# WN *Columns*

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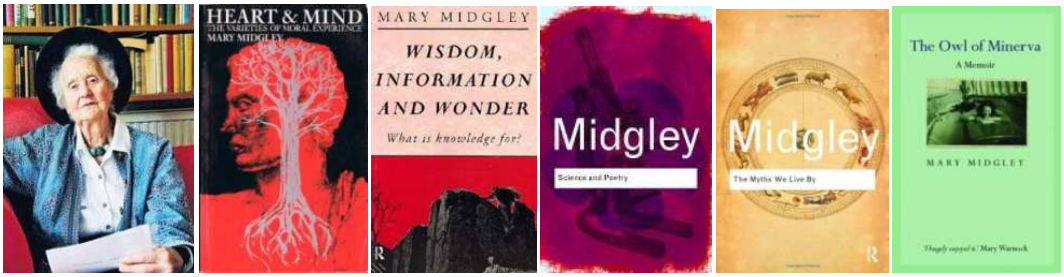
## *What do you think?*
## Geoffrey Cannon

*Piedade do Paraopeba; Imhotim; São Paulo.* This column gestated in these three contrasting locations in Brazil. Their spirits infuse what is here. The first is a resting place on the *Estrada Real* (Royal Road) that, when Brazil was owned by Portugal, carried gold from the interior to Europe. The second is a nature reserve. The third is Brazil's biggest megalopolis. Here I revive my last year's series of heroes, now with the title 'What they believe'. Then I continue the 'What I believe' series.

## *Food and nutrition, health and well-being*
## What they believe: 1. Mary Midgley
## Values




***The moral philosopher Mary Midgley and five of her books, which consider big issues of the human condition and our place in the world and biosphere***

The thing about food, and therefore nutrition, is that while like money it is vital in itself, its main value is what it represents. In narrow aspects, food and money are types of fuel, mere daily needs. In broad aspects, both touch on most aspects of life on Earth. To see nutrition as a whole we need to think big. So here now I begin with the moral philosopher Mary Midgley. First, credentials. Here she is above, with five of her many books. She is 93 at the time of writing. She is one of the generation of Oxford philosophers including Elizabeth Anscombe, Philippa Foot, Mary Warnock

and Iris Murdoch, who formed the most formidable school of thought in the English language concerned with how to live well in the world, and with issues of real life, such as purpose and meaning, the relationship between arts and science, phenomena like consciousness and conscience, and always, value. She is now commonly seen as the most distinguished British living philosopher. As French *pensant*s do, she tackles big issues, and in the Victorian scholarly tradition she speaks her mind (1). In this column I make specific reference to *Evolution as a Religion* (2) and to *Science and Poetry* (3, 4)..

***Speaking her mind***

'Her great gift' says the Irish novelist John Banville 'is clarity, both of thought and especially, of expression… To follow her reasoning… is like watching a ballet dancer walking in the street: there is a litheness, a gracefulness, an ease of articulation'. True, except this omits her toughness. Thus, she lays into *The Selfish Gene*. She sees Richard Dawkins not as an objective scientist but as an obsessive evangelist (but of bad news). She says: 'The ideology Dawkins is selling is the worship of competition. It is projecting a Thatcherite take on economics on to evolution. It's not an impartial scientific view; it's a political drama', and 'Its imagery of selfishness, spite and grudging,… cheats, war games and the rest…reflects the naïve social atomism of the 1970s and 1980s'. Our times now are too troublesome to justify being nice about powerful people who hawk nasty and dangerously wrong notions.

One of her main themes is the nature, domain and limits of science, including the biological sciences. A corresponding theme is the place of quality – which by its nature cannot be measured – in all creation, and in everyday judgements and choices. Another is the mind-sets we tend not to notice, that control our thoughts and actions in our personal and professional lives. Box 1 lists 16 of her books. After almost 30 years as a university teacher, she first became a full author in her late 50s. She was then sufficiently sure of her main themes: hence the title of her autobiography *The Owl of Minerva*, after the saying of GWF Hegel 'The owl of Minerva only takes flight as the dusk begins to fall'. (Minerva being the goddess of wisdom).

*Box 1*

**Books by Mary Midgley**

*Beast and Man: The Roots of Human Nature*, 1978; *Animals and Why They Matter*, 1983; *Heart and Mind: The Varieties of Moral Experience*, 1983; *Wickedness: A Philosophical Essay,* 1984; *Evolution as a Religion: Strange Hopes and Stranger Fears*, 1985; *Can't We Make Moral Judgements?,* 1989; *Wisdom, Information and Wonder: What is Knowledge For?,* 1991; *Science and Salvation: A Modern Myth and its Meaning*, 1992; *The Ethical Primate: Humans, Freedom and Morality,* 1994; *Utopias, Dolphins and Computers: Problems of Philosophical Plumbing,* 1996; *Science And Poetry*, 2001; *Gaia, the Next Big Idea*, 2001; *Myths We Live By,* 2002; *The Owl of Minerva*, 2005; *Earthy Realism: The Meaning of Gaia*, 2007; *The Solitary Self: Darwin and the Selfish Gene*, 2010.

*The New Nutrition*
# Spiral philosophy



***The spirals like those here that symbolise The New Nutrition express the theory of knowledge that best corresponds to the real inner and outer worlds***

The need for an ethical framework becomes obvious when we perceive the scope of nutrition. The spiral images above, from Beijing, Seoul, Rio de Janeiro, Durban and Valparaiso, stand for nutrition as a multi-dimensional discipline, social, economic and environmental, as well as biological and behavioural. Begun in 2005 as the *New Nutrition Science*, this conceptual framework is now commonly accepted or assumed, as reflected in UN and other authoritative reports and other documents.

In *The Giessen Declaration* (5), introducing the *New Nutrition Science* (6) the first principle proposed is: 'All sciences and all organised human activities are and should be guided by principles…The overall principles that should guide nutrition science are ethical in nature'. Also: 'The over-riding responsibility of nutrition science is to work to handing on to future generations an improved human, living and physical environment: healthy people, healthy populations, and a healthy planet' (7). Principles by their nature are not absolute, but need to be shaped by and to shape circumstances as they actually are and foreseeably will be. The implication is that we are in most need of an ethical compass at times of crisis. Like right now.

### *Darwin, and evolution, progress*

Old guides may fail us now. Take evolution theory, a foundation of the biological sciences. Mary Midgley points out (2), as does Lynn Margulis (8), that Darwinism as now understood is not what Charles Darwin actually wrote and believed. Darwinists see evolution as a line of ascent, a ladder or an escalator, a tendency ever onwards and upwards. Darwin's image of natural selection was that of a bush, which allows for evolution (not a word he used) also to be sideways or downwards.

Mary Midgley proposes, as indicated in her own words in box 2, below, that those of us who have been brought up and educated in the Western convention are in thrall to the notion of inevitable progress. This is a dangerous notion, most of all in periods of trouble, like now. Thus, we are all surely now well aware that life on earth is under threat, as population soars, climate changes, living and natural resources dwindle, the linked food, fuel and finance crises cause chaos and mayhem, and with

all this, the authority of governments dwindles and drains away, as we know, and politicians gain reputations as futile or venal, as we know.

She believes that our apparent state of collective shock or even paralysis, faced with our fearful future, is actually disbelief: we still think that 'things are getting better', imagining that evolution teaches us so. This theory was invented and developed not by Darwin himself, but by Herbert Spencer and other rampant 'neo-Darwinists' committed to the notion of 'red in tooth and claw' competition, such that the 'fittest' – savage ruthless individuals (and corporations) – would triumph – rightfully – while inferior people (and races) would be 'weeded out' – rightly. There is a straight line from here to 'Gordon Gekko' in the movie *Wall Street* declaring 'Greed is good'.

Thus the spiral *New Nutrition* icon. This signifies that things may get better and more organised – synergy – or may get worse and disintegrate – entropy. The idea that the living world – and the human race – always 'evolves' to get better, is a false myth. We continually return to whence we came. In good times this is shown by cyclical progress ever wider and wiser. In bad times the experience is that of a vortex, circling inwards, going down the drain – one of depression and despair.

After Box 2 I take a break from this brainy stuff, with two more 'What I believe' items. Then I return to Mary Midgley and her meaning for us now.

*Box 2*

## Mary Midgley on evolution

*This is an extract of the interview with Sheila Hety (1--3).*

There are two ways in which the idea of evolution has been misused. One is the optimistic way which says it's all getting better and better – that evolution is a sort of escalator which can take us anywhere. ...If we believe this, it produces a belief in progress, which means that whatever we do is better than whatever there was before, and we only want more of it. But the idea that growth – for instance, economic growth – is natural and required, is a mythical idea. It can't be right. Things do not grow indefinitely; they grow until they're big enough. Imagery is terribly important, you see.

Neo-Darwinism is a creation myth. It's one of the stories which different cultures have, to explain why things are as they are by saying how they were before. The other main misunderstanding is that which says that the universe is run by hostile competition between individuals. This is also not Darwin. Herbert Spencer picked it up from the laissez-faire economics of the day which said that all you need for progress is savage competition. The idea was that if you had enough savage competition, eventually things would come right.

But this is a fantasy about how life was made, because organisms cooperate constantly. The little bits in our cells were originally separate organisms which settled down to work together. If you don't have an enormous amount of cooperation of that kind, you can't have organisms at all. And the sort of "competition" by which they get ahead very often has nothing to do with fighting anything else, but finding a new place. You find a new food source, or you start photosynthesis, or something of that sort.

*Food and nutrition, health and well-being*

## What I believe. The series: 8, 9

***Access February 2013 column on ideas and meals here***
***Access March 2013 column on dimensions of nutrition and on best being small here***
***Access April 2013 WN column on dietetics as the mother of nutrition here***
***Access May 2013 WN column on the need to agitate here***
***Access June-July WN column on language and its abuse here***

For this issue of *WN* at least, I continue to state 'what I believe', in common with and as learned from many colleagues, and often as recorded and written for countless years and centuries. Not much is wholly new. My job I guess is to express these beliefs as cogently and clearly as I can. So here goes, for number 8:

*Food rules*

## Good food goes bad



***An avocado and a mango from our local supermarket, and corn bread from our local home-made bakery. These will all go bad in a week or so. Good!***

As mentioned already, one of Michael Pollan's *Food Rules* is: 'Eat only foods that will eventually rot'. This is clunky, and why he includes 'eventually', beats me. Biscuits humming with *trans* fats whose label in say September may say 'best by' the

following June, will *eventually* rot. Besides which, 'rot' is not always where it is at. 'Rot' is more or less accurate for putrid meat, and exact for liquefying vegetables and fruits, but it would be a bit odd for food sprouting florets of mould, and we would not say that a papaya whose skin only was cankered, or butter that had become rancid, was 'rotted'. So 'goes bad' I suggest hits the spot.

'Good food goes bad' is of course meant to imply that you enjoy it before it goes bad, though personally I enjoy stale artisanal bread, have gotten used to eating as well as inhaling mould in our humid climate, and don't see any problem with fruit tunnelled by the larvae of wasps or beetles – good for them!

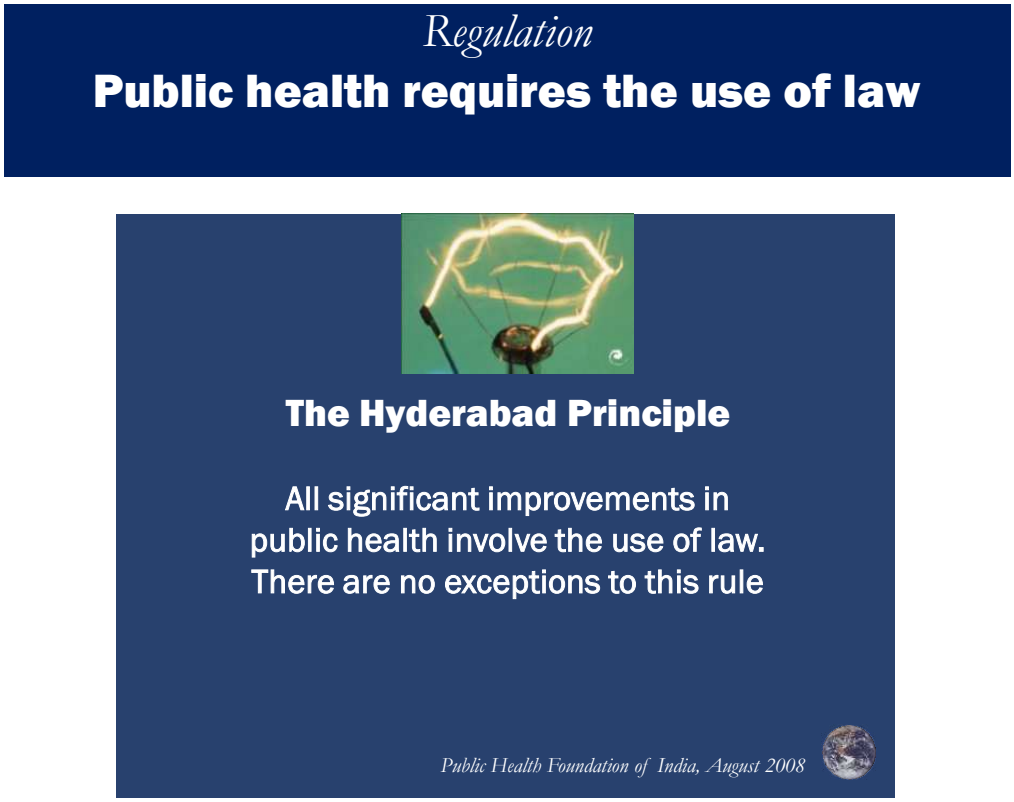
Indeed, I suggest another rule, which is 'avoid all ready-to-eat products whose labels include a "best by" date more than (say) three weeks ahead'. This is a corollary of another Michael Pollan rule, where he says don't eat food products that make health claims, because more often than not the product is junk with synthetic versions of vitamins or other bioactive compounds sprinkled in. 'Best-by' dates are there to protect the manufacturer against lawsuits, and to make sure that the product looks, smells and tastes uniform and immaculate when you open and consume it. Fresh vegetables and fruits do not come with 'best-by' dates. Think about this.

### *Ants guide us*

As a variation of 'good food goes bad', try 'Any ready-to-consume product that insects and microbes do not inhabit, is therefore toxic'. See the picture above, which I took yesterday as I write. The gigantic avocado and the big mango, both weighing more than a kilogram, come from our local Bretas, a Brazilian-owned supermarket chain. Both are bruised and flawed. Good sign! They go with me in the day I finish this column to São Paulo, where vegetables and fruits are more than twice the price, and farmers are being instructed by supermarket buyers to package and polish the produce; and I will enjoy them as I work, having stacked the hotel room mini-bar with fresh food, after dumping the beers and sodas in a box I brought with me.

Now notice the bread above (its colour is darker than in the picture), a wholegrain mix of corn, wheat and manioc flour, made by our local craft food bakery 'without sugar and with affection' as its label says, and sliced unevenly, which tells me that there is a real person on the slicer, with the date of baking and the obligatory 'best-by' advice saying eat it within 8 days, or 15 days if you keep it in a refrigerator.

I took the picture in sunshine outside our house, and before I had finished, a hornet had settled on the mango, and ants were marching off with crumbs of the bread into their nest maybe in our forest plot. Like biodynamic growers and farmers, past of our mission here is to nourish not just our cats and dogs, but also the living things we live with that are always wonderful and mostly useful. Thank you, fellow creatures!




***Agreed in India at a meeting of legal minds specialising in public health, this Hyderabad Principle has never been cogently challenged. Think about it!***

Here is 'what I believe' number 9. Regular readers of my columns have seen the slide above before. It records the agreement made at an all-day meeting held five years ago, on the occasion of the inauguration of the Public Health Foundation of India. The principle applies to the whole of recorded history, going back say 6,000 years to the time of the Yellow Emperor and the kings of kings in the lands in and around the Fertile Crescent. Because I usually display this slide at international conferences, it is a safe bet that industry and government representatives who believe in the survival of the fittest transnational corporation and making bonfires of regulations would have come up with some lame attempt at refutation. But no. Not even one exception.

Instead, the recent lines have been 'yes, it would be nice in theory to have rules and regulations, but (a) the people are against them and (b) they would be too difficult to frame and follow'. The first line is of course a contemptible deliberate untruth. Few people object to laws restricting the speed of traffic, for example, or requiring the use of seatbelts, and the evidence that most people, including smokers, and especially parents, appreciate the outlawing of smoking in enclosed places, is conclusive.

So how about the: 'nice idea, but not possible' line? This too is junk. Where there is a will there is a way. Here is an example, and how it can be extended. In the UK in the old days when governments accepted their duty to govern, rules and regulations for the supply of food to schools and canteens were drawn up. These stated that the

contracts would be valid only when the caterers declared, and at any time as required could prove, that the food they supplied met specified nutrition standards. That was the deal. This may now be ancient history, but it makes the point.

By analogy, public authorities could pass laws saying that any establishment whose purpose was education, could be registered as a 'school', with all that implied for tax exemption, zoning privileges, recognition of teaching, eligibility to register with examination boards and so on, when and only when, food, nutrition and physical activity were provided, and on the core curriculum, and were up to agreed independently agreed standards. This would involve work, and implies monitoring and inspection, but is conceptually easy.




***Horrible supermarket checkout, wonderful hotel stairs. One can be stopped and the other can be rewarded by the use of uniform property planning laws***

***Make check-outs healthy***

With this in mind, here above are two salient photographs. The first I also took yesterday as I write, while I was waiting at the check-out counter of the local supermarket with my avocado and mango. Suddenly, most of the check-outs – no doubt in all Bretas supermarkets – have been almost barricaded by aluminium racks containing chips (crisps) manufactured by PepsiCo and its Brazilian subsidiary Elma, such as Ruffles™, Fandangos™, Cheetos™, Cebolitos™, Baconzitos™. A message on the racks (not shown here) says 'PepsiCo. For a better tomorrow'. The placing is in the direct line of sight of tots and young children waiting with their mothers, who know their kids will stop wailing when they are gobbling fatty salty snacks. PepsiCo, the world's biggest manufacturer of ready-to-consume chips and such-like snacks, must be paying Bretas truckloads of money or some other big deal, in return for this positioning and these displays. All prime areas of supermarkets are for rent.

So what to do? PepsiCo is in competition with other corporations, and Bretas is in competition with other supermarket chains. Would anything change if customers or

consumer organisations asked: 'please could you stop doing this'? Very not likely. The answer – and this also would take sustained pressure from public interest organisations – is to pass a national law stating that in order to be registered as a 'supermarket' and even accepted as any kind of legitimate business, the owners and managers must comply with regulations that among other things prohibit the advertising or promotion of any product liable to be consumed by children, at or near check-out counters. Such rules should not stop there! If you think this is fantastic, think of the analogy with football, say. To be 'football', pitches have to be specified sizes and shapes, marked out in set ways, with eleven players on both sides, and so on. Conceptually there is no difference.

### *Make stairs central*

The second photograph above is of the foyer of the Randolph Hotel in Oxford. Some of its rooms look out to Balliol College, where I was a student. Please focus on the stairs. Now think about the hotels you recently stayed in. When I use hotels I take the stairs. One reason that maybe you do not, is that in most hotels the stairs are hard to find, are signposted as emergency exits, and – especially in the US – are filthy, scary, and may end up at blocked or locked doors. Take the Lorena, the São Paulo hotel where I stay and am right now as I complete this column. It is central, reasonably priced, and the breakfasts are good. That's the good news. The stairs are not hard to find, but they are dusty and dirty; some of their lights which go on and off as you pass may not work; and I always feel a bit jumpy about bandits when carrying a computer. Apart from me, and the odd guest from a lower floor when the elevators are jammed or out of order, and hotel employees, nobody uses them.

Now look at the Randolph stairs, wide, inviting, shallow, carpeted – part of the design of a hotel built after elevators, but when it was normal to walk. The solution is much the same as for supermarkets. What is needed is a national law saying that to be defined and registered as a 'hotel', all buildings not yet built must have stairs that are at least as prominent as the elevators. For existing buildings, all hotels not able to reconstruct, or at least to refurbish their stairs to the same standards at the other public areas, would lose one star, on the basis that safe attractive stairs are a fundamental and necessary amenity. No, let's say two stars. You see! Easy!

### *Quashing squawks*

It is also easy to imagine the squawks from interested parties. Supermarket trade bodies would say they would lose business to small retailers where such checkout rules are impractical. Answer: maybe so, and if so, good. Public relations wizards working for hotel chains would say that tourists would stop coming to the country. Answer: rubbish, and if so, too bad. The Federation of Elevator Manufacturers (not a real body) would peddle stories about guests with appalling disabilities who couldn't find the lifts and who died writhing in foyers. Answer: denounce!

Plus of course there would be a whole lot of hoopla about the right of customers to exercise their individual freedom of choice to buy or not to buy Skoffalots™ or Kramemins™, not thwarted by the tyranny of – wait for it, 'the nanny state' and the 'food Taliban'. A slicker move might be to sprinkle more synthetic vitamins into Gobblekripskis™ and Grabsnappibitkins™ (these brands do not exist) as their ingredients get pushed through the extruders, while renting some profs from the Alfred E Neuman School of Carbonomics, Hottitottiomics and Comics at Bigwoppa University (an invented place of scholarship) to publish papers in amenable learned journals with data on tots with the trots, or who suffered heavy legs, knotted guts, or Munchausen's Syndrome by Proxy, as a result of deficiency of said fortified products caused by placement on shelves out of kiddies' line of sight. You may think this is fanciful. Do not be so sure.

The answer to squawks from interested parties, is to quash them. Public officials – starting with elected politicians – need to invoke the over-riding interests of public health and the public good, and to be prepared to assert these, should Big Hyper or Big Snack or Big Hotel challenge their decisions in the courts. But be aware please that no public officials will move unless and until they are constantly, relentlessly, intelligently pushed. This is the lesson learned from the Framework Convention of Tobacco Control, and also from the continuing struggle to marginalise baby formula.

## *Mary Midgley. Poetry*
## Art has its reasons




***Imaginative writers. Poets Elizabeth Barrett Browning, Theodore Roethke, Michael Ondaatje; and Lytton Strachey. At right is an image of the ineffable***

Now I come back to Mary Midgley. Fasten your seat-belt and hold on to your hat. Here come two riffs. The first is on the significance of poetry (1-4).

Anybody who appreciates art of any type knows that imagination is a territory that science cannot grasp, except by way of illustration, analogy, or correlate. When we have an idea, electro-chemical events occur inside us; but while these could be evidence that an idea has occurred, they are not the idea itself.

Or else, maybe the more ideas that people have, the more inclined they are to stay up until dawn thinking, talking or – as now at 0300 – writing. But this is no more than a clue. To say that imaginative people have more energy, which seems fairly likely, merely shifts focus on to the nature of energy, whose correlates are not energy itself.

Matters like these are of great importance. They put any type of science requiring that phenomena be quantifiable and measurable, into its proper place. Science is not the measure of all things, because many things, including much if not most of what is of greatest value, are immeasurable; indeed, ineffable.

*Box 3*

## Mary Midgley on science

*This is an extract from Kenan Malik's* review of *Science and Poetry (3,4).*
Whereas the pre-scientific world viewed the universe as full of purpose and desire, the scientific revolution 'disenchanted' nature, transforming it into an inert, mindless entity. Humans, however, are not disenchanted creatures, possessing as we do both purpose and agency. We are, as Midgley puts it, both 'earthly organisms, animals like others operating within a physical pattern' and 'agents, active beings who not only can but must choose what to do.'

The relationship between humans as physically determined beings, and humans as moral agents, is one of the most difficult problems for scientists and philosophers. But denying one or other aspect of our humanness is not a way of solving the problem. That, however, is just what many scientists in effect do. 'Traditional materialism', Midgley observes, 'asks us to believe in a world of objects without subjects, and – since we ourselves are subjects, being asked to do the believing – that proposal makes no sense.'

In pursuing such a view of humanness, scientists and philosophers distort human life in two ways. First they reduce mind to matter. Such a monist view, Midgley argues, is as wrong as the dualist view of mind and body as separate. She says: 'The words mind and body do not name two separate kinds of stuff, nor two forms of a single stuff. The word "mind" is there to indicate something quite different – namely ourselves as subjects, beings who mind about things.'

The second way in which scientists and philosophers distort human life is by treating human beings as social atoms. It is a view that sees humans 'at the deepest level... not as social animals but as essentially solitary entities.' [This] is not a scientific viewpoint, but a philosophical and political assumption arising from an individualistic view of human life. And it is an unconvincing assumption, for what characterises human life is not just that we are individual agents, but that we are social beings.

Why do so many scientists and philosophers distort human life in this fashion? Because they have come to believe, in the words of Richard Dawkins, that 'science is the only way we know to understand the real world.' It's a view that confuses the physical world with the 'real' world. Toothache, Midgley points out, 'is as real as teeth' and 'debt is as real as the house that was bought with it.' The real world contains 'electrons and elections, apples and colours, toothaches and money and dreams.' Different conceptual entities require different explanations. Science is insufficient to explain the human world.

### *The immeasurable*

'How do I love thee? Let me count the ways' says the poet Elizabeth Barrett Browning; but however many she counted, the ways are no more than signs, that like a sign saying 'this way to Rio de Janeiro' (or 'the Promised Land') point to love but do not define it.

Since Mary Midgley devotes a book to science and poetry I will here persist, as a reader and occasional writer of verse. As poets go, I have always preferred Theodore Roethke to Robert Lowell. Knowing me, I used to suspect that this was because everybody has heard of Robert Lowell, whereas… There is something in this theory – I was given Michael Ondaatje's first five books by a fellow poet from Toronto 40 years ago, was miffed when *The English Patient* became a smash hit movie, but take comfort from *The Collected Works of Billy The Kid* retaining cult status. Here is a glimpse of my warped psychology; and like your quirks, mate, quantify that!

It's something else, though. Ted Roethke is one of those poets who, like some people and movies, improve as you get older. His best known poems are erotic. This one, 'Otto', is not. It prompts reflection on memory, energy, healing, emotion, and meaning, all of which at least in their full senses are beyond science. Its second verse:

> His hand could fit into a woman's glove,
> And in a wood he knew whatever moved;
> Once when he saw two poachers on his land,
> He threw his rifle over with one hand;
> Dry bark flew in their faces from his shot, –
> He always knew what he was aiming at.
> They stood there with their guns; he walked toward,
> Without his rifle, and slapped each one hard;
> It was no random act, for these two men
> Had slaughtered deer, and cut young fir trees down.
> I was no more than seven at the time.

### *Memory*

That last line, wow… In the next verse is a clue that Otto, in real life a market gardener from Minnesota, was Theodore's father, but it is already obvious that he was the boy and that in this poem – published almost 50 years later, after his early death – he is remembering every moment through his eyes, mind, heart and gut as a child. Finding out that Otto died when Theodore was 14 gives the verse more power. Noticing that the boy was born when Theodore Roosevelt, a genius who had been a backwoodsman in the North Country when young, was US president, also gives the passage an extra resonance.

This verse with its exact metre and words all of which ring true, all of which have one or two syllables, touches on many matters that are beyond any science that is immured in measurement and bounded by quantity. It is about memory; what it means to be a child and a man; character; skill, risk, courage, values, justice; balance between humans and the living and natural world in a big country; and also language.

It is no insult to science, properly understood, to accept that all this is beyond science. It would be silly to say in response that therefore poetry has no special value. Mary Midgley cleverly points out that the atomistic take on life, the universe and everything, which still grips the Western world, sprang from *On The Nature of Things* by the philosopher Titus Lucretius Carus (Lucretius), which is a poem.

### *Energy*

Poetry and other arts are ways to remind us that the essences of life transcend science; but once reminded, we can be aware of this by simple observation and reflection. Here is an example from a recent personal experience with traumatic aspects which has made me think. For four weeks lately, my vitality drained. After getting up from 12 hours' sleep, I could think and work for four or five hours, and then – hard to describe this – my being, including my brain, faded. Rather grimly I joked to myself that this must be what it is like being 105 years old. Maybe my systems are shutting down, I thought, and Maybe This Is It, and remained silent.

There was no sign or symptom of illness or disease; indeed, in the four or five hours I felt if anything unusually healthy. As for the fatigue, which was more like nothingness and nothing like any exhaustion that comes after hard work, I could think of several reasons why, but not any that were reassuring. Better review my Will, I thought, but after keeping essential immediate work up to date, my energy was on empty, it was sort-of like pressing the pedal to the metal and nothing happening. Reading I could manage, and I re-read Michael Holroyd's masterly biography of Lytton Strachey, who was constantly ill, sometimes prostrated, and who died age 51.

But then, a few days before writing this in late August, I suddenly got my mojo back. (Note for readers innocent of hippy slang. This means 'bouncing back from a situation of debilitating trauma and negative attitude').

### *Healing*

Phew. The evidence, is that you are reading this and that I am writing it after a full day of work, now at 0500. Bird-song soon. But what was this all about? Here is what had happened. During the days that I was away with my family, our cleaning lady had discovered a seething nest of ants high up above a cupboard in my bedroom, had blitzed them with the contents of two family-size cans of household insecticide, shovelled out mounds of bodies and debris, and had not told me. Well, I knew about

the ants, but not the neurotoxin, and anyway after the first couple of nights back home was so spaced out that I was having trouble with 2+2. Physiologically why I recovered, I deduce with support from Wiki and the Internet, and advice from friends, was as follows. First, because the stripped myelin sheaths of my nervous system seem to have healed (although the books say that such damage is irreversible), and second, because of knowing what had happened. Probably you have had some similar-type experience of exhaustion and then resurgence of energy. So here are two correlates of healing, one physical, one mental and emotional. But it is not possible to weigh each with the other. Also, they are signs of healing, not the healing itself.

***Emotion***

Yes, neurotoxicity as a physical phenomenon can be addressed and measured by conventional biological science. That's true. But science is not able to determine to what extent the return of my energy and good spirits and humour and pleasure in life, is down to physical regeneration, and to what extent it is caused by me now being sure that I am not about to descend into doddering, decrepitude or death.

*Box 4*

## Label Babel

As an excursion, now I will bring this story to bear on science and on nutrition. If you look at the label of any household insecticide, you will find a little box called 'Precautions' or something like that, in type needing a strong magnifying glass to read, which may warn against drinking the stuff, and hint that it may be smart to open the windows if there is an infant in the room. That sort of thing, and that's about it. If you read the chemical names of the muck, and look these up on Wikipedia, you will learn rather more. Manufacturers say that their products are harmless to humans when used according to the instructions; and 'hypersensitivity', which may be mentioned, is a cute way of insinuating that if the stuff harms you, tough bananas, this is sort-of your fault.

You see the analogy with the labels of ultra-processed food products. Moreover, there is no way that any official or regulatory body is going to say that any product on the market is potentially lethal, unless there is very intense and sustained pressure to do so, as with cigarettes. Meanwhile, do household insecticides come with great big skulls and crossbones on the labels and warnings saying 'this product is a neurotoxin' or 'neural damage done by this product may be irreversible'? No, they do not. Did you think that everybody who sits on the expert committees that advise international and government regulatory agencies concerned with poisons, drugs – and food products – has no conflicted interests?

So what use is orthodox science in situations like this? Not a lot. Indeed, any response from regulatory authorities or manufacturers would say that the products are safe when properly used, and might also say that if I was nuts enough to have a cleaning lady whose response to an ants' nest was a holocaust of insecticide, that was down to me, to which I would reply yes, but only after the skull and crossbones and great big fat warnings please. My general point here, is that anywhere there is a question of danger from any bioactive substance – *trans* fatty acids, for example, or to take the current example, sugar, you will not, sorry to say, get a straight answer by looking at the label.

This is because science can measure physical or biological correlates of emotion, but not emotion itself. Nor can science encompass vitality, or life itself. Behold the stupidity of the type of nutrition that equates food with its chemical composition, which gives clues to the quality of food, but is not food itself. If it were, where is life? This is like saying that there is no difference between you, me, and a corpse!

***Meaning***

It's true! Yes, in a limited sense food is dead before we eat it, bar the odd oyster. We don't gnaw the haunches of living cows, and even if we did, the chunks we tore off would not have a heartbeat. But what is properly meant by living food, is food that is perishable – that goes bad. Do any nutrition guidelines or nutrition textbooks say this? As far as I know, no. This is the sort of stuff you find in outlaw literature that students, including of nutrition, read when they are not studying. Values, emotions, memory, character, energy, vitality, life itself – these are about quality. Conventional science is about quantity, and so misses the central aspects of humans and the living world. Science has its domain, but can tell us nothing about what anything means.

This is what I am reminded of, by Mary Midgley, by the poetry she has encouraged me to read mindfully, and by my tale of my mojo. (Maybe this is the first appearance of 'mojo' in a scientific journal. Some might say that publication of 'mojo', not to mention poetry, Theodore Roosevelt, Lytton Strachey, and ruminations about 'quality', is further evidence that this journal is not scientific…. Vitalism! Brandish the biological scientific version of Bible, cross, garlic, stake and mallet! Oh well… )

*Mary Midgley. Science*

## Where the bee sucks, there heal we



***Própolis used by bees as glue in hives; what it looks like in its dried raw state; how it is now usually packaged for sale in 'health food' shops as a throat spray***

Here is my second riff developed from Mary Midgley's thinking, this time on why science may not work well even in its own domain (1-4). It's one of those stories which may make you at first think 'mildly interesting, but what does this have to do with nutrition?' Patience, please! All good riffs circle back to a point!

It's also about what is maybe my last chance to make money, which I may already have missed. Própolis. Be gentle with me, for you are reading a column by a man who long ago turned down the offer of a share in the Rolling Stones made by their then manager Georgio Gomelsky; who with three phone calls could have had a point in the world rights in *Johnny Cash at San Quentin*; and who for a week had the inside track on buying the controlling interest in Filofax, then based in a back street in Finsbury with just one retail outlet. Yes, dear reader, I could have been a multi-millionaire, instead of what I am, a columnist for the journal of the World Public Health Nutrition Association.

Here is the story. Some years ago, after coming to live in Brazil, I might have gone into business to market própolis, pictured above, of which Brazil is with the US and China one of the three leading producers. True, it's an established trade, with something like 200-300 tonnes being exported, notably to Japan. But the production and the price of própolis on the internet and in 'health food' shops throughout the world have rocketed in the last few years, as I knew they would. Some people say that when banks go bust, get into property. My good advice was to get into própolis. Plus I think I know how to promote it. But I did not. Bah! Fool that I was!

***What it is***

So what is própolis? When I have carried some out of Brazil and recommended its healing powers to chums in the UK, they behave in much the same way. They hold the little bottle (see above, right) as if it a bomb, can't read the label (in Portuguese), and say 'thank you very much, I will try it' in that 'once he's gone I will bin it' tone. People brought up in 'developed market economies' are trained to buy and use medicine after prescription by physicians or as sold by licensed pharmacists. True, as mentioned, you can get própolis in many 'health food' shops, but most (not all) of my friends and colleagues in the UK are corralled by allopathy, and would not be seen in a 'funny food' shop. Besides, there are rolling media stories some headed 'Bad Science' about the terrible horrible deadly toxic qualities of 'natural medicine'. Hence the handling of the little bottles I proffer as if they contain cyanide.

Própolis is a product made by bees. Yes, like honey, or let's say more like beeswax, because it is usually seen as a by-product of apiculture. In the glossary of *The Origin of Species* Charles Darwin describes própolis as 'a resinous material gathered by the Hive-Bees from the opening buds of various trees' (see above, centre). Bees use it as a glue to seal their hives (above, left). Its practical purpose becomes more apparent with wild bees, who construct the entire structure of their nests. To quote a report published by the UN Food and Agriculture Organization_ 'These resins are used by worker bees to line the inside of nest cavities and all brood combs, repair combs, seal small cracks in the hive, reduce the size of hive entrances, seal off inside the hive any dead animals or insects which are too large to be carried out, and to mix small quantities of própolis with wax to seal brood cells'.

*Box 5*

## Própolis – the bees knees



*Brazilian green própolis from Minas Gerais is the bee's knees. Brazilian bees are of African origin, and the Baccharis dracunculifolis shrub is abundant in Minas. Accept no substitute!*

*Here is an extract from a report on própolis by the UN Food and Agriculture Organization,*
In Europe and North Africa, the special wound healing properties of própolis were known to the Egyptians, Greeks and Romans in ancient times. In records of the 12th century, medicinal preparations with própolis are described for treating mouth and throat infections, as well as caries.

General medicinal uses of propolis include treatment of the cardiovascular and blood systems (anaemia), respiratory apparatus (for various infections), dental care, dermatology (tissue regeneration, ulcers, excema, wound healing – particularly burn wounds, mycosis, mucous membrane infections and lesions), cancer treatment, immune system support and improvement, digestive tract (ulcers and infections), liver protection and support.

Though many effects are attributed to propolis, many reports are based on preliminary studies. If clinical trials were conducted, they were rarely based on large numbers of patients or rigorous test designs such as the double-blind placebo test. The majority of the studies were conducted in East European countries. Much practical work and research is also being done in China, but information is difficult to obtain, not least because of the language barrier. Western European and North American medical research has largely ignored this source of milder and widely beneficial material. More detailed studies are warranted to determine the potential benefits from the medicinal use of própolis, particularly for intestinal, dermatological and dental applications.

The current trend to return to environmentally safer and less energy intensive production methods in many developed countries, the increased buying power of consumers, and growing markets for more expensive products, may lead to considerable growth in the use and new applications of própolis, particularly in cosmetics and food technology.

Originally I got to know about própolis because my Brazilian wife Raquel is into natural remedies and that sort of thing, as am I, or so I would like to think. But being British I also said thank you very much, and may even thought 'she's not a doctor'. I did sniff it, and did use the mouth and throat spray that also includes honey, eucalyptus and *copaiba* which tastes nice, as própolis also does when mixed with honey, ginger and camphor, and that was as far as I went… That is, until the middle of one night ten years ago, when I was alone in the house.

### *My gash*

Here is what happened. I fancied a snack, went into the kitchen larder and stood on tip-toe to reach down from a high shelf a heavy thick green glass pasta container we use to store granola. It rocked and fell, and the floor of the larder was covered in granola and glass… and blood. Lots and lots of blood. A pool. Funny, I thought. Where did that come from? Oh, I thought… me. My gosh. My gash. A shard shaped like a dagger had rebounded from the floor and pierced deep above my ankle. This sounds impossible, but so it was. Unwisely perhaps, I pulled it out. The blood wasn't pumping, but it wasn't seeping, and my dietary P/S ratio is no help with clotting.

The smart move, I thought, will be to stick my leg up on a chair and bind it tight above and over The Gash with What Is At Hand, which was three kitchen drying-up cloths, which I did, and they were just big enough to act as a tourniquet. Then I waited for an hour, drawing patterns in my blood on the kitchen floor. Then the Unwinding. Oh good, I thought, not an artery. Phew.

So I mopped up the floors of the larder and the kitchen, and once upstairs, carefully avoiding gory footprints, hop hop, soaked a hand-towel with própolis, pulled the wound together with lots of bandage, and went to sleep with my foot up on a giant cushion, easier to do than sleeping World Traveller class. On her return Raquel had a look and said that is an eight-stitch wound, and why hadn't I taken myself off to casualty (she tends to be brisk in matters like this).

The immediate point of this story, apart from wanting to impress you with my fortitude and initiative, is that (a) the wound then became infected because of having been bound with filthy cloths and manky towels seething with tropical bugs, and my foot swelled up, and I looked up 'celulitis' in my *Merck Manual* and thought o-my-god, and (b) but I refused commercial antibiotics, and stayed with própolis; and quite soon my foot was fine, the wound was clean, and later no scar.

Great stuff, própolis. It works for mosquito and other insect bites. After a few minutes no more itching. It works for colds and sore throats if you take regular small swigs of the elixir neat, as soon as you sense a sniffle or a tingle. Don't ask me how it works against viruses, but it does. (No, it doesn't work against insecticide intoxication). And in Box 5, above, there is a list of other uses, but notice the insinuation that studies attesting to its value are mostly pretty sloppy and carried out in weirdo countries with funny languages like in Eastern Europe and China.

### *Beevolution*

Over my years in Brazil I have changed my mind on many things. Now I would rather rely on millions of years of beevolution, and from learning about evolution as a collaborative process, as stated by Mary Midgley and Lynn Margulis (1,2,8). Yes,

bees do indeed use própolis as hive glue. That's just one function. They also use it to protect bee queens and the entire colony from infection, infestation, mould, rust and corruption. It is a universal antimicrobial. That's why it has been in human use no doubt ever since honey has been raided and then bees have been bred. It works.

So why have my hopes of própolis prosperity revived? Really I should keep quiet about this, but I'm a transparent kind of guy. Look at the picture on the left in Box 5, above. Rather like ginseng, it turns out that there are all sorts of grades and qualities of própolis. (Have you ever been in a specialist ginseng shop, in China or Korea? They are phenomenal. Round the sides of the shop, boxes of the usual commercial stuff are stacked, already sliced, highly priced. But in the middle of the counters, the assistants reverently show you the Real Thing, and take you on tours of astounding ginseng roots gathered by Zen masters, of which they may if you plead, sell you a sliver for eye-watering amounts of foreign exchange. So yes actually there are ways of doing good business from products of nature… )

Back to própolis. That which is marketed from Europe and North America is inferior stuff, or so I understand, because the cultivated bees originated in Europe. Whereas, Brazilian bees are originally African – they are the best or, as the English slang term goes, they are the 'bees knees'. Moreover, much depends on the source of the resin, and, or so I am told, the very best stuff is green, gathered by bees – on their knees – from the *Baccharis dracunculifolis* shrub which grows wild abundantly – in my home State of Minas Gerais. All sorts of selling lines occur to me. Save the Atlantic Forest with green própolis… Always something new out of Africa… Go green… These are the lousy lines. I am not telling you the good ones.

***What is proof?***

But where is the proof? Now at last, patient reader, I come to the point about the limits of science even within its own domain. Própolis has no big deal commercial potential. Products of nature cannot be patented, and therefore it is not worthwhile to fund the type of epidemiological or clinical studies that are conventionally accepted as adequate evidence. It can take hundreds of millions of $US or equivalent for pharmaceutical corporations to mount the trials needed to get medicines passed as effective and safe. No Big Drug firm is ever going to get interested in própolis, because as soon as its product was on the market, unprotected by copyright, other firms would jump in without having had to pay a $US 1 for the doubly blinded cross-over trials on animals and then people that are needed to get the initial licence.

So now at last and as promised I come to the general point. Absence of evidence (of the types now conventionally relied upon) is not evidence of absence. Thus, why is so little known about the nutritional and other bioactive properties of herbs and spices (with a few examples like garlic)? Answer: big trials are not held, because research funders are not interested in foodstuffs that are mostly produced and

consumed in lower-income countries such as India. Or, to give another answer, yes there are libraries and laboratories stacked with evidence, but not of the types that are accepted as 'robust' by Big Science.

In its own domain, science tells us only what interests those who fund research; and the criteria for what constitutes good evidence have been influenced and even determined by consortia of experts, some with what are politely termed as 'close links' with interested parties in government and industry, in the countries that provide most funds for research science. The US, for instance. As a general rule to which there are important exceptions, what we believe about nutrition and public health, and with fewer exceptions what ordinary customers and consumers believe, is what the most powerful players want us and them to know. Follow the money.

Meanwhile I advise us all in our own lives at least when we are at home, to rely on one of the historical principles agreed at the Giessen meeting in 2005 (7). This says: 'Food and nutrition practices consistently followed in different cultures in history are probably valid – though not necessarily for the reasons given. They do not require proof to be accepted, but disproof to be rejected'. The same goes, I now suggest, for medicines, and for the practices consistently followed by non-human creatures.

***Until October!***

Writing has a life of its own. This column began by indicating that it would invoke three places in Brazil, which I have visited and where I am now: the gold road of Piedade do Paraopeba; the nature sanctuary of Imhotim; and the great city of São Paulo. With snaps, naturally. But as my grandmother wrote at the end of her letters to me as a schoolboy, so long ago, I must close now. Until October!

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## Status

Competing interests: As I write, perhaps too much enthusiasm for Brazil, enhanced lately by the amazing stories concerning Glenn Greenwald, David Miranda, and newly identified police states. This column is reviewed by Fabio Gomes and Claudio Schuftan. My thanks go to Mary Midgley, for keeping the faith; to my wife Raquel, and her chums at Natuchi for baking me my daily bread; to Michael Pollan as ever for good ideas exchanged; to Srinath Reddy for the invite to the PHFI inauguration (the Taj in Hyderabad is the bees knees); and to all the good people in my life who have sincerely wanted me to be rich. Please cite as: Cannon G. What they believe: 1. Mary Midgley: Values. Also, What I believe. *World Nutrition*, August-September 2013, **4,**7, 549-569. Obtainable at www.wphna.org.

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