded as the gold-standard test for coronary artery disease. Nevertheless, even in the absence of a gold-standard test, the accumulation of numerous strong, consistent pieces of evidence is often sufficient to make an ironclad clinical diagnosis in many situations.

Seeking truth in wider circumstances

In a world of information overload, competing ideologies, hidden agendas and vigorously defended vested interests, it can be difficult for us to determine the truth of situations — difficult, but not impossible. William of Occam popularised (but did not invent) the strategy that now bears his name. I assert that we can borrow from the principles of medical practice to determine truth in wider aspects of life. This is the stepwise approach I advocate.

Step one

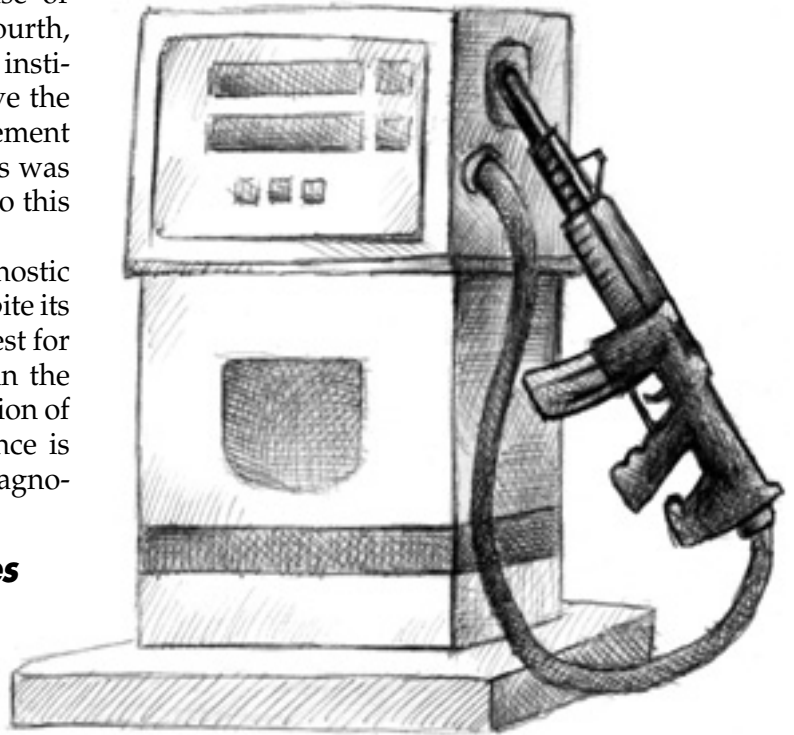
The first step is to write down each of the assertions regarding the situation in question. We list the competing hypotheses. We thus list the purported motives for the US invasion of Iraq as: weapons of mass destruction (WMD); the 'War against Terror'; removal of a brutal dictator; to spread democracy in the Middle East; and the seizure of their oil.

Step two

Step two involves evidence gathering. *All* information relevant to each of the assertions in question must be gathered. We need evidence of *quality* — ideally independently verifiable information from unrelated sources — and evidence in *quantity* — as much of it

as we can get. Pieces of evidence are like pieces of a jigsaw. If we find a piece that does not fit — which is the wrong pattern, colour, size and material; which has obviously been fabricated with paper and scissors by a child — it must be discarded. It is unreliable evidence. Conversely, if we find a reliable jigsaw piece that indisputably comprises part of our picture, we cannot rest easy until we find all the pieces that fit neatly into place around it.

Looking at the evidence for Iraq, we immediately discard the WMD claims as rubbish and the 'War



against Terror' motive as nonsense. The secular Saddam Hussein had no links with, and in fact hated, Al Qaeda, and there were no terrorist training camps in Iraq. Dick Cheney's oft-repeated claim that Mohammed Atta, the principal September 11 hijacker, had met with Iraqi officials in Prague was found to be completely baseless. The Senate inquiry released in September 2006 confirmed these facts. Any terrorism related to Iraq arose only *after* the Americans invaded, as a result of the chaos they caused and resentment they generated. It is true that Saddam *was* a brutal dictator, and that motive requires further analysis. The claimed motive of spreading democracy gained prominence mainly *after* America invaded Iraq, which they are currently trumpeting about, was a post-hoc afterthought. In clinical trials, we insist on intention-to-treat analysis. Post-hoc scouring for spurious associations is called data dredging, a form of intellectual deceit.

Step three

Step three is hypothesis evaluation, which involves five tests we apply to each assertion.

First, assess for probability or likelihood. Bayes' theorem states that a premise becomes more probable — more likely to be true — each time an additional piece of information supporting that hypothesis is accrued. This can be expressed with simple high school mathematics. I have already outlined a wealth of strong and consistent evidence that the Iraqi invasion was all about seizing their oil in my first radio talk broadcast in June 2005. The strongest evidence for this is, of course, the fact that the Ameri-

our and track records of the major players involved in the situation. I liken such human traits to the Framingham cardiac risk factors — people with coronary risk factors are more likely to develop coronary disease. One of the strongest risk factors for future heart attacks is having had a *previous* heart attack. Similarly, those politicians with backgrounds as oil executives and robber barons of industry are more likely to think and behave like, well, oil executives and robber barons of industry. If such people suddenly choose to portray themselves as wonderful altruistic humanitarians, we should be extremely circumspect.

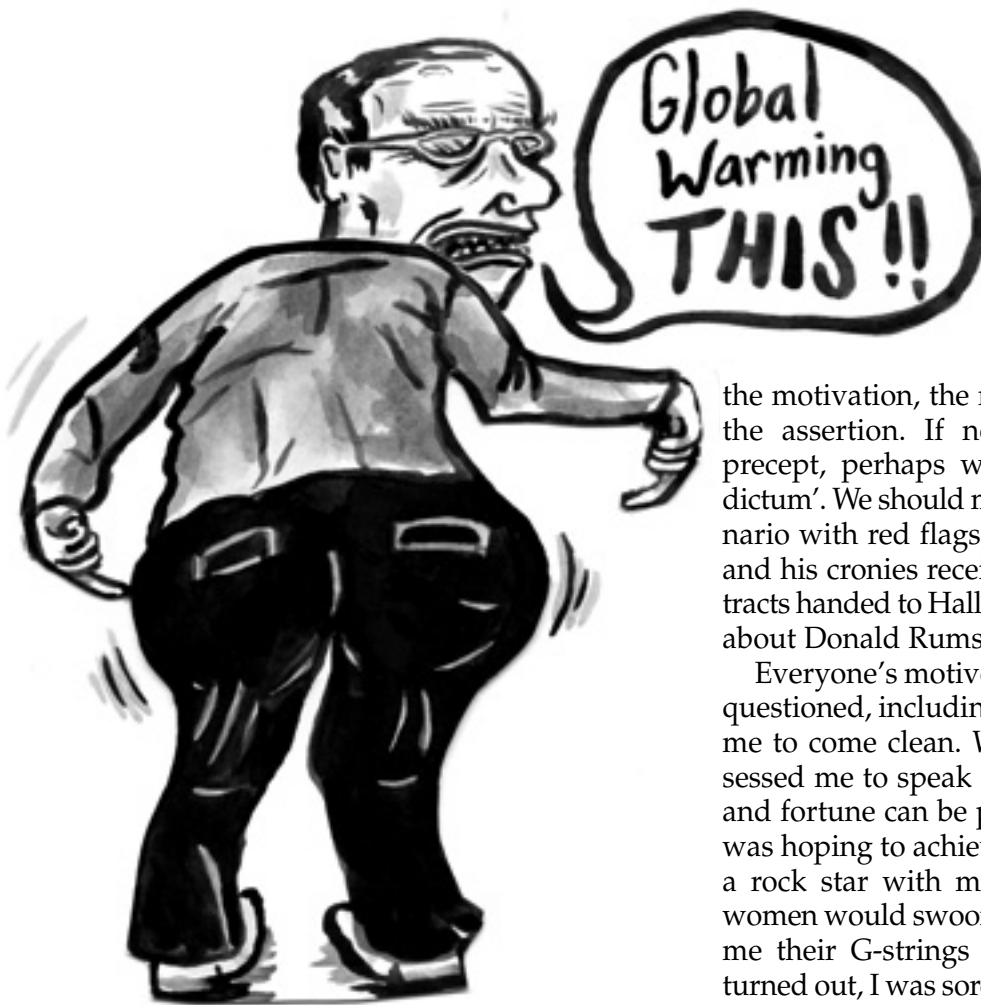
Second, test for integrity. Each party must declare if they have any conflict of interest. This is a requirement now for all medical publications. The vigour with which an argument is made is often directly proportional to the financial, ideological or emotional investment the proponent has invested in that position. The more self-serving

the motivation, the more sceptical we should be of the assertion. If no one else has claimed that precept, perhaps we can call it 'Chia's sceptical dictum'. We should mark vested interests in each scenario with red flags. What kickbacks have Cheney and his cronies received for the Iraqi business contracts handed to Halliburton on a silver platter? What about Donald Rumsfeld and Bechtel?

Everyone's motives for their assertions should be questioned, including mine; hence it is now time for me to come clean. What could possibly have possessed me to speak out previously on radio? Fame and fortune can be powerful motivators. Perhaps I was hoping to achieve the international celebrity of a rock star with my talks — hoping that young women would swoon over my dulcet tones and mail me their G-strings in perfumed envelopes. As it turned out, I was sorely disappointed to discover the fans I accumulated comprised mainly octogenarian retired academics with either white hair or no hair. No offence, guys, but couldn't you at least *pretend* you were nubile young women?

Perhaps fortune was the reason. Surely I could live the life of a high-roller forever and a day on the vast payout I received from ABC Radio for my broadcasts. A grand total of exactly zero dollars.

Am I anti-American, then? Certainly not. The ideals on which America was founded were admirable. America probably still has the best brains and talent in the world. Australian physicians look to our Amer-



cans *have* seized their oil. The proof of the pudding is in the eating. Oil fields were the first objective of the invasion, are now under complete US control, and the Americans account to no one as to the fate of that oil. We don't know what happens to it, and they are not going to tell us. What we *do* know is that average Iraqis ironically have little access to their own oil — as the images of long queues at petrol stations have demonstrated.

We should analyse the backgrounds, past behav-

ican colleagues for the best in medical research, technology and therapy. America under Clinton displayed moments of greatness worthy of admiration. Their intervention in Kosovo to halt ongoing genocide was noble, altruistic and humanitarian.

What about political affiliations? I don't belong to any political party or non-governmental organisation. I am not a greenie. I was never interested in political issues until the neo-cons' build-up of the Iraq War — which I consider a major public health catastrophe and a crime against humanity. If the deaths of more than 650,000 Iraqis (according to figures cited by the respected medical journal *The Lancet* in October 2006) is not a medical matter, I don't know what is.

If anything, there is disincentive for me to speak out. Joe Wilson's opposition to the lie about Iraqi procurement of uranium from Niger was met by bullyboy tactics from the neo-cons. Is the slavish Howard government, with its new anti-sedition laws, any better?

ority? Saddam was a brutal dictator, but that was *absolutely not* the reason for the US invasion.

America's heavily self-publicised goal of spreading democracy in the Middle East is high-sounding, empty rhetoric — a flashy card trick being displayed with one hand to distract our attention from the other hand, which is furiously pumping the oil away. It is completely inconsistent. As I have asked before, why hasn't America enforced regime change in Saudi Arabia, the prime source of the September 11 terrorists, with its corrupt royal family, its treatment of oil revenues like a personal piggybank, its oppression of women, and its practice of public beheadings? I refer not to empty American gestures like voting in half the district councils, but rather instalment of a fully elected government of Saudi Arabia. The answer to this question: it is because the Saudi royal family supplies America with cheap oil. The pursuit of cheap oil is *the one* consistent factor of US Middle Eastern policy.



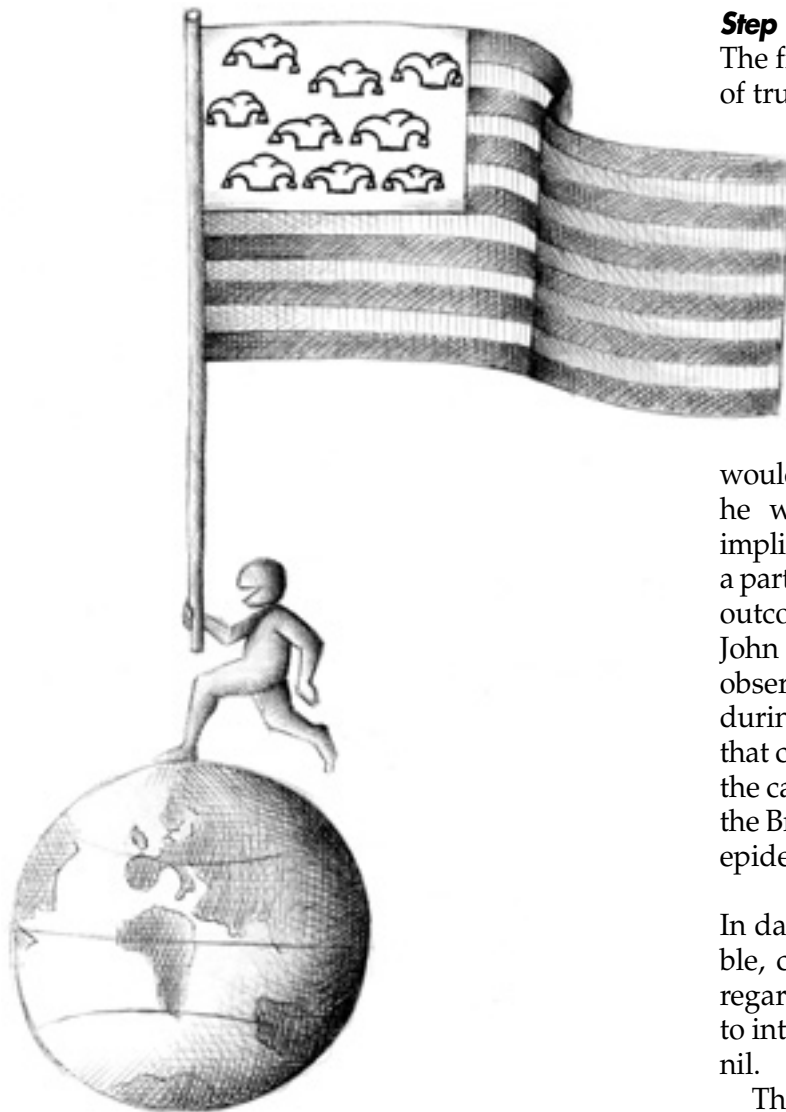
Third, test for inconsistencies. Inconsistent pieces in a jigsaw make for an ugly big picture that just doesn't look right — a situation that just doesn't gel. Truth *always* makes sense. Yes, Saddam *was* a brutal dictator. However the worst atrocities he perpetrated occurred in the 1980s and early 1990s, when virtually the same Republican neo-cons held power in America — and they ignored and even supported his brutality then. The Bechtel Group and Saddam Hussein are old business acquaintances. Many of their dealings were negotiated by none other than Donald Rumsfeld, a former Bechtel representative. In 1988, *after* Saddam gassed thousands of Kurds, Bechtel signed contracts with his government to build a dual-use chemical plant in Baghdad. Why didn't the US invade other countries with equally brutal dictators, like North Korea and Zimbabwe? What gave Iraq pri-

The fourth test we apply is none other than Occam's razor. All things being equal, the simplest, most direct explanation is most likely the correct one. Enough said.

The fifth test may not be applicable to most assertions, but if applicable is virtually a clinching argument. We ask if a hypothesis has the majority consensus of expert scientific opinion behind it. If so, we should be very cautious about disputing it unless we have new strong evidence to the contrary. Overwhelming evidence that CFCs destroyed the ozone layer enabled the Montreal Protocol to be passed in 1987, for the greater good of all humanity. The Nobel Prize in Chemistry went to Molina, Rowland and Crutzen in 1995 for their important work — a triumph for the atmospheric scientists. It would be crazy for us now to ignore the atmospheric scientists' warn-

ings regarding global warming. Some critics of global warming may have impressive-sounding titles and degrees, but further examination invariably shows them to possess insubstantial arguments. Furthermore, most such deniers have been heavily bankrolled by big business with a vested interest in promoting fossil fuel consumption. They are no different from the venal hirelings with science degrees who denied the link between smoking and cancer on behalf of the tobacco industry. The physicist Dr Vandana Shiva

hypothesis. Those scenarios that fail the previously mentioned tests should be discarded. The remaining explanation becomes our working model of the truth. If I may borrow and modify an axiom from Dr Conan-Doyle: when the impossible and implausible have been eliminated, that which remains must be true. Schick and Vaughn, in their book on critical thinking for a new age, state that 'a proposition is beyond a reasonable doubt when it provides the best explanation of something'³.



aptly calls such so-called experts 'scientific prostitutes'. This fifth test for truth refers specifically to expert scientific consensus *only*. Majority opinion of politicians counts for absolutely nothing, as in the case of Australian politicians denying the links between the Madrid and London bombings and the involvements of Spain and Britain in Iraq².

Step four

After applying our tests, we move on to step four of our truth-finding strategy — we select the best

Step five

The fifth and final step in deciding upon our model of truth is to attempt to predict an outcome, preferably after implementing an appropriate intervention. Such a measure may help verify or even nullify our hypothesis. Valid scientific hypotheses should result in accurate predictions. For example, Charles Darwin observed the similarities of appearance and behaviour between his own children and juvenile apes and postulated that humans and apes had a common ancestor. He predicted that fossil evidence for this would eventually be found in Africa. Fifty years later, he was proven correct. Sometimes our theory implies that a particular intervention will bring about a particular outcome, and occurrence of the predicted outcome verifies our model of truth. For example, John Snow, the founder of modern epidemiology, observed clusters of cholera cases in time and place during the London outbreak of 1854. He postulated that contaminated water from particular pumps was the cause. He intervened by removing the handle of the Broad Street water pump, thereby containing the epidemic and thus validating his hypothesis.

In daily life, intervention to verify truth, if applicable, can be helpful but is often not possible. With regard to Iraq, the ability of individuals like myself to intervene and to verify the oil motive is of course nil.

There is, however, a way to completely *nullify* my assertion that the Iraqi invasion was primarily about oil. In fact, I would like nothing better. Here it is: first, invite an independent foreign accounting firm to Iraq to audit the fate of the oil and prove to the world that all the profits are going to the Iraqi people. I'm talking about a reputable, non-American (perhaps German or Canadian) auditing firm — nothing like the dodgy Arthur Andersen of Enron type of scenario. Second, set a timetable to hand over all the oil fields to Iraqi forces and Iraqi managers, the sooner the better, certainly within a year, putting the oil fields totally under Iraqi control, for them to choose how and who to sell

their oil to. Very simple. However, I'm willing to bet that the US will never agree to that. Why? Because the Iraqi invasion *was* all about oil.

Some may say the neo-cons denied that oil was their motive, hence it can't have been. Give me a break. You should judge people by what they do, not by what they say. It is in the nature of psychopathic liars to hide their true motives. A famous Aesop fable goes thus:

A wolf came upon a lamb straying from the flock and was reluctant to take the life of so helpless a creature without some plausible excuse. So he cast about for a grievance and said, 'Last year, little lamb, you grossly insulted me.'

'That is impossible, sir,' bleated the lamb, 'for I wasn't born then.'

'Well,' retorted the wolf, 'you feed in my pastures.'

'That cannot be,' replied the lamb, 'for I have not yet tasted grass.'

'You drink from my spring, then,' continued the wolf.

'Indeed, sir,' said the poor lamb, 'I have never yet drunk anything but my mother's milk.'

'Well, anyhow,' said the wolf, 'I'm not going without my dinner.' And he sprang upon the lamb and devoured it without more ado.

The tyrant will always find a pretext for his tyranny.

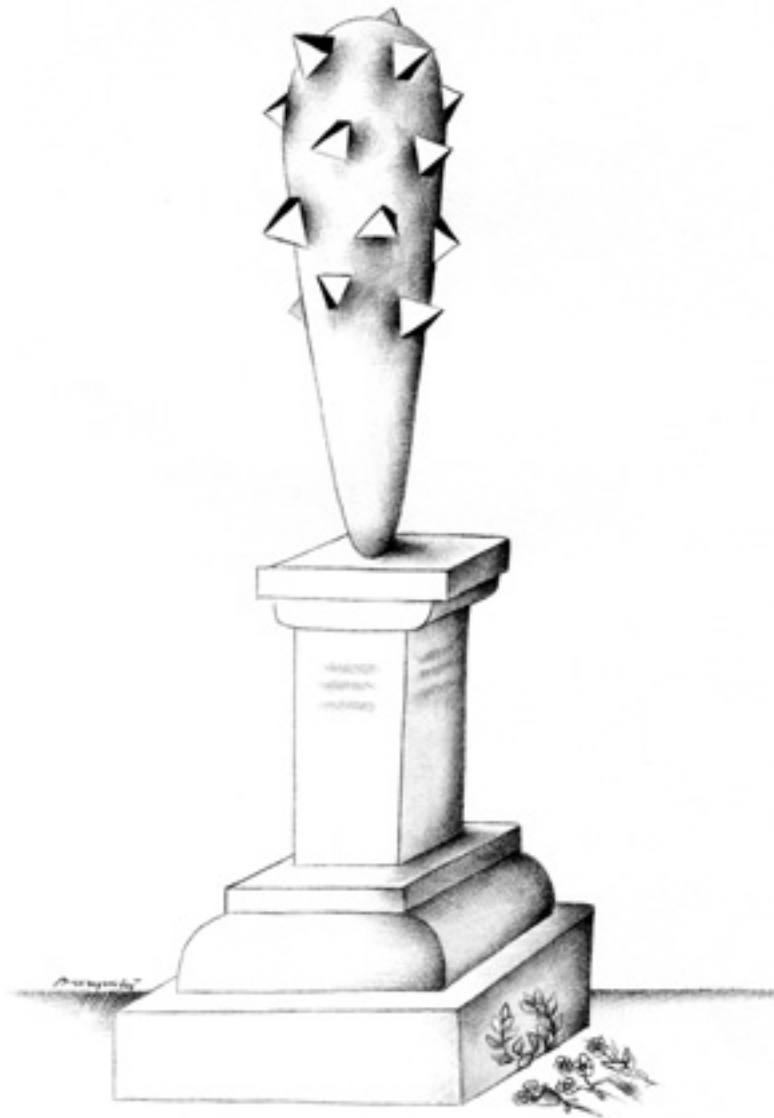
In light of the incontrovertible evidence outlined previously, I now state that anyone who casts doubt on the link between smoking and lung cancer is either impenetrably stupid, a tobacco company stooge, or an impenetrably stupid tobacco company stooge.

I also state in light of incontrovertible evidence that anyone who now casts doubt on the link between the invasion of Iraq and the seizure of their oil is either impenetrably stupid, a Republican neo-con stooge, or an impenetrably stupid Republican neo-con stooge.

Try out those tests of truth on other issues, as I have for global warming. Accordingly, I also state in light of incontrovertible evidence that anyone who now casts doubt on the fact that global warming *is* occurring and *is* caused primarily by human activities is either impenetrably stupid, a coal company stooge, or an impenetrably stupid coal company stooge. I refer specifically to you, industry and resource minister Ian MacFarlane.⁴

Power comes in many forms, one of which is the ability to turn others to your point of view. The American administration is conscious of the fact that they lost the Vietnam War because they could no longer convince their public that the war was morally defensible. This time round they use devious ways of stifling and discrediting dissent, and have co-opted the sycophantic commercial media with an out-

rageous right-wing bias. They have employed skilful spin doctors in the management of public perception. They know how to feed on ignorance, fear and prejudice. I may comment on their tactics in another article entitled 'How to con like a neo-con; with particular reference to the lesser Australian lying rodent'.



George Bush's message to the world after 11 September 2001 was this: you are either with us, or you are against us and with the terrorists. Such a statement was designed to intimidate others into acquiescence; to silence those who may have had reservations about the way the neo-cons went about their business. It suited the neo-cons to portray themselves and their unquestioning allies as the good guys and everyone else as the bad guys, in the grand tradition of a badly acted Western movie. It is also a load of unmitigated rubbish.

Here is a better paradigm much closer to the truth. The neo-cons insisted that military intervention was

the *only* way to deal with the Iraqi situation. Shifting justifications for the Iraqi invasion using fabricated evidence showed them to have no regard for truth. Their repeated refusal to count Iraqi casualties reflects their callous disregard for civilians. They have tortured prisoners in Abu Ghraib prison, kidnapped and detained suspects without charge in Guantanamo Bay (or 'rendered' detainees to Egypt or Eastern Europe), and refused to follow the Geneva Conventions. Bush Junior has claimed many times to be guided by God.

Sound familiar? A policy of violence. Disregard for truth. Disregard for civilian lives. Disregard for human rights. The claim that God is on his side. The exact same strategy of Osama bin Laden.

Bush and bin Laden are in fact two peas from the same pod. Evil twins separated at birth. Tweedledee and Tweedledum engaged in battle. Hypocritical practitioners of brutality in the name of God who are an obscene affront to the majority of peace-loving followers of Christianity and Islam. The main differences between them are that Bush is far more stupid but has access to far greater power, hence is a much greater danger to the world. He is a trigger-happy dumb brute. The hundreds of thousands of people who have needlessly died in Iraq would no doubt agree with this, if only they had a voice. Bush, bin Laden and their ilk are the forces of hate and unreason, and must be vigorously opposed by the forces of fairness and reason. If you want a more truthful dichotomous world view, take *that* on board. But who *are* the forces of fairness and reason? They are people who fearlessly seek out truth. People who demand that the right thing be done. People who read this journal. It is time to get off our butts and shout from the rooftops, 'We're mad as hell and we're not going to take your lies any more!'

Finding out truth (summary)

1. List all the competing **hypotheses**/assertions/claims for the situation in question.
2. List all the **evidence** for each of the assertions.
3. Put each assertion through **five tests**:

- **Bayes' theorem** — assess *strength of evidence* (quality and quantity), assess *predispositions*: look into the backgrounds and track records of the principal players (people with a history of particular beliefs/behaviour are predisposed to continue with such beliefs/behaviour).
- Test for **Integrity of assertion** — 'the more self-serving the motivation, the more sceptical we should be of that assertion' (Chia's sceptical dictum).
- Look for **Inconsistencies** — the more glaring and/or the greater the number of inconsistencies in a hypothesis, the less likely it is to be true.
- Apply **Occam's razor** — the simplest, most direct explanation is most likely to be true.
- Ask yourself whether Scientific consensus is available.

4. Choose the **best hypothesis** as your model of truth.
5. **Attempt prediction**/verification/nullification of this hypothesis, using prior intervention if possible.

In summary: list hypotheses, list evidence, apply BIIOS, choose best hypothesis, and attempt prediction.

Notes

1. Available at <www.abc.net.au/rn/science/ockham/stories/s1388567.htm> and <www.abc.net.au/rn/science/ockham/stories/s1393958.htm>.
2. The former CIA head of the bin Laden unit, Michael Scheuer, interviewed on ABC's *Lateline* on 2 August 2005, stated that there was no doubt Australia's involvement in Iraq made Australia more of a target for terrorism. Australian Federal Police Commissioner, Mick Keelty, in March 2004 expressed a similar opinion. Keelty was shouted down in a barrage of criticism from Howard, Downer and Ruddock and forced to sign a 'clarifying statement'. Since then, there has been international consensus among intelligence communities that the Iraqi invasion has been a potent motivator for the recruitment of terrorists — as stated by the US National Intelligence Council, London's International Institute for Strategic Studies, and our own esteemed General Peter Cosgrove. Howard and his cronies, however, remain obnoxious, obdurate and obstinate in their denials.
3. Schick, T and Vaughn, L *How to think about weird things: critical thinking for a new age*, 3rd ed., p99.
4. See <<http://smh.com.au/articles/2005/02/15/1108230006269.html>> and <www.deh.gov.au/minister/env/2005/tr16feb05.html>.