

How to cripple abattoirs

By Michael Bourchier

Introduction

Animals are not just living things; they are beings with lives ... that makes all the difference in the world ... next time you are outside ... notice the first bird you see ... you are beholding a unique individual with personality traits, an emotional profile, and a library of knowledge built on experience ... what you are witnessing is not just biology, but a biography.

*Jonathan Balcombe*¹

If I was to offer you a completely new range of things to eat—food with marvellous tastes, textures and mouth-watering aromas—I think there's a good chance you'd be interested in trying them because generally speaking that's exactly what we look for in our food. So let's assume that you have accepted my offer. However, before you get underway there are a few things I have to tell you.

Firstly, in order to obtain this food, several species of animals, mostly cows, pigs, chicken and sheep, had to be killed, and in most cases this was done in cruel and painful ways. Prior to being killed these animals were subjected to various forms of ill-treatment and as their lives drew to a close and they became aware of their impending doom, they experienced high levels of terror, sufficient in fact to change the nature of their flesh.

Secondly, the methods employed to produce this food are highly inefficient and environmentally disastrous in terms of

water pollution, water wastage, land degradation, species loss and the production of greenhouse gases.

And finally, eating this food will, in the long term, significantly increase your chances of developing certain cancers, cardiovascular disease, diabetes, and, it seems increasingly likely, dementia.

So, are you still interested? I assume, and certainly hope, that by now you've changed your mind about eating the stuff, but if you are a consumer of animal products in any form (not just food) these are exactly the sorts of things you are helping to facilitate with every purchase. It's not a pleasant thought, but it's what ninety-five percent of the population in the *developed world*¹ is doing every day of every week.

So why do we do it? Why do we treat our fellow travelers so barbarically? If causing such levels of suffering in so many animals is not highly unethical, then what exactly is unethical behaviour? By any measure, the mistreatment of animals by commercial operations that act 'legally' among us goes far beyond the pale of what could ever be acceptable in a civilised society and presumably that is the type of society we want to live in.

It's an abhorrent situation, many centuries in the making, but the past is the past and it cannot be changed. The question

¹ For the purposes of this essay, I define the *developed world* as being comprised of populations (rather than countries) where the majority of people are overweight; that is, they have a body mass index of 25 or more as only wealthy economies are able to create and distribute enough calories at a sufficiently low cost to make this possible. Elsewhere, becoming overweight is just too expensive for most people to achieve.

now is: what can we do about what confronts us today? How can we as individuals, working within the sphere of animal welfare, help move our societies a step closer to a state of *civilisation*? Surprisingly, the answer is quite simple: withdraw financial support for the industries which are causing, or contributing to, these problems. Just stop buying anything that relies on animal abuse for its existence. There are many other actions we can take in addition to this, but none are as effective as refusing to give them our money, because, like all commercial operations, the animal-abuse industries exist for one reason only—to make a profit. Without it, they will cease to exist.

Veganism

Each person who chooses to withdraw their financial support for the animal-abuse industries—which of course extend well beyond food production—become, by default, *vegan*.

This is not as disturbing as it may initially sound even if the words *vegan* and *veganism* conjure up uncomfortable thoughts of oddballs, extremists, trendy bandwagon jumpers or tiresome do-gooders looking for a drum to beat. Yes, there are some vegans who can be described this way, but as a general rule such descriptions are neither fair nor accurate. Today, the concept of veganism has a much broader and more powerful meaning despite outdated dictionaries still defining it as simply a diet that excludes all animal products. For many of us, myself included, being vegan has got very little to do with what we put in our mouths *per se* and much more to do with the whole

picture of animal welfare, the contribution of animal agriculture to the looming environmental catastrophes and plain old human health. Indeed, veganism, by its very nature extends beyond non-human animals to a deep concern for human beings as well because we are all of us, in our capacity to suffer, inseparable.

I think of veganism as a *moral and political response to a critical situation*, and while it certainly does mean having a diet free of animal products, this is no more than an inevitable consequence of the decision to take action. Veganism is NOT a squeamish dislike of sausages, leather shoes and horse-racing simply because they exist, nor is it a quasi-religious fad diet designed to make the devotee feel 'different' or 'superior'. It's got nothing to do with religion, culture, career, age, gender or anything else that distinguishes us from each other. Veganism is about lowering the demand for food, clothing, entertainment and anything else which causes high levels of suffering among the animals it exploits and, as a corollary, increases demand for those which do not. It is both a re-balancing of our relationships with animals and decisive action to preserve and defend the natural environment. Veganism has clear, measurable goals, many of them simply zero.

The scope of animal abuse

If you read on you will notice that I have directed a lot of my comments and antipathy toward the meat and dairy industries. This is not because they are necessarily the cruellest; it is because they are the biggest, towering as they do over the

landscape of animal abuse. Between them these two titans are responsible for the terrible and completely unnecessary suffering of billions of cattle, chickens, turkeys, geese, pigs, sheep, goats, fish, horses, dogs, camels, buffalo and other species, and the sooner they are replaced by plant-based food industries, cellular agriculture and other scientific and technological advances that do not involve animal exploitation, the better our societies will become.

By concentrating on the meat and dairy industries I don't want to suggest that those animals who fall foul of other exploitative industries are necessarily better off, because often they are not. Consider for a moment the fate of circus animals, trapped in small cages or chained up for most of their lives, deprived of any reasonable quality of life, carted around the countryside in all weathers, whipped, threatened, and forced to learn stupid tricks; marine mammals, such as orca and dolphins, that would swim for thousands of kilometres if they were in the wild, held in captivity and forced by the staff of marine parks to entertain people from the confines of over-sized swimming pools, and worse still, locked up overnight in tiny tanks where they can barely move; birds imprisoned in cages, deprived of social interaction or the chance to fly, bored beyond description—an exquisite form of torture in its own right (and one that is used in our human prison systems), is something unbearable to witness; race horses restrained in their stalls for twenty-two hours a day when they should be roaming or grazing with others of their own kind, whipped on race day and then discarded and killed for pet food when they break a leg or the sums don't add up;

free-ranging animals of the open plains and forests—the gorillas, monkeys, wildebeest, gazelles, big cats etc., confined in zoos where they suffer the mental anguish and eventual madness of an isolated prisoner; the millions of mice, rats and chimpanzees subjected to cruel experiments in the name of science and the rabbits and hares into whose eyes the cosmetics industry drips its chemicals. These are a few examples of animals whose lives can be as bad as, or even worse than those of the ones we raise for their flesh; and each is as entitled to be freed from their human-induced hells as any other.

If you run your finger down a list of all the forms of animal abuse we in the developed world indulge in, one thing stands out as common to all (with the possible exception of some scientific experimentation) and that is they are all unnecessary. There is simply no need for any of it. Surely we're capable of feeding and entertaining ourselves without having to sink to these levels of depravity? Even the use of animals in experiments, which, from our anthropocentric view of the world we deem necessary, is waning and seems destined to become a thing of the past in the next few decades.

Factory Farms

Among the worst crimes in human history are today's *factory-farms*. The industry name for them says it all: 'Concentrated Animal Feeding Operations'.ⁱⁱ These sickeningly overcrowded hell-holes, which I will describe in detail in a minute, are far and away the number one cause of prolonged suffering for animals in the world today. According to the heartless economic

principles of factory-farming, an animal is merely a unit of production to be confined, controlled and exploited for monetary gain. Any action taken to improve its well-being—that does not also increase profits—is deemed a waste of money. This type of thinking may make ‘economic’ sense, but the consequences for the animals caught up in it are ghastly.

It may sound an exaggeration to say (as I did) that what is happening to animals in factory-farms ranks as some of the worst evil that human beings have ever engaged in, particularly when you consider the mass barbarities that litter human history. But it is actually closer to an understatement than an exaggeration, and that surely ought to give us all pause for thought. If it doesn’t, then it’s hard to imagine what could.

As Yuval Harari says in his masterpiece, *Sapiens: A Brief History of Humankind*: ‘If we accept a mere tenth of what animal-rights activists are claiming, then modern industrial agriculture might well be the greatest crime in history.’ ⁱⁱⁱ And when you think about what is going on, for how long and the massive numbers involved, you can confidently remove ‘*might well be*’ from his comment and replace it with ‘*is*’.

A most disturbing thought is that the extent of factory-farming may very well increase as the world’s human population continues to grow. United Nations’ demographers expect there to be more than nine billion people on earth by 2050. That’s two billion more people demanding resources than there are today, and unless there is a major shift in behaviour many of them will want to eat meat. As a result of this rapid growth,

global meat consumption is predicted to double over the next forty years, although how this ghastly statistic could possibly be achieved without huge input from cellular agriculture (meat grown in bioreactors), nobody understands, because conventional production is now close to its maximum output. What may happen, and something every person on the planet should greatly fear, is that even as the developed world continues to move away from animal products, countries with huge and growing middle classes, such as India, Indonesia, Nigeria and China, will go in the opposite direction, demanding more and more meat, resulting in more and more factory-farming. The global picture may become much worse than it is today although there are some big unknowns in this equation. How rapidly, for example, can cellular agricultural meat production be scaled up over the next few decades and will education, heightened social awareness, government policies or even a blind fear of environmental catastrophe, be sufficient to stem demand for meat in these huge human populations?

Furthermore, factory-farms are the main incubators of both infection-resistant antibiotics—those ‘super bugs’ for which we have no cures—and the mutated viruses that cross over to humans from other species, of which Avian Flu, HIV/AIDs and Ebola are recent examples. To date, these new pathogens have not caused global devastation, but it is predicted that the number of people they will kill will rise to around ten million each year by 2050—a ten-fold increase on current numbers.^{[iv](#)}

Environmental impacts

If being party to animal cruelty on this scale is not sufficient reason for some people to alter their behaviour they might be moved to do so by the chilling fact that animal agriculture is a fundamental cause of many of our gravest environmental problems, among them: land clearance to create grazing land, and the associated soil erosion, loss of biodiversity and reduced carbon capture capacity that accompanies it; over-fishing and the destruction of marine ecosystems; water pollution; fresh water wastage and the production of methane, a significant greenhouse gas, are just some of them. Each is critically important in its own right and each can be greatly ameliorated, even rectified, if we move to a plant-based food system. If we stop feeding a third of all our grain and soy to animals trapped in factory-farms, vast areas of land can return to naturally occurring vegetation and there will still be sufficient food for all people. But time is rapidly running out and we have to get moving, even if only to blunt some of the effects of the environmental damage we've already caused and we certainly can't rely on last-minute technical solutions to give us a 'soft landing' when the causes of global warming have already gained such irreversible momentum.

People power

In the face of all this gloomy news it is easy to become despondent, especially when we look at how big the meat, dairy and other animal-abuse industries have become and at how normalised their products are within society. I know that sinking feeling well, because I drive through the farming country of

New South Wales in Australia regularly and I see the scale of it all. It's huge and sometimes the thought of bringing about meaningful change feels a bit like trying to nudge a fully-laden iron ore carrier off its course using a rubber dinghy. But it may prove to be easier than that because *people-power*, when properly harnessed, is incredibly strong and has the potential to increase exponentially once it takes hold in the shared human imagination. Official statistics don't show it, but in the developed world a major shift in people's views on veganism, animal welfare, the environment and healthful plant-based nutrition, is well and truly underway, and it's gaining momentum. Just the other day (May 2018) Woolworths in Australia reported a 10% increase in the sale of vegan foods in the last 12 months. Every day the penny is beginning to drop more frequently, adding thousands of vegans to the tens of millions who have already arrived.

As Margaret Mead said: 'Never doubt that a small group of thoughtful committed citizens can change the world; indeed, it's the only thing that ever has.' [v](#)

In this case the 'small group' comprises the roughly forty million people globally who have chosen to become vegan for ethical reasons. These are people who have access to abundant, cheap animal products but choose not to consume them because they want to do something about the dreadful mess we've got ourselves into. That is what an ethical vegan is. And while 40 million is a comparatively small group in a global population of over seven billion (representing only 0.6%), it is

still a lot of people and sufficiently large to ignite an idea in the collective human imagination. Just as a flaring match head is tiny compared to the forest fire it starts, a concept as potent as veganism, which is fuelled by logic, compassion and urgency, can spread in the age of social media as quickly as an Australian bush fire on a hot, windy day.

Scope of essay

I have deliberately focused on the major animal-abuse industries in this essay because of their sheer size and because they are a problem we can really do something about. It does mean, however, that I haven't touched on more esoteric topics such as whether or not it is OK to swat a fly, stamp on an ant; or eat a jellyfish, an oyster, the carcass of an animal that has died of old age or was run over by a truck. Nor have I mentioned anything about what actions we might justifiably take if our houses are plagued by rats or mice, or if we're feeling self-conscious about the tens of thousands of little animals we slaughter each morning when we wash our faces. I'll leave that to the Buddhists because they've had a long time to think about such things. I've also avoided tricky modern day questions about how to deal with introduced animals which are killing native species and in other ways destroying the environment. These are issues for another discussion. One thing I have done is make a few comments about the role of animals in scientific experiments and the need for blatant (but temporary, I hope) hypocrisy on our part if we are willing to

accept treatment using modern medicine that has its roots in animal abuse.

1. **Why the blind spot?**

I think it's instructive to ask why a large majority of us give financial support to industries that cause such tremendous suffering to such huge numbers of animals when there is no need for us to do so. If we had to eat animals to survive, then supporting the meat or dairy industries would be another matter entirely, but this is not the case as the Australian government-funded health information and advice service, *Healthdirect*ⁱ makes abundantly clear. We don't need to consume any animal products to be healthy, which means we don't need these industries either. So why are they still here? The main reasons, it seems to me, are their sheer size, their integration into the economy, and their high levels of public acceptance; but all these could change very quickly if the broader public comes to understand the harm they cause, not just to their animal victims, but to the environment, human health and the ethical basis of the whole society.

But still, the question remains: why are these industries supported? Why is it, for example, that smart, caring folk, many of whom would claim to 'love' animals, and may indeed have pets of their own, and certainly would not like to think of pigs being tortured, have no qualms about eating bacon for

breakfast? One obvious explanation is that they have a *blind spot* when it comes to animal suffering, at least as it occurs within the animal-abuse industries. They'll rush their cat or dog down to the vet at the drop of a hat, but do they ever consider what actually lies behind the pet food they buy?

I think of blind spots as psychological safety nets, somewhat akin to burying one's head in the sand and hoping it will all go away or at least it won't be mentioned. It's not difficult to see why blind spots have arisen in relation to animal welfare because there are so many very bad things going on; and bad things are usually easier to avoid than to confront, especially if everybody else is doing it. But that alone doesn't make it OK.

Here are three reasons which I believe may explain (in part) why blind spots are so common when it comes to the welfare of animals caught in the maws of the animal-abuse industries:

Firstly, for most of us, watching, even thinking about, extreme cruelty is a disturbing thing. Not only can it be very upsetting, it has the potential to cause us psychological injury, and so we instinctively protect ourselves against it by not looking at it. I, for example, have never watched people being beheaded by terrorist organisations online because I know it would give me horrible recurring thoughts for the rest of my life.

Secondly, there is the inconvenience of knowing that if we do confront the truth about something that relies on extreme levels of cruelty for its existence, and we are financially supporting that behaviour, we might, indeed we

should, feel an obligation to do something about it—and nobody likes the thought of that! It's much easier to ignore reality a lot of the time than to face it.

And thirdly, we're cautious about leaving the safety of the herd—which, in the case of adopting a vegan lifestyle, means parting company with the non-vegan majority. This caution is quite understandable because as social animals the advantages of belonging to a group are wired into our psyches. Indeed, our very survival has relied upon membership of a group for eons and we cannot change our instinct to belong any more than we can change the colour of our skin.

These three reasons: a 'self-protective' avoidance of the facts, and reticence to do anything because it just seems all too hard, and fear of leaving the herd may between them explain the existence of some of our blind spots. Other reasons could be just not caring one way or the other—the 'I don't give a shit' mentality, fear of being thought of as a weirdo or a sappy do-gooder, a love of meat and dairy products to the exclusion of all else, the misguided notion that humans need to eat animal products to remain healthy or the mental disposition of psychopathy—the inability to care about suffering in others.

Whatever our reasons, and we can determine them through some honest self-examination, they are all, by definition, subject to reason itself. Our ability to change our behaviour in response to a reasoned argument is one of the greatest

strengths of being human and part of why we are this planet's dominant species. Nobody should doubt their capacity to respond in this way or think they are too old or set in their ways to change. That's called 'giving up'.

Self-delusion is another method we use to guide ourselves into safer psychological waters. It can be a useful protective mechanism and one might argue we live in a delusory state most of our lives, but self-delusion can also be the mechanism by which we allow ourselves to believe that what goes on behind the walls of the abattoirs and factory-farms might just creep across the line of what we would find acceptable, even if we knew all the details. Deep down we know this can't possibly be the case but there's nothing like a little self-deception to create a psychological wormhole just large enough for us to wriggle into. Highly delusional people may even tell themselves that the government is regulating the animal-abuse industries competently on their behalf; although given the overwhelming evidence to the contrary that would be a delusionary stretch few of us could make with any semblance of conviction.

Many of our blind spots first took hold in our young and developing childhood brains. Most of us, in the developed world at least, begin eating meat within the first year or two of our lives where it is simply treated as 'food' in the same way that dairy products, fruits, nuts and vegetables are thought of as food and the ethics about where meat comes from are never discussed. Consequently, very little connection was ever made between the object on the fork and the animal whose flesh it

once was. Euphemisms such as *pork*, *beef*, *lamb* and *chicken* deflect the argument away from its brutal realities and into a safer psychological space where a lamb chop can be equated with a peanut butter sandwich. It is in this same gravelly soil of the mind where our ingrained conditioning has taken hold that the arguments for animal welfare and veganism must try to germinate and sprout. Shifting one's psychological position from the status quo to one where meat and milk are seen, not for what they are in an organic sense, but for what they represent, can take a good deal of individual effort. But it can be done and often is, with surprising ease.

There is an almost endless stream of reasons to explain why we turn a blind eye to the widespread and horrific animal suffering in our midst, but at the end of the day, can any of us plausibly let ourselves off the hook as easily as we do?

2. Down at the slaughterhouse

The animals we eat, milk, experiment upon, turn into apparel, and use for entertainment or as beasts of burden, are very like us in many ways. Most of them are mammals, and closely related to us in evolutionary terms. They have nervous systems and behaviours similar to our own, and they experience fear, pain and suffering as we do. There is no need for us to twist ourselves in knots trying to determine how much they suffer or whether they suffer more or less than we do. That they do suffer in a comparable way is all we need to know.

But what do I mean by suffering? It is a concept open to various interpretations, so to ensure that we are all on the same page, here are three examples of what I would define as actions that would cause severe suffering in humans:

having your head methodically caved in with a hammer.

being held by your ankles by someone who is about to drop you off the top of a tall building.

being kept in solitary confinement, and slowly driven insane through social deprivation.

Each of these scenarios conjures up levels of pain, shock, terror and mental agony, which, thankfully, most people never experience, but which the animal-abuse industries inflict on their victims every day. Isn't that worth thinking about? In fact, if we all understood that, and acted accordingly, there wouldn't be any need for further comment and I could stop writing right here. But unfortunately, that's not the case.

(At this point I feel compelled to diverge a little and acknowledge the many thousands of men, women and children around the world who are suffering in similar ways at the hands of other people. From the concentration camps, torture chambers, and inhumane prisons of the more barbaric regimes, to the use of solitary confinement in supposedly 'advanced' countries, revolting forms of torture are being used everywhere we look. And while it is relatively easy for us to reduce the scale of animal abuse by choosing not to give the perpetrators our financial support, it's a different matter when it comes to the

lives of people falsely imprisoned, tortured and murdered in other countries. Often there is very little we can do to help them beyond supporting human rights organisations like *Amnesty International* and pressuring our government to take action. Just because it is difficult doesn't mean we shouldn't try, but results will often be harder to come by. It is important to bear in mind that there is really no difference between the suffering of these people and that of our animal cousins and all are equally deserving of our efforts to end to their torment.)

Where, one may rightly ask, is the evidence that the animals down at the slaughter house suffer as greatly as I have suggested? Fortunately (although I hesitate to use that word), there is a great deal of evidence to support this claim and I would encourage anyone who has any doubts to start an online investigation by keying *animal abuse by the meat industry* into a search engine and following the links. You will be horrified by where it takes you.

Or if you want to take a shortcut to a few selected sites, and have the stomach for it:

look at these young pigs going to the gas chamber in this Australian abattoir:

<http://animalsaustralia.org/features/not-so-humane-slaughter/> ⁱⁱ

see what happens to these calves on this one:

http://www.animalsaustralia.org/features/they-stabbed-babies/?r=583a767006b901480226416&ua_s=e-mail ⁱⁱⁱ

watch this short video called *Meet Your Meat* produced by *People for the Ethical Treatment of Animals* (PETA), and

narrated by Alec Baldwin. <http://www.peta.org/videos/meet-your-meat/> ^{iv}

listen to the vegan activist, Gary Yourofsky: a brilliant public speaker.

<https://www.youtube.com/watch?v=es6U00LMmC4>

look at the documentary *Cowspiracy* (also available on *Netflix*)

<http://www.cowspiracy.com/>

follow the link below to gain a different insight into the dairy industry

<http://freefromharm.org/dairyfacts> ^v

Or you might wish to read these books (or at least a few chapters from them):

Animal Liberation – the seminal work of Peter Singer.^{vi}

Farmageddon: The True Cost of Meat by Philip Lymbery and Isabel Oakeshott. ^{vii}

Eating Animals by John Safran Foer. ^{viii}

This is just a light sprinkling of what is available but I know most people won't open any of these links, or the books, because getting up close and personal with what is being done to the animal victims in this story is not easy. So for those who cannot bear to witness the stark reality of what they are throwing their financial support behind, you will just have to take my word for it—it is all very dark and it makes you question the very ethical bases upon which our societies rest.

If you are one of those who think your country has good animal welfare protection laws and that they are being competently

enforced on your behalf, think again. Governments all over the world are universally doing an appallingly bad job of protecting the animals and that won't change as long as vested interest groups, such as the meat industry, are able to stifle the voice of reason.

In Australia, for example, it is disgraceful beyond words that, in 2018, the live export trade, which ships farm animals to countries where they are treated with barbaric cruelty, is being expanded, instead of terminated. As a result of government policy, cattle, sheep and goats are shipped out, under inhumane conditions that will kill and injure many of them before they even reach their destination, to places where they are stabbed in the face with knives; bashed on the head with hammers; slowly hacked to death with multiple blows to their throats; locked in the boots of cars in forty degree heat, and more.

And what makes it all the more unforgivable is that it is done with the full knowledge of the Australian farmers who raise the animals, in cahoots as they are with the exporters, and the state and federal governments. These groups have been told, and shown, time and time again for decades, what is happening to these animals and yet they have done nothing apart from occasionally paying lip-service to the animal welfare lobby. All the while they clamour for live exports to continue because they make a few bucks out of it. One can understand why political party hacks and their poll-driven leaders don't have the moral fibre to oppose live exports, but you would think that the farmers themselves would refuse to send their animals

overseas in these circumstances. But no, they happily wash their hands of any responsibility once the truck, loaded with those whom they have betrayed, passes through their front gates.

The acts of cruelty associated with live exports are well-documented. They've been known about for years. We only need to look at some of the reports from Dr Lynn Simpson, an Australian vet, who took fifty-seven trips onboard live export ships.^{ix} And to compound matters, we have very little chance of preventing the acts of extreme cruelty towards animals, which are daily occurrences in countries to which Australia exports its livestock, despite the government's pretence that we do. This fact alone is more than sufficient reason to stop exporting animals immediately and slaughter them in this country. Not that what happens within Australia's domestic meat industry is much better, but the evidence suggests it is the lesser of two evils, particularly if the sea journey is removed.

Just before I published this essay (June 2018), the footage below was shown on Australian television. Everyone should take a look at it.

https://secure.animalsaustralia.org/take_action/live-export-shipboard-cruelty/

It was filmed inside a ship taking sheep from Australia to the Middle East in August 2017. And remember, this is standard practice, not an exception. It is what happens when greedy, cruel people treat animals as commodities and no amount of public hand-wringing or policy tinkering by government

ministers will change this. There is only one solution when it comes to the live export trade. It must be stopped immediately, and forever. I should add, the Australian government continues to allow these ships to operate, albeit with mildly altered conditions, and the animals are still suffering terribly. To their great shame our political class hasn't had the guts to stop this ghastly business despite being presented with any amount of conclusive evidence for decades. Why doesn't the Prime Minister say enough is enough, because no amount of financial losses by either farmers or those others profiting from the live export trade, or fear of being sued by these people, or losing votes in rural seats, can in any way justify allowing its existence for a moment longer. Moving decisively to end it would be what real leadership looks like. And certainly, it would take a bit of spine. But what is the point of striving to lead if when you finally make it you're only going to spread yourself like a blob of ectoplasm with equal amounts hanging down each side of the fence?

3. Let's go shopping...

I wonder what the effect on meat sales would be if shoppers were given a graphic reminder of what happens inside an abattoir while they were deciding on what type of meat to have for dinner.

Let us imagine for a moment, television screens above the meat section in our local supermarket, or on the wall in our butcher's shop, showing us just that. The sound is turned up,

and we can see the electric prods, gassings, throat-slittings, electrocutions, and firing of bolts into animals' heads while they scream in fear and struggle desperately for their lives. Of particular poignancy would be the last minutes of those animals, who, having survived the 'killing' process, are boiled, hung upside down on hooks, skinned and hacked to pieces while still alive. They still scream and bellow at this stage, just the way you or I would. This is not some sort of exaggerated television horror show designed to make a point; it's what happens every day of the week as the United States' abattoir workers interviewed for Gail Eisnitz's book, *Slaughterhouse*,^x make clear. And nobody should assume what happens in their own country is any different and in many of them we already know it is much worse.

Giving shoppers access to footage of this nature would make buying meat a much more honest experience than it is today, and it would remove the, 'I didn't know' argument from the discussion entirely. With that gone, what would be the effect on sales? It's hard to know, but at least the notion of informed decision-making would be well-served. However, we can be sure that screens such as these not going to be installed while the majority of the population continue thinking as they do. For one thing, shoppers themselves would be up in arms. The last thing a lot of them want is to be reminded of the truth, and of course the truth is also the last thing anyone profiting from meat wants to see in the light of day. But crimes of this enormity will always continue to surface just as they have been

doing with monotonous regularity for decades. Some things are just too big to keep hidden.

Anyone who eats 'free-range' chicken meat or eggs because they (rightly) believe the lives of battery chickens are a monstrous crime, should have a look at this footage from Star Poultry, an abattoir in Victoria, Australia. It was shown on television by the Australian Broadcasting Corporation on the '7.30 Report' on 16 November 2017: <http://www.abc.net.au/news/2017-11-16/chickens-boiled-alive-inside-melbourne-abattoir/9157186> ^{xi}

The chickens who are killed in this abattoir are free range animals, but that means nothing once the meat industry gets hold of them. It is, in my view, footage such as this that shoppers are entitled to see because for many people it would make such a difference and put them on a track they would soon find themselves be very glad to be on.

We hear a lot about *informed decision-making* these days, so, in the spirit of the times, let us all start making decisions about what we eat based on the best available information. To do this we will of course need an unrestricted view of what happens to those animals who go in the front door of an abattoir, valuing their lives just as we value ours, and who come out the back, hacked to pieces. What better way to observe this process than through the lens of a camera and what better place to watch it than in the meat section of the supermarket?

4. ***Homo sapiens* and meat**

Meat has nourished our species, *homo sapiens*, since our beginnings in Africa about 150,000 years ago and fossil records indicate our hominid ancestors had tools, thought to be used for cutting up animal flesh, approximately four million years before that.^{xii} In other words, it seems highly likely that meat has formed an integral part of our diet, and that of our pre-human forebears, for many millions of years, explaining, perhaps, why we like it so much today.

Humans are omnivores, meaning our diet can consist of a wide range of plant and animal foods. Somewhat surprising then to find what lousy scavengers we are, and how poorly equipped for the task of catching and killing other animals. We are a sort of 'English gent' among meat eaters. Our long, convoluted gut is more closely associated with digesting plant material, and should we eat meat that has been subject to bacterial decay, as scavengers do, we become violently ill and can easily die. We lack the strong jaws and teeth of omnivores such as dogs, and we cannot even defend ourselves against a four-kilogram (ten pound) feral cat without a weapon. We are too slow to catch any animal larger than a hamster, except perhaps a sloth, and we would be quite incapable of killing it with our bare hands, even if we did. And should it die of fright, we would be completely incapable of eating it, unless we had the right tools to cut it up, and a fire to cook it on.

Humans are also hopelessly neurotic and hilariously squeamish. Easily put off by bad smells and unpleasant sights, many of us

are even afraid of puny adversaries, like mice and spiders. And, unlike genuine meat-eaters, we are capable of empathy and sympathy, both of which are emotional states that can only be a hindrance to a species that must kill others to survive. I don't think any salt water crocodile is going to spare a person because he or she felt 'sorry' for them. And yet, despite our many limitations, we have defied all logic to become the most prolific meat-eaters on the planet, and in so doing, have created a completely unnecessary living hell for billions of our fellow creatures.

In nearly all cultures meat plays a central role, often appearing as the most important food at weddings, religious ceremonies, corporate events, dinner parties, back-yard barbecues, school lunches, family meals and the like. Eating meat has become such a deeply ingrained and culturally-nuanced practice that its ethics are hardly ever discussed and, in my experience, if the conversation does drift in the direction of animal welfare it quickly becomes couched in terms of what people 'like' to eat, or what they fallaciously think they 'need' to eat, or a claim that it's 'natural' for humans to eat meat—all arguments designed to legitimise one's 'desire' to eat meat—as if all these self-centred red herrings can be successfully substituted for a discussion about the animal suffering involved.

If indeed most people think of meat as an everyday item—like paper, petrol or peanuts— it would be just what we would expect given its linear connection with our evolutionary past. Eating meat is a completely normal activity and I wouldn't suggest otherwise, but it doesn't mean we have to remain

stuck in the groove of that ever-playing record. The world of people, technology, science and social ideas is moving forward faster and faster and the time to challenge many of our ingrained habits has arrived. Much of what we think of as 'normal' or 'acceptable' was proscribed by conditions we have since moved beyond and now technological advances are providing us with improved alternatives; food being one obvious area. We now have the opportunity to develop new ethical bases for our civilisation, not least among them a radical overhaul of our relationships with other living creatures.

In Australia, sports clubs, as well as a multitude of other community groups, raise money every weekend by way of 'sausage sizzles', a type of outdoor barbecue. This is considered a fun thing to do and certainly appears to be quite a benign activity if you don't trouble yourself about the origins of what the barbecue is offering. At sausage sizzles, children and adults wander around eating beef or pork sausages smothered in tomato sauce and wrapped in white bread. This is meat-eating at its most normalised and questioning its morality would be met with astonishment by some, perhaps resentment and anger by others. But question it we should, because the sleep-walking acceptance of meat-eating exemplified by sausage sizzles is right at the heart of the animal welfare debate. The lack of cognisance that allows so many of us to think of sausages and bananas as 'food' only, and not distinguish between their origins, is what allows us to subconsciously accept that sausages and bananas are deserving of equal consideration. This may seem like nonsense,

because that is what it is, but what it does do is allow us to organise something like a sausage sizzle without having to consider that the bill of fare is constituted from the flesh of living creatures who scream in fear and writhe in pain as they go to their grisly deaths. Bananas don't do this because they are plants; and plants do not have nervous systems of anywhere near the complexity of those found in animals. If we ever find out plants experience pain and suffering as animals do, we'll be in trouble, but I don't think that day is ever going to come.

For those who love sausage sizzles, the good news is: there's no need to give them up! All you need to do is swap the minced-up animal body parts for vegan sausages, hamburger patties and schnitzels. You can still have the white bread and tomato sauce and even the non-dairy butter. And while it is true, the vegan products don't taste the same as animal flesh, some of them are already quite good, and as more and more people turn to them we can be sure competition will drive their improvement until they represent what people want.

A particularly sensitive subject, and one that is often ignored, perhaps wisely in some circumstances, is that the decision by one group of people not to eat animal products, out of concern for animal welfare (rather than for reasons such as health), carries within it an inherent criticism of those who do eat meat. This imbedded criticism is unavoidable when two such starkly different viewpoints collide and most of us deal with these potentially uncomfortable situations by pretending they don't exist, particularly in social situations where food is in the

process of being eaten. I know some animal welfare activists disagree with such a display of manners, and say that avoiding the conversation at any time is tantamount to cowardice and an opportunity lost. I'm sure they're right, to a degree, but isn't there also wisdom in picking one's moment, because very few people respond kindly to having their morals publicly critiqued, or having someone else's ideas thrust down their throat. Besides, despite the evidence all around them, most people have never really thought these issues through and are not equipped to debate the subject on the spot anyway. There is a time and place for everything and when it comes to discussing the welfare of those animals whose bodies are adorning the plates around you, the dinner table, in my view, is not usually one of them.

I get the impression that a lot of people think that becoming vegan would be difficult to do because they would find it hard to give up certain animal products. But in reality it is quite often the opposite, possibly because, besides the core ingredients of a vegan diet—fruit, vegetables, legumes, pulses, grains and so on—there are plenty of processed food options around these days and the range is growing and improving all the time.

For those who enjoy cooking and kitchen experiments, vegan food can be as complex and intricate as any other and you don't have the problem of things going 'off' as you do with animal products. Cities such as New York and London have five-star vegan restaurants, and apparently a good percentage of their clientele are meat-eaters who come for the wonderful food. The point is, don't think you would be missing out if you

adopted a vegan diet. It's simply not the case and if your veganism is driven by a desire to do something about animal welfare and the environment, then any desire to eat meat quickly fades into the background anyway.

5. The world's poor

Although rapid population growth and the effects of climate change may soon see millions of people teetering on the brink of starvation, at this point in time there is enough food being produced globally to feed everyone on the planet. Despite this, wasteful practices, and the deft hand of international politics, ensure that many people are starving unnecessarily, and millions more struggle every day to secure a reliable food supply. For these people, life is an exhausting and stress-filled battle and the luxury of being able to choose whether or not to eat meat, milk or eggs, does not even arise and it would be ludicrous to suggest they adopt a vegan diet when their survival may depend on the small amounts of animal protein they can obtain.

As the world's human population spirals out of control, soaring to nine billion or more by 2050, it appears that the race for the survival of our species is well and truly under way. Compounding the problem of too many people is the need to maintain the vast monocultures of wheat, rice, maize and sorghum that form the basis of today's mass food production systems. It's a risky business because crops grown in these circumstances are highly susceptible to both climate change

and disease and if the worst-case scenarios come to fruition they may crumble very quickly, leaving the world's poor, and many who wouldn't consider themselves poor today, with nothing to eat.

Crop failures are expected to become increasingly common as climate change makes vast areas of today's farmland too hot and dry to be productive.^{xiii} How, in those circumstances, will we be able to justify feeding a third of our grain and soy crops to farmed animals, which then turn only about 17% of it into usable food, that is, as meat, when these same plant foods could be going to directly to starving people?

If tens, perhaps hundreds, of millions of impoverished people do run out of food—what will they do? Hungry people might riot; starving people cannot. They are too weak by that time. Most people, I assume, would try to get to a place where food was available. That may sound logical, but moving from, say, central India to central Europe, would be a very difficult thing to do. Given that a poor agricultural worker could even manage it, the real question remains: how would those people who have sufficient food react to unwanted, uninvited, mass migration on such a scale? They may not even have enough food to feed these multitudes and it doesn't require a great deal of imagination to envisage the oceans and the land borders seething with the cadavers of poor people who had to flee their homes or face starvation.

A hotter, climatically volatile and more troubled world, without sufficient food or fresh water, is not a place where anyone

would choose to be and nobody, not even the very wealthy, will be immune from its effects if we allow this to occur. The thought of such a world is, surely, sufficient reason for each of us who has a choice in the matter, to be moving away from animal agriculture as fast as we can in order to free up for human consumption, more of the grains and soy which are currently fed to animals. And while such a redistribution could be the difference between starvation and survival for many, but it would not be a permanent solution if the global human population continues to grow at it's current rate, particularly when it seems certain climate change is going to reduce overall agricultural output. When this happens it is hard to imagine it will be any other than the poorest people—the subsistence farmers in sub-Saharan Africa, India, central Asia and China—who are hit hardest, the soonest and the worst.

6. Health and nutrition aspects of veganism

The following statement is taken from the abstract of a paper published by the American Dietetic Society entitled: *Position of the American Dietetic Association: Vegetarian Diets in 2009*:

It is the position of the American Dietetic Association that appropriately planned vegetarian diets, including total vegetarian or vegan diets, are healthful, nutritionally adequate, and may provide health benefits in the prevention and treatment of certain diseases. Well-planned vegetarian diets are appropriate for individuals during all stage of the life cycle, including pregnancy, lactation, infancy, childhood, and adolescence, and for athletes. ^{xiv}

This statement highlights the crucially important fact that we can get all twenty of our essential amino acids, plus the fatty acids, minerals and vitamins we need for healthful living, from a judicious combination of nuts, seeds, oils, grains, pulses, legumes and fruit. The only thing that today's plant-based diet does not provide in sufficient quantities for adult humans is Vitamin B12, which we have traditionally obtained either from the soil we consume with our plant foods, or from animal sources. Vitamin B12 is created by bacteria, not by animals, and can be obtained in a vegan diet either by eating supplemented food, taking it as a daily vitamin pill or by way of an injection. Omega-3 fatty acid intake can be assured by taking a small amount of flaxseed oil each day.^{xv} It is easy to get all the nutrients we need from a vegan diet and we need look no further than the millions of people worldwide who are living healthily on plant foods alone to see this is true. Any doubts we have in this regard can be easily allayed through personal research or by talking with competent professionals.

For those of us who live in Australia, here is a list of health practitioners who can help:

https://www.veganaustralia.org.au/vegan_health_practitioners ^{xvi}

Good information about a vegan diet, can be found here:

https://www.veganaustralia.org.au/live_vegan and by browsing these

two sites as well: *People for the Ethical Treatment of Animals*

(PETA) <https://www.peta.org/> ^{xvii}; and *Animal Liberation*

<https://www.animal-lib.org.au/> ^{xviii}

On the local front, I would encourage all Australian vegans, and those thinking about it, to join *Vegan Australia* <http://www.veganaustralia.org.au/> as a matter of course. It's a wonderful national asset.

In my own case, when I became vegan I had a full set of blood tests to give myself some baseline data, and I continue to do this annually. It's the sort of check most people over 50 should do anyway and to date my results have been within the normal range for everything, including Vitamin B12.

The Australian Dietary Guidelines (2013) <https://www.nhmrc.gov.au/guidelines-publications/n55> recommend that adults consume at least two serves of fruit and five to six serves of vegetables per day.^{xix} A serve is half a cup of vegetables or a cup of salad and most vegans would eat these amounts as a matter of course. And note the use of the words 'at least' because this implies that the optimal amount is unknown and my guess is that eating more fruits and vegetables than these small amounts will provide additional benefits.

There is a lot of published data that suggest we should, at the very least, cut consumption of animal products to a minimum if we want to enjoy better health. For example, *The National Health and Medical Research Council* (NHMRC) <https://www.nhmrc.gov.au/> in Australia draws attention to the link between red meat consumption and colorectal and renal cancer. There is also evidence to suggest that substituting one serve of nuts for one serve of red meat every day may result in a

significant reduction (19%–30%) of cardiovascular disease risk.^{xx}

The utterances from official bodies such as the NHMRC invariably err on the side of caution, as they should, but everyone who has a vegan diet can be buoyed by a growing body of evidence that it is the healthiest of all. It is the diet that health economists can only dream about for the general population because they know the trillions of dollars that would be saved across the globe if its nutritionally complete, low fat, high fibre characteristics were widely adopted.

And while it may be true that small amounts of lean meat from free-ranging animals, those which have enjoyed a varied diet, can be beneficial to human health, today's fatty, factory-farmed supermarket meat is a vastly different proposition, coming as it does from sick, unhappy, abused animals that get no meaningful exercise. Even the cattle that graze most of their lives in paddocks are 'finished off' in feedlots where they are crowded together and fed a high-energy diet of wheat, barley and growth hormones to make them gain weight rapidly.^{xxi}

To compound matters, feedlots, like so many farms, often have no shade, which in Australia's hot environment is just another example of the thoughtless cruelty we have come to expect from the meat industry. Then there are the diseases such as tick fever, footrot, enterotoxaemia (pulp kidney), bovine respiratory disease, blight (pink eye), feedlot bloat, acidosis, liver abscesses and botulism (a bacterial disease that causes paralysis) which are caused by stress, dehydration,

transportation, inadequate food and the feedlot environment.^{xxii} And these animals are yet to face the dreadful brutality of the slaughterhouse where so much cruelty occurs 'outside the guidelines'.^{xxiii} Are these really practices anyone would want to support, health matters aside?

According to the United Nations Food and Agriculture Organization (FAO), the United States pork industry loses \$275 million a year because of

...severe short-term stress just prior to slaughter...all this may result in biochemical processes in the muscle in particular in rapid breakdown of muscle glycogen and the meat becoming very pale with pronounced acidity (pH values of 5.4-5.6 immediately after slaughter) and poor flavour.^{xxiv}

Under the same conditions, sheep, cows and turkeys will also produce equally unpalatable meat.^{xxv} This shows us quite clearly what terror does to animals at a physical level and how it affects their flesh, which people then go on to eat. More importantly, it means we can set aside any fanciful notions that animals about to be murdered are unaware of what is about to happen to them. They know they're about to die and they're terrified, in just the same way you or I would be. That, I think, is worth dwelling upon.

7. What are we teaching our children?

The first time an urban Australian child sees animal flesh is usually as an object lying on a polystyrene tray covered by a

layer of clear plastic wrap. Or peering through the butcher's shop window, they might see meat surrounded by green plastic frills, reminiscent of gentle pastoral scenes and the idyllic life of grazing animals. Children all over the developed world have similar experiences and are told by their parents, 'this one comes from cows and this one comes from sheep', and meat, 'tastes yummy', and, 'meat is good for you'. But how many of them are told the truth about what those animals had to endure before their flesh ended up on those trays? None, perhaps.

How many of us would take up an offer to see the inside workings of an abattoir? How many parents would take their children to see the whole process from the unloading of the animals off the trucks to the point where they are slaughtered? Not many, I would wager, which is understandable. I would not have done it with my kids either. Yet it is these same parents, many of whom couldn't cross the threshold of an abattoir themselves, who happily feed meat to their children, content to perpetuate the fiction that it all appears on their plates by way of some benign and harmonious process in which nobody suffers. It is this myth, more than anything else, which explains why meat-eating remains as normalised within society as it is today. But we are now well into the 21st century and given the amount of information we have to refute such nonsense, isn't it about time we stopped telling our children that everything is OK and started sharing the truth with them? They are going to find out soon enough anyway and many of them are going to look askance at their parents and wonder why they didn't ever think it through.

Raising children provides parents with a wonderful opportunity to (among a lot of other things) demonstrate a humane attitude towards all sentient beings. Why make children unwittingly complicit in something as profoundly wrong as factory-farming and other forms of animal abuse when the alternatives are so freely available? Parents, who aim to normalise the healthiest diets and the most compassionate and environmentally responsible attitudes within their families, have a once-in-a-lifetime opportunity to act as generational circuit-breakers and pass on to their children, not the results of their own conditioning, but of their own reasoning.

8. Cruelty in specific industries

The dairy industry

The dairy industry, with its carefully cultivated images of cows grazing in green pastures, is worth examining because so many people see its products as 'vegetarian' in nature, as if they are something quite benign and separate from meat. As a result of this careful alignment, the dairy industry often slips under people's radar and we hear questions such as, 'how can milking cows be doing them any harm?', as if this is all there is to it.

Well, it's not like that. During its 'working life', a dairy cow is subjected to a cycle of repeated pregnancies and periods of lactation that force her to produce far more milk than her body is designed to do. She can only maintain the required level of milk production under these conditions for five or six years,

after which she faces the same grisly death as those animals who are raised for their flesh only. The natural life-span of a cow is about twenty-five years but she can expect no mercy from the dairy industry which considers her nothing more than a machine for converting grass or grains into milk. As a result, her welfare is only of concern if it has an impact upon her milk production. Once this falls below a certain level she is more profitable as a carcass, and onto the truck she goes.

As the world's human population grows, the demand for cows' milk seems likely to increase, and we can expect to see American-style, high-density factory-farms, proliferating around the world. In these mega-facilities, thousands of cows stand all day long on concrete floors, sometimes knee-deep in their own excrement, existing on an unnatural high-fat, high-protein diet and milked up to three times a day. The days of dairy cows roaming in pastures, as they often still do in countries like Australia and New Zealand, are numbered because grain-fed factory-farming squeezes more milk per dollar out of these benighted creatures and at the end of the day that's what it's all about. As the herds increase in size and become more densely squashed into these concrete prisons we can expect to see even greater areas of our best agricultural land planted in corn (maize) to feed them. True, it is a diet that cows would avoid if they had a choice and which probably makes them feel sick half the time, but who cares about that in the dairy industry. These are just milk-making machines on their way to becoming cheap meat.

There is no getting away from it. The dairy industry is a major contributor to animal suffering, even if it has managed to keep that inconvenient truth at arm's length for a long time. But cheese and yoghurt lovers, don't despair! The market for vegan cheeses and yoghurts is growing strongly, and they will continue to improve as competition drives innovation. At the moment, most of the cheese is pretty bad, but cellular agriculture, a scientific method where animal tissues are grown in laboratory-like conditions (see section 22), is certain to play a major role in future cheese production, and it can only be a matter of time before today's best cheddars and camemberts are produced without having to brutalise a single cow.

Veal

One of the most egregious examples of systematic animal cruelty is that inflicted on veal calves, whose soft, un-exercised muscle tissue is drooled over by the meat industry and TV chefs. These gentle little creatures are wrenched away from their distraught mothers when they are only a day old and put into small, darkened crates where they are unable to turn around or engage in any form of normal social behaviour. You can imagine their terror and confusion. After six weeks of living in this hell, they are slaughtered, and we all know how they'd be treated in that process. How can such appalling cruelty be allowed? And how on earth do the perpetrators of these crimes sleep at night? The production of veal should never have been legal; it is a crime that shames every higher human ideal, and yet today's governments either ignore it or actively encourage

it, and those people who buy veal ensure the horrific abuse of these little animals continues unabated.

Fish

Make no mistake, fish are animals and their flesh is *meat*. Have a look at this article on the PETA website that describes the pain and fear felt by fish...

<https://www.peta.org/issues/animals-used-for-food/factory-farming/fish/fish-feel-pain/> ^{xxvi}

There is no reason to believe that fish do not suffer enormously when they are dragged to the water's surface with a hook through their mouths; when they become ensnarled in a net and drown; or when they are left to suffocate in the air.

Although research into the mental capacities and social behaviour of fish is still in its infancy, scientists are revealing, again and again, the extent to which we underestimate and misunderstand fish, and indeed, all animals. As Stéphan Reeb points out in his book, *Fish Behaviour*, ^{xxvii} and Sonia Rey Planellas refers to in...<http://theconversation.com/do-fish-have-feelings-maybe-54291> ^{xxviii}

...we now know that fish cooperate with each other when hunting; are able to remember characteristics of their neighbours and competitors; try to deceive or manipulate others; use tools; make logical deductions from known facts; and navigate by remembering complex mental maps.

Fish are smart, sentient creatures, beautifully adapted to their environment. They are obviously quite different to us in many

ways, but this does not give us the right to treat them as though they are incapable of suffering. It's a pity they don't have vocal chords.

It is not widely known that fish farming is as cruel, inefficient, and as environmentally destructive as factory-farming on land. Around 100 billion fish are subjected to this torment each year, 90% of them in Asia where carp and tilapia are the most commonly exploited species. In the West, it is most often salmon and trout that are the victims.

In Scotland, to use an example that typifies the industry internationally, up to 50,000 salmon are stocked in sea cages at a density of *one bathtub of water for each seventy-five-centimetre-long animal*. The salmon are often infested with parasites, and their bodies, fins and tails, are rubbed raw from being so densely packed. These ocean-going travellers swim around in endless circles like distressed zoo animals pacing their cages before they are starved for a few days, hauled out, bashed on the head and have their throats cut. ^{xxix}

The lives of farmed trout in Scotland are even worse! They are kept in fresh water dams at densities of *twenty-seven fish, each thirty centimetres in length, in the equivalent of one bathtub of water*. Imagine that! In these conditions, the trout develop clogged gills and pop eyes as they compete for oxygen and space and battle disease, injury and stress resulting from overcrowding. ^{xxx}

Who can say that animals kept in these conditions are not being subjected to extreme cruelty? Just because it happens

below the water's surface, and fish have no voice for their tormentors to hear, does not mean that this industry is any more acceptable than land-based animal-abuse industries. It is the same old story of human greed coming before animal need. If we buy fish, farmed or otherwise, we are providing financial support to industries that perpetuate great cruelty.

In 2016, the Food and Agriculture Organization of the United Nations (FAO) reported that 90% of all wild fish populations were either 'fully fished' or 'over-fished'. For example, the United States West Coast sardine population is down by 95% since 2006. To make matters worse, about a fifth of all wild-caught fish are pulverised and fed back to farmed fish, pigs and chicken, adding another unnecessary layer of stupidity to the complex web of cruelty and waste that underpins all the meat industries.

Speaking of waste, consider this. It takes between *three and five tonnes* of small pelagic fish, such as anchovies, to produce *one tonne* of farmed salmon or trout, and *twelve to twenty tonnes* to produce *one tonne* of factory-fed pigs! The fish farming industry claim that salmon are very efficient at putting on weight because they only need be fed 1.2 tonnes of 'food' in order to obtain a weight gain of one tonne. What they don't say is that the 1.2 tonnes of oily pellets they feed to the fish take up to five tonnes of pelagic fish to produce!

This is incredibly inefficient, and so absurdly unsustainable that you have to wonder who dreamt it up. Even as the industry now moves towards feeding farmed fish more canola oil and 'by-

product' from land-based livestock, which may include skin, bone, blood, plasma, hooves, horns, feathers, offal and gelatin—30% of their feed still comes from fish pellets. How can we be surprised that wild fisheries globally continue to collapse if this is an accepted business model? ^{xxxix} In addition, uneaten food and fish faeces build up on the sea floor beneath fish farms, altering the chemistry of the sea bed and reducing water oxygen levels. This can be a particularly serious problem when fish farming is carried out in shallow harbours that are not well flushed, as they often are not, leading to mass fish deaths and degradation of the whole ecosystem.

The pink flesh of farmed salmon would be grey if colourants hadn't been added to their diet and their flesh is twice as fatty as that of their wild counterparts. The primary cause for this is the high fat diet they are fed, designed to make them grow faster and therefore be more profitable. And farmed trout is a whopping 79% fattier than wild-caught trout, and both species have much higher levels of chemical contaminants when they come from the factory farm.^{xxxix}

So next time you see that lovely pink salmon in the fish shop think about the cruelty that underpins it and the wasteful, environmentally destructive practices it represents. There are many healthy, humane and sustainable choices that we can make to take the place of fish—so let's take them.

Pork

A paper by Lori Morino and Christina Colvin of Emory University, published in the *International Journal of Comparative*

Psychology,^{xxxiii} documents that pigs have excellent long-term memories; are whizzes with mazes and other tests requiring location of objects; can comprehend a simple symbolic language and can learn complex combinations of symbols for actions and objects; love to play and engage in mock fighting with each other, similar to play in dogs and other mammals; live in complex social communities where they keep track of individuals, and learn from one another; cooperate with one another; can manipulate a joystick to move an on-screen cursor, a capacity they share with chimpanzees; can use a mirror to find hidden food, exhibit a form of empathy when witnessing the same emotion in another individual. ^{xxxiv}

And this is what is allowed under *Australia's Model Code of Practice for the Welfare of Animals (Pigs)*: ^{xxxv}

life-long confinement indoors

confinement in a sow stall, with insufficient room to turn around, for up to 16.5 weeks, day and night

confinement in a farrowing crate, with insufficient room to turn around or interact with piglets, for up to six weeks, day and night

tail docking without anaesthetic

ear notching without anaesthetic

teeth clipping without anaesthetic

castration without anaesthetic

The relentless, ongoing mental and physical torture that these highly intelligent, social animals suffer in piggeries is beyond description. Again, we must ask ourselves, why on earth do we

allow it? What sort of sadistic monsters are we that some of us could even conceive of a system so foul, let alone put it into practice, while many of the rest of us buy the flesh of these animals, ensuring this cruel, wasteful, unnecessary industry continues? Again, there is no excuse for any of this and no need for it either. If you want to help put a stop to it the solution is pretty simple: stop buying the stuff. And don't fall for the free-range pork business. Those pigs may have better lives but at some point they are loaded onto a truck and taken to the abattoir, and we know what happens to them then. Pigs are notoriously hard to kill and probably suffer more than any other species once that process starts.

Chicken eggs

The chicken egg industry operates at widely varying levels of cruelty. At its worst, in the production of so-called 'cage eggs', tens of thousands of hens are crammed into cages where they have barely any space to move. Flapping their wings, an important natural impulse, is out of the question because there simply is not enough room.

These intelligent animals have the ends of their sensitive beaks cut off with a hot blade without the use of anaesthetic. Their beaks remain so painful afterwards that their food consumption falls away for weeks. The cages in these dungeons are stacked one above the other so that the faeces and urine of those above falls freely on the birds below. The stench of ammonia is unbearable. The birds spend their whole lives standing on an eight-centimetre by nine-centimetre area of crippling, feet-

deforming wire, their de-feathered bodies pumped full of antibiotics to combat the rampant diseases that are inevitable in such conditions.

Those who die are left to rot beside their fellows. The surviving egg-layers remain in this hell for two years, after which time they are sent en masse to slaughter—which is itself a process of rough-handling and general abuse that subjects them to a whole new set of agonies; such as, broken bones, or being hung upside down on a conveyor belt, and then passed through an electrified bath and over a throat-slitter. Those who lift their heads at the wrong time and are still alive after all this, are scalded to death in the feather-removal process. The flesh of these egg-laying birds is so bruised it can only be used in processed foods like chicken soup, or for pet food. The caged-egg industry is one of the worst of all abusers. If it were a human entity it would be regarded as criminally insane.

Chicken meat

Chickens raised for their flesh, known as *broilers*, are packed, up to 40,000 at a time, into large sheds. By the time they reach their market weight of two kilograms, about six weeks later, each bird has an area of less than a sheet of A4 paper to stand on. These chickens are quite different from the egg-layers. They have been selectively bred to rapidly grow large amounts of breast muscle tissue. The breasts become so large, so quickly, that some are forced to hunch over, scraping their breast muscles on the faeces and urine saturated floor, causing a painful form of ulceration called 'breast blister'. Because these

birds are so young, and their growth so rapid, many of them still chirp and have the soft feathers of baby chickens, but the bodies of adults.

In this macabre world, their internal organs and skeletons cannot keep up, and as a consequence, they often suffer from hip fractures and organ failure. Many of them can barely stand, and none have the opportunity to forage, roost, dust-bathe or experience any normal activities in their short lives. The lights are dimmed to reduce their movement. They are fed a mixture of grains, meat and animal fats, and water, from long troughs that run the length of the sheds. The whole process is automated. ^{xxxvi}

First-time visitors report the eerie horror of 40,000 chickens sitting in the gloom, in complete silence; the air filled with ammonia, dust and feathers. The next disturbance for these chickens will be when a team of workers moves through them, grabbing them by their legs, and cramming them into cages to be taken to the slaughter house. Many of them will have their legs and hips broken at this point and will suffer excruciating pain.

Chickens are not robots; they are sensitive, intelligent beings with complex social behaviour. They are as intelligent as cats and dogs. What exactly have they done to deserve to be tortured like this?

Anyone with a shred of compassion who looks at the chicken meat and egg factory farms is forced to ask yet again: what the hell is going on? Why do any of us buy chicken or eggs in the

face of all this? Is this really something that any of us should be supporting no matter how cheap their flesh and ovulations have become? These are far, far more important things to consider, and denying ourselves the pleasure of sinking our teeth into the flesh of these horribly abused animals is a very minor sacrifice indeed.

Predictably, the expression 'free range' has been hijacked by big business because they know many people are opting for free range when they purchase their eggs and chicken flesh, thinking that they are striking a blow for animal welfare as well as obtaining a better product. That might have been true once, but listen to this: the Australian Federal Government now allows factory farms that stock chickens at up to 10,000 birds per hectare to call themselves free range.^{xxxvii}

That is one square metre per bird! This is factory-farming pure and simple, so be wary of anything labelled free range, particularly that which makes its way onto the shelves of the big supermarket chains. It goes without saying, the best thing we can do is give up eating eggs and chicken meat, but for those who plan to continue eating eggs, please do some online research to ensure your supplier is not stocking their fields at more than 800 birds per hectare, and that the birds are free to roam on green pastures for most of the day. You may have to pay a little more for these eggs, but it is certainly worth it.

Some egg producers have installed cameras so that potential customers can view the birds online. This is a step in the right direction, but it is much better to arrange a visit to the facility

and see for yourself. Count the birds and pace out the boundaries. If you are not allowed to have a good look around it is almost certainly because your supplier has something to hide. And do not forget that even the best-kept free range chickens in commercial operations are sent to abattoirs for slaughter once their egg-laying lives are over, and so, they, too, stand a good chance of being blasted with boiling water while still alive.^{xxxviii}

9. Zoos

Another example of human indifference to the welfare of animals is that awful prison known as the 'zoo'. Most zoos are strictly limited in size and located in large population centres. They are primarily an exercise in money-making, which means the animals must be visible to the fee-paying public during opening hours. As a result, large animals, that in the wild would range over vast areas, are kept behind bars in small enclosures to be ogled and photographed by the crowds of customers. This creates a highly stressful situation for the animals and it's not unreasonable to assume they would like nothing more than to get as far away from their captors as possible. But they can't; we've made sure of that.

When I was visiting the Melbourne Zoo in 2006, a staff member told me that some of the larger mammals had to be confined in 'smaller-than-optimal' cages, because, if the cage were longer, the animals would get too much of a run-up when they threw themselves against the bars. This staff member seemed to

think that shortening their run-up was a reasonable and sensible solution, and gave no indication of understanding that those animals were so desperate to get out of their cells that they were prepared to seriously injure, even kill themselves, in their attempts to escape. That the better solution would have been to take the animal out of the cell altogether didn't seem to occur to her and I'm sure she would be someone who claimed to 'love' animals.

It is terribly upsetting to know that many of the large mammals imprisoned in zoos have been driven insane by the slow, exquisite tortures of social deprivation, lack of freedom, and their forced contact with hundreds of thousands of humans. We see the same sort of lingering cruelty perpetuated against in circuses and marine theme parks. All these places normalise the idea that it is acceptable to use animals as sources of entertainment. What doesn't seem to be understood by the people involved in these operations is that to imprison an animal, especially a large animal, is to mentally torture it. The fact that we allow things of this magnitude to occur, merely to satisfy our comparatively trivial desire for entertainment, says volumes about us and the kind of society we've created. Isn't it time we shook up our mute acceptance of zoos and completely revised our whole approach to the imprisonment of animals for any reason?

In fairness, it should be added that there are some zoos where the animals, and they are usually small animals, are provided with sufficient space, privacy, intellectual stimulation, food and water to allow them to thrive. It can be argued there is a place

for zoos of this kind, particularly where endangered species are kept safe to continue breeding, but in my view, most others ought to be closed and the animals relocated to sanctuaries or open plains zoos, or even euthanised, because they would be better off dead if the alternative is to be driven insane, step by relentless step. To say the life of a caged animal is not worth living is entirely correct, and entirely correctable.

10. **Animal experimentation**

The use of animals in scientific experiments is another area where resistance to their abuse is growing. It is being driven by students and academics alike, and while experiments using live animals have led to, and indeed, will continue to lead to, benefits for humans, the underlying assumption that these gains automatically outweigh animal suffering looks more and more objectionable every day. Do we really believe that all living creatures on this planet are here to serve us, for us to experiment on, regardless of what they might think about it or what they might suffer? If we find these god delusions are taking hold, we need only remind ourselves that our lofty position in the hierarchy of animals is the result of a quirk in our DNA, and nothing more. We didn't actually do anything to be in the position we are. We are just ungainly, slow, weak, medium-sized mammals that got lucky and we hold no pre-ordained authority over other species and have no more 'right' to experiment on them than they have to experiment on us.

In fact, where we are seeking human benefit it would make more sense for us to carry out our experiments on human subjects, not only because the results would be immediately applicable, but because the researchers would be able to obtain fully-informed consent from the subjects, suitably reward them for their contribution, and insure them against injury or death. This would be a much better and fairer system but it's not going to be put in place any time soon because of our obsession with the 'sanctity of human life' and our tacit support for the unsupportable notion that it is OK for us to torture animals for our benefit, but it is not OK to place one of our own kind in any form of serious discomfort. Not only is this the height of hypocrisy, it is grossly inefficient, because, as we know, mice are not men—or women for that matter, and there always must be human trials before drugs are released onto the market regardless of how many mice the drug companies have tortured along the way.

The time for ramping up non-animal research, as a matter of urgency, passed a long time ago. Despite some institutions patting themselves on their backs, nowhere near enough effort has been made to date, although it is encouraging to see the emergence of organisations such as *The Medical Advances Without Animals (MAWA) Trust* (established in Sydney in 2000), taking a leading role in advocating for non-animal experimentation.^{xxxix} An impressive number of senior scientists, researchers and academics from many disciplines belong to MAWA. Clearly, they believe that there is much more that can be done to help move us toward a time when science can

advance without subjecting other species to a spectrum of intrusive, painful and degrading experiments.

Of course, it is one thing to oppose experiments involving animals, particularly those that cause pain and suffering, and quite another to refuse the benefits of medicines that may well have their origins in such pain and suffering. So what should we do? There doesn't seem to be much point in dying of pneumonia or septicaemia when there is an antibiotic to knock it out. Furthermore, most of us would be unaware of the processes that went into the development of a drug a decade ago, and it is unlikely that we could find out anyway if confidentiality rules are invoked. But then, even if we did know, how many of us would willingly forgo the benefits of the medication even if we strongly disapproved of the methods used to obtain it? Very few, I think, and new anti-viral and antibiotic drugs are going to continue to flow out of laboratories where defenceless animals are mistreated in the name of science for well into the foreseeable future. The best thing I can suggest, despite the undeniable hypocrisy of it, is to continue taking whatever medication is available, while throwing our (financial and moral) support behind those who are intent on working towards a future free from experiments that cause animal suffering. This is, of course, a wishy-washy, self-interested response, tinged with cowardice and hypocrisy, because it almost certainly perpetuates animal abuse, but as it stands, if it comes to the crunch, we either have to live with our hypocrisy and take the tablet, or die of a treatable disease.

So how do we get things moving in the right direction? Clearly, we need more stringent regulations governing animal experiments. Proposals for experiments involving animals which are likely to cause them to suffer, must be subject to much more rigorous scrutiny by animal ethics committees than they are currently where far too much 'rubber-stamping' is going on. I know, I've been a member of an animal ethics committee attached to a university. Animal experiments should only be permitted to proceed if they are deemed necessary and any suffering must be below a defined threshold. The definitions of 'necessary' and the 'threshold' will be crucial because they will govern what is allowable and what is not. Arriving at them will be equally difficult because the old standards will have to be dramatically lifted and many borderline judgement calls made and then justified to an independent panel. And nothing will speed up the development of non-animal research faster than experimenters knowing that their research grant applications are far more likely to be successful when non-animal techniques are employed. Those, who now throw their hands up in the air and say we can't get anywhere without experiments that cause animal suffering, will find that if sufficient effort and willingness to change, are coupled with technological advances, that that is not the case and much of what they are doing today will be unthinkable among their children's generation of scientists.

11. **Environmental concerns**

The Georgetown Environmental Law Review argues that animal agriculture is the most environmentally destructive of all industries.^{xi} That might surprise some people, but when we add up the increases in global warming attributable to the methane produced by the world's cattle (about 15% of total methane production); the wholesale clearance of vast areas of forest and jungle, most notably in the Amazon Basin, to grow soy crops which are mostly fed to 'meat' animals, or to create grazing land for cattle;^{xii} the colossal waste of fresh water; the loss of biodiversity, and the inevitable loss of a critical gene pool, as both plant and animal species are forced into extinction by habitat destruction; the pollution of river systems, aquifers and coastal seas caused by the enormous and concentrated amounts of manure produced by factory-farms; the wholesale use of pesticides and fertiliser needed to grow the grain the animals are fed; the destruction of marine life, for example, pelagic fish stocks on the Pacific south-east coast, which are used to feed pigs and farmed fish; the costs of transporting meat animals, alive or dead, great distances—we arrive at a staggering cost to the environment that is unmatched by even mining, transportation, or the energy sector.

Here is one example of what clear-felling bushland in Australia means. It is carried out in the main to create grazing land for animal agriculture. Remember, what you are about to read is just the tip of the global iceberg:

A (recent) report, commissioned by the World Wildlife Fund found that tree-clearing in Queensland (Australia's second largest state in area) kills about 34 million native animals a year! Of these, 900,000 are mammals such as koalas, quolls, bats, bandicoots, native rodents, possums and gliders. Added to this are the 2.6 million birds, such as cockatoos, and the 30.6 million reptiles, such as goannas, dragons, skinks and geckos. These animals will become extinct if these activities continue.

xlii

When you look at figures such as these, it is hard to understand how anybody who is concerned about preserving the natural environment can be anything but vegan when to be a meat eater means giving financial support to activities such as clearing natural bushlands or the myriad other environmental catastrophes associated with animal agriculture.

12. **Efficiency in food production**

If indeed the world's human population does exceed nine billion by 2050, food production methods will have to be much more efficient than they are today, or millions of people are going to starve to death. Producing more meat using today's cruel and clumsy methods, or minor improvements upon them, won't provide a viable solution especially when plant foods of equivalent nutritional and energetic value can be produced much more efficiently. ^{xliii}

There will, of course, be many food production innovations over the next thirty years. It is a relatively young and certainly vibrant industry riding on a wave of both increasing ethical awareness and increasing need, and fully able to exploit new scientific and technological advances. Crowding the horizon of possibility are a host of new approaches, among them: *cellular agriculture*—which will include growing animal tissue in laboratory-type conditions; *synthetic biology*—where efficiencies will be engineered at a genetic level; *marine permaculture*—which may include growing seaweed in the open oceans; *growing nutritious algae*, such as spirulina, in controlled environments, as well as growing today's better-known plant foods, *hydroponically*. None of them will involve animal agriculture as we know it today.

The question as to whether advances in food production will be developed in time, and then scaled up to a level where they are able to make planet-saving impacts, is moot. Time is not on our side and the noose of catastrophic climate change continues to tighten around our necks. (Despite this, some of the world's most powerful political leaders and wealthiest individuals, have calmly taken out their fiddles and strolled to the front deck of the Titanic, secure in the belief that if the ship goes belly-up the first-class passengers will all hop into their magnificent life boats and sail away. The only problem with this logic is: they will have nowhere to go.)

When we talk about increasing efficiency being of such critical importance, here are some points worth considering:

Six pounds of grain, fed to one bovine, produces one pound of beef. The (grain) feed conversion ratio (FCR) for beef is therefore: six. Another way of looking at this: around 83% of the grain's food value is used to support the animal's life processes such as maintaining body temperature, digestion, thinking, growing inedible body parts such as horns and hooves, and providing the energy that enables the animal to breed, move and moo. You can't eat any of that—so only 17% of the grain's potential is converted to muscle tissue, otherwise known as beef. In the case of pork, the FCR is about three or four, and for poultry it is about two; although commercial chicken food is supplemented with meat, which pushes the FCR much higher. ^{xliv} If we eat plant foods only, much of the intermediary inefficiency, that is the 83% 'wasted' on cattle, is cut out.

It takes about 112 litres of water to produce one gram of protein from beef, 63 litres to produce one gram from sheep or goat meat, 57 litres for pork and 34 litres for chicken. In contrast, cereals and pulses require 21 and 19 litres respectively.^{xlv} Disparities such as these must be considered against a background of shrinking water resources. The UN estimates that an additional 2.3 billion people will be living in areas with severe water stress by 2050. ^{xlvi} Currently, there are thought to be about 1.8 billion people without access to a reliable supply of water safe for human consumption. And here we are, wasting or

polluting enormous quantities of fresh water in animal agriculture in pursuit of something we don't need.

In a report by the *Humane Society International India*, it was documented that according to the FAO...

The livestock sector...is probably the largest sectoral source of water pollution, contributing to eutrophication, 'dead' zones in coastal areas, degradation of coral reefs, human health problems, emergence of antibiotic resistance and many others.

xlvi

Lack of clean fresh water could easily be a reason for future wars and we need to use our global stocks with the utmost care. Wasting huge volumes producing meat is untenable, unethical and plainly just stupid.

Monocultures, permaculture and true costs

The agricultural companies which produce most of the plant food consumed in the developed world today, bring cheap food to the supermarket shelves from large land areas growing just one genetically identical crop. These are known as *monocultures*. Some of the food crops often grown in this way are: maize, wheat, barley, soy, sorghum, rice, and numerous types of fruits and vegetables. As demand for plant food increases, as it must surely do, the scale and geographic spread of monocultures can be expected to increase because this form of agriculture is currently the only way we have, to produce the huge amounts required. But monocultures also bring with them serious environmental concerns, among them:

A monoculture, by definition, lacks genetic diversity, meaning the biological controls that are intrinsic to a diverse ecosystem are also missing. As a result, weeds and insects that favour that crop accrue in great numbers and need to be controlled by ever-increasing amounts of synthetic herbicides and insecticides. Over time, these insects and weeds develop resistance to the poisons, and much stronger chemical solutions must be found. Increasingly larger amounts of synthetic fertilisers are also needed, because the species grown with these fertilisers eventually deplete the soil of important nutrients. The residual material from these synthetic products, which is not broken down by soil bacteria because it is not organic, eventually leaches out of the soil and flows into the water table and waterways causing further problems, such as algal blooms. Furthermore, the removal of ground-cover plants in monocultures results in increased run-off, drying of the soil and reduced bacterial activity; all of which contribute to soil degradation and increased water use. Insecticides, which kill indiscriminately, wreak enormous environmental damage. Bees, crucial in their role as pollinators, have become the well-known face of the insect species whose survival is now threatened by insecticides. ^{xlviii} The wild bird population in France has fallen by 30% in the last 15 years, believed to be the result of insecticides wiping out the insects they eat. Insecticides continue to create huge problems globally and there is an urgent need to rein them in, but monocultures can't survive without them, and in larger and more potent amounts.

This leads to an important question: Can smaller, more diverse, ecologically sustainable ventures secure a substantial foothold in the plant food supply chain, beyond the niche markets they currently serve? The answer will, in part, depend on who is prepared to spend how much, and on what. I believe there is a strong case for the application of permaculture principles (as outlined by Bill Mollison and David Holmgren in 1978) in large areas of our most fertile land so we can determine just how successful this method of food production can be. Already, it has been demonstrated that permaculture is less reliant on insecticides and herbicides than are monocultures; uses fertiliser and water more efficiently; employs more people; produces a greater variety of food with improved taste and nutrition; allows the land to be managed in more sustainable ways through the use of crop rotation, companion-planting, animal grazing (for fertiliser and weed control); and other environmentally friendly practices.^{xlix} With so many advantages there is surely a strong argument to trial permaculture more broadly.

The increased numbers of people needed for permaculture farming could also mean a positive expansion of the numbers of people living in dwindling rural communities. It is an ideal opportunity for government involvement by securing the land and providing both infrastructure and affordable loans to initiate a large-scale permaculture experiment. Displaced animal farmers could well be the people to make a success of commercial plant-based permaculture operations if given adequate training and financial support. But as it stands, it's

difficult to imagine a government which supports something as profoundly immoral as the live export trade, having the nous to support an initiative such as wide-scale permaculture, so once again it will have to be the collective actions of inspired people that make it happen. It is the sort of cooperative venture that some of today's richest people could be throwing their billions behind instead of indulging in ego-massaging space programs and really make a difference down here on earth.

Some 'economies-of-scale' acolytes— including agricultural economists who foolishly believe they have mastered their dark art—become enraged by ideas such as permaculture, furiously pointing out that the food produced by such means could only ever be in small amounts and would cost more than that produced by massive monoculture operations. And while that is almost certainly true according to the definitions they apply, any 'dollar only' view of the world fails to acknowledge that the true cost of anything is only partially measured in monetary terms.

Most of us are attracted to the option with the lowest price tag, differences in quality notwithstanding, because comparing the dollar cost of A to that of B is a simple numerical process, and, quite sensibly, we do not like to waste our money. But what is deliberately hidden from us most of the time, is the extent to which production costs of what we buy have been 'externalised'—that is, have not being borne by the producer as they ought to have been. When we can estimate what those externalised costs are, we get a much better idea of what the true cost of a product is. For example, how is one to compare a

tomato from a permaculture farm with one grown in a monoculture other than by the dollars per kilogram (or per pound) price tag? The tasteless, thick-skinned supermarket tomato may cost less in terms of dollars, but does it really cost less if we consider the higher levels of environmental damage that underpin its production?

Determining, and then making publicly available, the true cost of food, is a new challenge in the 'informed decision-making' arena. And even if we don't yet have all the data we need there is nothing to stop us making estimates based on common sense and those data that are available. Perhaps more importantly, we need decide what value we put on a healthier environment, more sustainable communities, and better food; and whether we are prepared to reflect those values in the way we spend our money?

As far as the meat and dairy industries go, their externalised costs include those paid, in terms of pain, suffering and loss of life, by their animal victims. This is something which, although we cannot put a dollar figure on, is a massive real cost that should dominate our equation. Other major costs which the meat and dairy industries have dumped on the rest of us fall into two main categories: (i) environmental—reflected in huge piles of animal waste, polluted waterways, dangerous amounts of methane released to the atmosphere; land degradation; the loss of both animal and plant species; and (ii) human health—reflected in the increasing numbers of drug-resistant pathogens their industries incubate and the high medical costs that result from the consumption of their unhealthy products.

If the environmental and human health costs, which total billions of dollars in a country like Australia, were borne by the industries that create them, animal products would be much more expensive than they are today—unaffordable in the main. Instead, these costs are either ignored, as is the case with methane gas production, destruction of habitat and water pollution; or spread across society where they inevitably fall on the ordinary citizen who funds through their taxes the extra burden on the public health system imposed by the diseases and disability caused by the consumption of animal products.

13. Speciesism and selectivity

Humans, like other species, seem to have an instinctive preference for their own kind and unless an animal is a much-loved pet, or of considerable economic value, most of us would not hesitate to give preference to a person over an animal, especially when it comes to matters of suffering, life and death.

By way of illustration, let us imagine that a person on safari in Africa is about to be attacked by the world's only pink lion. Most of us, myself included, would prefer to see the lion shot dead rather than allow it to disembowel the person, even if that person was a truly unpleasant individual who we had already wished dead on several occasions. On one hand, our reaction seems quite illogical, because it forgoes an opportunity to rid the world of an awful person while preserving the life of a unique animal, but on the other, most of us, I believe, would find it hard to sleep at night if we lowered the rifle while our

fellow human being was ripped to pieces in front of us. Our identification with our own kind in situations such as this is overwhelmingly strong, which makes evolutionary sense also among such a strongly-connected social species as *Homo sapiens*.

The famous animal welfare philosopher, Peter Singer, refers to the preference for own species, even in situations that defy logic and common sense, as '*speciesism*'.ⁱ The innate, but illogical, nature of *speciesism* makes discussing animal welfare issues in terms of 'them' and 'us', pointless because when it comes down to a life and death choice we are almost always going to come down on the side of 'us'. We will choose an encephalitic baby over the guide dog, to borrow an example from Professor Singer's book, *Animal Liberation*.ⁱⁱ That's speciesism in a nutshell. It can be illogical but it's real and it dictates much of our behaviour in relation to other species.

And when you think about it, there are no *practical* reasons for us to care about the pain and suffering of other life forms, unless it is to our advantage to do so. Most animal suffering is, after all, caused not by humans, but by other animals—usually predators—because killing to consume the bodies of one's prey is the norm in every biological system. So why should we, the apex predator, concern ourselves with such a sentimental guilt-trip as animal welfare? It could even be argued that one of our *rewards* for getting to the top of the food chain is that we can imprison and kill other animals with impunity. After all, there are no bovine police coming around to arrest us for kidnap or murder.

However, instead of wielding our power over animals with cold indifference—as we could, without penalty—many countries have laws and institutions designed to protect animals from such human behaviour, albeit in a limited and selective way. This suggests that a substantial majority of people in those countries care sufficiently about the suffering of at least some other species for these laws to have become a reality.

The selectivity with which animal welfare is approached varies between countries, a good example being the different ways people in the West treat dogs and pigs. Both species are of roughly the same intelligence and both make good pets. But we don't usually keep pigs as pets—we eat them. Dogs, on the other hand, are our companions and have been so for thousands of years. We generally treat them well despite there being many cruel exceptions chained up alone in backyards right across the dog-loving world. But we don't eat them, despite South Australia being the only state in Australia outlawing the consumption of cats and dogs by people. Of course, many migrants to this country see it differently and have had to give up eating dogs and adapt to the norms surrounding them or face the wrath of a community that finds such behaviour unthinkably awful.

Why is it that pigs have never won our affection the way dogs have done? Is it because they can't help us hunt other animals, or is it because they are stiff-legged and not pretty enough? Part of the answer must surely be that dogs have learned to give us a certain 'look' and to greet us with unbridled enthusiasm, no matter what. Pigs don't do that, as far as I know.

Clearly, our dealings with these two species are marked by inconsistency. On what *moral* basis do we treat dogs and pigs so differently? Why is it 'wrong' to kill and eat a dog in a Western country but not so in a Vietnam and China?

Wouldn't it be much better if we treated them all well? And not just pigs and dogs.

14. **Rights**

One of the most useful myths to take hold around the world is that of *rights*. All of us living in what are referred to as *democracies* (but of course are only approximations of this ideal) are familiar with the concept of *human rights*. We take it for granted that we have a *right* to vote; a *right* to attend protest rallies; to assemble in groups, publicly or privately; to speak freely in public (provided we are not inciting hatred or slandering someone); to publicly criticise our political leaders; to practice the religion of our choice; to change or drop our religion without interference of any kind; to state our opposition to religion; to marry whoever we wish; to end our lives with dignity; to indulge in public satire and mockery; to own private property; to walk down the Mall skimpily clad; to receive state-funded education and medical care and to receive equal treatment under the law...and so on.

We tend to think of these as the naturally occurring rights of all people, but as Yuval Noah Harari points out in his book, *Sapiens: A history of humankind*, no person, animal or thing has a

'natural' or 'inherent' entitlement to rights of any kind. Rights are just myths to which we willingly subscribe because they are so wonderfully effective in improving our lives.^{lii} Hardly surprising then that *human rights* are popular among people everywhere. But when it comes to *animal rights*, which one would think would be a natural extension of this idea, our behaviour is so contradictory it is difficult to say where we stand. On one hand, many countries have laws that recognise an animal's *right* to be protected from ill-treatment, but on the other, these same countries allow certain industries to inflict terrible cruelty on a range of animal species in direct contravention of this right. The underlying principle seems to be: we will grant animals a limited range of rights just as long as in so doing we are not disadvantaging too many people. It is this line of thinking that has been utilised by special interest groups to create the widely accepted, but purely fictitious idea that if meat was not available, people would be disadvantaged. It is within this psychological space, which they have created, together with the economic arguments for their continued existence, that the rights of animals have been suspended and the animal-abuse industries permitted to survive. If an animal's right to be protected from ill-treatment was accepted as being equal to that of a human, as it should be, the existence of today's animal-abuse industries would be unthinkable and the arguments that allow them to exist today, absurd.

Here is an example of how the rights of an animal can be trampled upon when we insist on seeing everything through the prism of human benefit:

In the United States, in April 2014, a ruling was handed down by a New York appeals court denying a chimpanzee, named Tommy, freedom from the agonies of solitary confinement because he could not ‘bear any legal duties’, ‘submit to societal responsibilities’ or ‘be held legally accountable for his actions’.^{liii} The Nonhuman Rights Project had argued that Tommy should be considered a person in legal terms with the right not to be wrongfully imprisoned. But the judges in the case refused to order his removal to a sanctuary with other chimpanzees, and in doing so, denied him relief from his terrible predicament. His human *owner* was permitted to continue denying him the right to live with others of his own species because he wanted to keep Tommy for himself.^{liv}

The court’s decision, in my view, missed the whole point of the action, namely, that it is *wrong* to inflict torment on sentient beings, let alone our closest relatives, and the primary responsibility of the court was to correct that wrong. What exactly has the bearing of legal duties got to do with it? Are we to interpret the law in this jurisdiction to mean that because a chimpanzee cannot vote or buy a house, it does not have the capacity to suffer, or the right to be protected from unnecessary cruelty?

As world-renowned primatologist, Jane Goodall, stated in her affidavit found here: <http://www.reuters.com/article/us-lawsuit-chimps-idUSKCN0V72P5>

‘...there is ample proof that chimpanzees “have well-defined duties and responsibilities,” and that “common law personhood” should be afforded to them...’^{lv}

Why, in this modern era, do we still have rulings that at their heart are based on a primitive view from 200 years ago when animals were considered to be little different from machines, and the agonised howls of dogs being dissected without anaesthetic were judged to be the reactions of an insensate automaton? Nobody believes that animals are machines anymore, do they?

It is disheartening to think that an American court would allow itself to get tied in knots about the definition of a *person* when a real and urgent issue involving profound suffering in another species is brought before it. This is the type of outcome we must expect when human interests, or human procedural matters, are put ahead of animal welfare as a matter of course. But the tide may be turning elsewhere. In New Zealand, the Whanganui River; and in India, the Ganges and Yamuna Rivers; were recently declared to be legal '*persons*' to afford them environmental protection.^{lvi} And it will be a while before any of them buys a house.

15. What about the farmers?

Naturally, many people will ask: what about the farmers, meat traders, cheesemakers, butchers, and others, whose livelihoods will be affected if the demand for meat and milk falls? The answer is, as ever: the market will decide how, and at what speed, transitions occur within the economy. If there is one thing we know about capitalism it is that capital flows to where it can most profitably be employed and as the demand for plant

foods grows, money and jobs will move from meat and dairy to plant food production.

The majority of today's animal farmers will eventually have to choose between growing plant foods and doing something else, but they'll have plenty of time, decades perhaps, within which to make up their minds. They ought not be too lax though because big shifts in the economy that are driven by ever-increasing social awareness have the capacity to grow exponentially and putting in a few hectares of olives or oranges today might well be the saviour of tomorrow for some.

16. Ways to avoid responsibility

A popular way to avoid taking responsibility for one's actions in relation to animal welfare is to accept the notion that 'God' has given humankind dominion over the animals to do with them as 'He' pleases (to stick with the old naming practices). But if the god in question is of the omnipotent, benevolent, peace-loving version as described by Christians, why does He allow ('encourage' might be a better word) humans to inflict horrendous levels of suffering on sentient creatures (including other humans) when He could easily prevent this from happening? If you accept the endearing qualities and limitless powers of such a god, there is no satisfactory answer to this question despite many religious scholars spending half their lives over the last few hundred years trying to create one.

This is not to suggest that religion cannot play a useful and meaningful role in a person's life, or that a person of religious faith cannot also be deeply concerned about animal welfare. We all subscribe to many useful myths that lead to the betterment of our lives and our societies. None of them are true, but that doesn't matter if we believe they are, or even if we don't believe in them *per se*, we can accept them because they are useful to us, and our greater society in either a psychological or practical sense. You can be an atheist, in terms of what you see as man-made religions, and still have a sense of an 'otherness' or 'greater power' in the universe, if you wish. It's horses for courses, but when it comes to animal abuse the major problem I see with most of today's religions is that they relieve their adherents of the burden of logical thought and with it a sense of both responsibility and compassion. If a person accepts the line that a divine entity put animals on earth for people to do with them as they please, then that is just what they'll do, even when it conflicts with the major tenets of their religion, such as treating others as you would have them treat you.

Imagine how different things would be today if the major religions, rather than just Buddhism, attributed rights to animals in the same way we lavish them on ourselves. If this was the case, people of religious faith would have to think long and hard about the consequences of their actions instead of the current situation where they feel they can countenance horrific animal abuse with impunity and go to bed with their stomachs full of animal flesh and their minds at peace.

Thankfully, veganism is not incompatible with a belief in any of the major religions (and probably not any of the minor ones either). One can be a vegan Christian, Muslim or Jew without transgressing any rules. Buddhism, the most animal-friendly of all the major beliefs, is largely based on 'intent', rendering absurd the argument I have heard from pseudo-Buddhists that, 'we don't kill animals, we just eat them'. If you 'intend' to eat animal flesh then you can scarcely be excused the consequences of your intent. In my view, people who call themselves Buddhists but who needlessly contribute to animal suffering in contravention of one of their religion's most sacred tenets, are not Buddhist at all.

Another stance commonly used to abrogate responsibility for animal cruelty is to claim that the government has put measures in place to ensure that animals are humanely treated right up to the time they are slaughtered, and everybody can therefore relax because there is nothing to be concerned about. If you really think this is the case you must have a look at some of my suggested viewing in part two of this essay ('Down at the Slaughter house'), or read the chapter entitled *Slices of Paradise/Pieces of Shit* in the Jonathon Safran Foer's book, *Eating Animals*.^{lvii} There is a great deal we should be very concerned about and don't forget, government agencies are obliged to see the world through the prism imposed upon them by their political masters, who in turn are slaves to opinion polls and the power of big business. In this environment it ought to be no surprise that animal protection laws are weak and weakly enforced. This is what the animal-abuse industries want so this

is what they get in a floundering democratic state, despite what they are doing being wrong on a multitude of levels.

17. More on the weakness of Australian governments

In Australia, neither of the two major political parties have shown any indication they will do anything other than pay lip-service to ongoing demands for an end to the export of live animals to overseas markets, or for legislation to rein in the dreadful levels of animal abuse that occur in our home-grown industries. There has been some timid movement on the live sheep export front recently as the result of the appalling footage I have a link to at the end of Section 2, Down at the Slaughterhouse, but the barbarities continue unabated despite this. Apparently, our politicians think the live export of species other than sheep is OK when demonstrably it is just as bad. At the end of the day, each party puts what they believe will help them win the next election ahead of any morally difficult decision, no matter how compelling the arguments in its favour. For a local example we need look no further than at the way the New South Wales state government's 2016 ban on greyhound racing collapsed when it thought it might cost them votes. That's all it took. What appeared at first to be a brave decision, based on a large amount of truly horrifying animal welfare evidence, soon became one of ungainly backsliding and political expediency. Self-interest won the day and the animal suffering goes on and on. If you can take it, and it won't be

easy, here is some footage of 'live baiting' in Australia's greyhound racing industry.

<http://www.abc.net.au/news/2015-02-16/live-baiting-expose-to-rock-greyhound-industry/6109878>

Prior to its disgraceful back-flip, the NSW government made it very clear that this kind of behaviour is not just that of a 'few bad apples' but is in fact widespread.

The grim reality is, even if a large majority of the Australian population was in favour of new and more powerful laws to protect our most vulnerable animals, it is unlikely that their views would be respected by any parliament in the land: state, territory or federal. The influence of big money, greasy palms, and the loud, insistent voices of unscrupulous lobbyists invariably win the day meaning we do not live in a democracy at all, and the so-called 'will of the people' means nothing unless it can be translated into a cold fear that electoral seats and superannuation payments will be lost.

Look at the failure to enact voluntary euthanasia laws in all Australian states except Victoria when 70% of the population supports this legislation,^{lviii} or the requisitioning of a humiliating and unnecessary postal survey to decide the legitimacy of same-sex marriage when a significant majority of the population already supported the concept.^{lix} When governments refuse to act in the parliament when they have these levels of public support, democracy is reduced to a farce. Again, I emphasise, the best way to bring about change is through the collective actions of ordinary people acting outside

the political system. Fortunately, the issue of animal welfare is beautifully positioned in this regard because the best way to curtail the activities of all the major animal-abuse industries is to stop buying their products. No other action is needed, although a great deal more can, and is, being done by inspired people all over the world.

If you are among the inspired, some things worth trying are sharing your thoughts online, talking about it with friends and family, taking centre stage in public discourse, joining animal welfare agencies and those political parties that take animal welfare issues seriously, creating stories and documentaries in film and music, exemplifying it in other forms of art, keeping pressure on local politicians through correspondence and meetings, organising community events and presenting information sessions in schools. The arguments for animal welfare, and the associated effects on the environment and human health, are clear, simple and logical. They are based on compassion and common sense but getting a wide range of people to listen to and respond to them is the hard part and it takes hard work to get there.

At the time of writing (April 2018), the feature length documentary *Dominion*, which looks in detail at animal abuse in Australia (written and directed by Chris Delforce) has just been released and the James Cameron-produced film about veganism, *The Game Changers*, is not far away from public release, and hopefully both find wide audiences outside the vegan community. High profile vegans such as Cameron, the director of the movies, *Avatar* and *Titanic* (among others) can

play a crucial role in getting information into the public domain and they deserve to be commended when they do. It is just the sort of action we need to circumvent inert and complicit governments, which have let animals down to such an enormous degree.

This list of famous vegans may be of interest to some people. I don't know how they managed to leave Mike Tyson off the list. That's a real oversight.

https://en.wikipedia.org/wiki/List_of_vegans

18. **Ag-gag laws**

Much of the best evidence of animal abuse is collected by the modern-day heroes who film what is going on inside places like abattoirs, piggeries, intensive dairy farms, live animal export ships, and research facilities. It takes a lot of courage to do this, because these places have a huge amount to hide, and even more to lose.

To prevent the American public from finding out just how high the levels of animal abuse really are in their meat industries, so-called 'Ag-gag' laws have been passed in the following US states: Wyoming (2013), Missouri (2012), Utah (2012), Iowa (2012), South Carolina (2011) Washington State (2010),

California (2008), Montana (1991), North Dakota (1991) and Kansas (1991).^{lx}

These laws, which have all the perversity of a Stalinist nightmare, make the filming of animal abuse a crime punishable by fines or imprisonment. It does not matter that the abuse might be filmed from adjacent land, or that what is occurring is illegal. All American citizens should be aware of Ag-gag laws because they are designed to strip them of their right to know the truth about some of the terrible things that are happening in their country; things that many would undoubtedly want to put a stop to.

It beggars belief that laws so fundamentally opposed to common sense and justice were ever enacted, and even more baffling that, apart from in Idaho,^{lxi} no federal District Court has struck them down. ^{lxii} Any fool can see they've been enacted at the behest of the meat industry, which quite rightly lives in a constant state of fear that more and more of the meat-buying public will start to take a greater interest in the way they treat their animal victims. The rabid determination with which the industry tries to hide the truth about its operations is nothing other than a profound public declaration of guilt and complicity. What else could it mean? You won't find avocado farmers asking politicians to enact draconian laws to stop people filming them at work, unless their employees happen to be 'undocumented aliens' (for want of a more dehumanising and pejorative description).

The only responsible way to deal with Ag-gag laws is to challenge them in the courts and ignore them in the field. Filming of animal abuse must continue unabated because it is the most effective way to show the public what is really going on. Words alone are far too malleable, easily forgotten, misinterpreted, misconstrued, distorted, or taken out of context to carry the day. Visual images, although not infallible in the digital age, are more difficult to falsify or explain away—which is precisely why they are targeted by Ag-gag laws.

19. New animal welfare agencies

Right across the globe, government bodies tasked with the protection of animals have failed so utterly and completely to carry out their core responsibilities it is imperative that they be replaced by new agencies with the sweeping powers needed to carry us through the rest of this blood-soaked century. The enforcement officers employed by these agencies must have the authority to enter industries suspected of animal abuse, unannounced, and close them down when necessary. All abattoirs and animal transport and handling facilities must be subject to constant camera and human surveillance and all people working in these industries thoroughly trained in the animal welfare practices proscribed in the new legislation. Penalties for non-compliance must be harsh and swift, involving lengthy prison sentences. A new tax should be levied on the animal-abuse industries, not only to fund the new agencies, but

to pay for the environmental damage they cause and the burden their products put on the health system.

Initially, these agencies would be charged with ensuring that animal handling, transport and slaughtering practices are made far less cruel than they are today. Live exports would be banned immediately along with: sow crates; veal calf torture; the keeping of chickens in inhumane conditions; and cattle feedlots. Animal welfare requirements associated with commercial exercises such as zoos, horse and dog racing, circuses, puppy farms, scientific experimentation and animal theme parks need to be urgently overhauled with the onus being on commercial organisations to show just cause why they should not be abolished on the grounds of animal welfare alone. These are just basic improvements which should have been made decades ago. They are not solutions in themselves, but this doesn't make them any less necessary.

However, except for those in Scandinavian countries, it's hard to see any governments creating agencies such as those described. Just because there is a clear moral imperative to do so doesn't mean a thing to most legislators if they consider that taking on the big players to be tantamount to political suicide. Their own well-being is by far their number one priority, and so while the need for new regulation and policing will never go away, and must always be kept on the table, the greatest exponents of change will, as ever, be ordinary people, shaping society from below with the choices they make every day.

20. Nazi animal welfare laws

There is something terribly shameful about the fact that Nazism has been the only significant political movement in modern times to enact laws to protect animals from the sorts of abuse they suffer today, under our laws.

To confirm the truth of this, have a look at the Nazi 1933 Law on Animal Protection:

<http://www.worldfuturefund.org/wffmaster/Reading/Germany/Nazianimalrights.htm> ^{lxiii}

Hitler is said to have been incensed by the way Judaism and Christianity drew ethical distinctions between the treatment of animals and people, and was reportedly planning to ban slaughterhouses in Germany if fate had not caught up with him as it did. Given what we know about the murderous insanity of the Nazi regime, it seems extraordinary that not only Hitler, but people such as Himmler and Goering would be in favour of improving some aspects of animal welfare. There is evidence, however, to suggest that this was the case despite the hypocrisy of allowing cruel animal (and human) experimentation to take place. ^{lxiv}

Those of us who weren't there at the time tend to balk at the idea of comparing today's victims of the animal-abuse industries with those of the Nazi Holocaust, which saw the protracted enslavement and slaughter of millions of Jews, gypsies, homosexuals, political dissidents, handicapped people, as well as those extraordinary Germans who had the courage to

stand up to the regime. But somewhat surprisingly perhaps, there are many Holocaust survivors, people who were there, who do not shy away from such comparisons.^{lxv} Far from it, they recognise such comparisons as valid, showing as they do, a profound understanding of the realities that exist in the meat industry today.

From the mid-1930s onward, most German people looked the other way as the Nazi machine gained momentum, either afraid to stand up to it (because doing so was often a form of suicide) or, through their inaction, offering it their tacit support. Those who had the courage to resist were most often caught and tortured by the Gestapo. People threw themselves to their deaths from the upper floors of Gestapo headquarters in Berlin, so unbearable was the torment to which they were subjected.

lxvi

Today, we in the West don't face this type of enemy. Nobody in countries like Australia and America will be tortured for revealing the truth about the meat industry (although they might be in other countries). And while it is true, in some American states, a person may be imprisoned for filming the *illegal* abuse of animals (a which is only a few dangerous steps short of what Hitler and the Nazis imposed upon the German people), in general, people living in developed countries who are prepared to speak out about animal welfare or environmental issues, or any other issues, have, as yet, little to fear from their governments. But this situation could change quickly. We must remain vigilant and be prepared to take on

and defeat dangerous nonsense such as Ag-gag laws before it can gain a foothold and some perverse form of respectability.

21. **Industry and political reactions**

A bit of simple googling reveals that the meat and dairy industries are becoming somewhat unsettled by the growing numbers of people saying ‘no thanks’ to animal products. As their profits dwindle we can be sure they will respond aggressively through misleading advertising campaigns and false stories in social media, focussing initially on phoney health issues. I’d imagine they will aggressively promote their products as ‘healthy’ and ‘part of our culture’; introduce fake positives such as their desire to ‘feed the world’ and overstate their importance to the country’s economy when they know that a much larger and more efficient plant-based food production sector makes more sense. In Australia, there have already been mutterings from vested interests and the National Party about introducing totalitarian edicts in the form of Ag-gag laws, giving us all good reason to support animal-welfare-oriented political parties in the Senate to ensure such laws are never enacted.

Absurdly, in the US, the FBI classifies animal welfare activists who break the law in the defence of animals, as *domestic terrorists*.^{lxvii} This cynical and ludicrous over-reaction is no doubt made at the behest of politicians who are in the thrall of the animal-abuse industries. It’s clear that what they are trying to do is blend, in the public mind, acts of compassion with

genuine acts of terrorism, in the hope that each can be prosecuted with similar severity.

The FBI wants you to believe that freeing minks and foxes from a fur farm, ^{lxviii} or allowing a veal calf to see the sunlight, is the same as blowing up an aircraft or a building. Already, the idea that 'veganism' can be equated with 'militant, anti-social behaviour' is starting to seep into the public mind because of this ridiculous stance. Animal activists who risk their liberty to do critically important work on behalf of all of us deserve our praise and recognition. They are heroes, not villains, and equating their compassion and courage with terrorism is about as sensible as saying that the journalists, civil rights activists and bloggers who risk their lives by speaking out about corruption, religious freedom, environmental matters, human rights, and the like, in countries like Turkey, Iran, China, India, Pakistan, Bangladesh and Russia, are the traitors and terrorists their governments claim them to be.

It's all nonsense, but just as the mining industry in this country has relied on smoke-and-mirrors pseudo-science and the confusing blathering of climate change deniers to steer the public's understanding of global warming, away from scientific fact and towards something about which there is doubt, the meat and dairy industries will try to do with respect to veganism. When veganism is deemed to be sufficiently threatening we'll no doubt see medically qualified people who have sold out popping up on television and in social media, telling us we need to eat animal products to remain healthy. This is demonstrably untrue, but as the mining industry has

shown us, any falsity which is said often enough, earnestly enough, to enough people, will gain traction in the muddied waters of public discourse. Spreading this type of propaganda is grossly irresponsible, immoral and dangerous. It must be met head-on with the facts, for they are inescapable. Being a vegan is good for your health and no amount of lies or distortions can alter that.

22. **Vegan alternatives to meat**

Cellular agriculture

A small number of visionary scientists are today working in the field of cellular agriculture to discover ways to grow animal muscle tissue outside the body of a living animal. The resultant tissue, which has already been produced in small amounts, is real muscle tissue in every sense and its production involves no animal suffering. Known today most commonly as *clean meat* and variously as *in vitro meat* (IVM), *cultured meat*, *mock meat*, *test tube meat*, or even the ludicrous, *shmeat*, it could be on American supermarket shelves within the next few years if a vegan cell culture medium can be developed. At the moment foetal bovine serum, harvested from cows slaughtered by the meat industry, is used and clearly this is unacceptable. To create clean meat, the mature muscle cells from which most meat is comprised, are grown in a culture in a bioreactor from either stem cells or muscle tissue that has been (painlessly, they say) extracted from animals such as pigs or cattle.^{lxix} Indeed, there is no technical reason why human muscle tissue

couldn't be grown using the same techniques, although one can imagine there would be many (mostly illogical) objections to this rather sanitised version of cannibalism.

In 2013, the first *clean* beef hamburger was tasted by a panel in front of journalists in London. The five-ounce patty at the heart of the burger—the appearance of which was enhanced with red beet juice and saffron—took three months to grow in the laboratory at a cost of more than \$330,000 (expected to fall to \$11 when the technology is scaled up).^{lxx} The panel found the burger to be 'almost' like a conventional one (whatever that means).^{lxxi}

Growing all meat in bioreactors would not only eliminate the industrial levels of animal suffering we see today in the meat industry, it would have far-reaching environmental benefits as well because *in vitro* methods produce just a fraction of the methane associated with modern animal agricultural practices and require 45% less energy, 99% less land, and 96% less water.^{lxxii} Savings of this magnitude ensure the future of this technology provided it can be successfully scaled up and its waste products dealt with properly. These are big hurdles and the technology has some way to go; but it is nevertheless a space worth watching.

Other advantages of clean meat over today's meat are: harmful saturated fats can be replaced with essential Omega-3 fatty acids during production; the incidence of foodborne pathogens, such as *Salmonella* and *E.coli*, which cause millions of episodes of illness annually, can be greatly reduced in a sterile

production environment, the risk of contracting BSE (bovine spongiform encephalopathy), otherwise known as *Mad cow disease*, reduced to nearly zero and exposure to pesticides and the traces of arsenic, dioxins and hormones that are associated with today's meat production methods, also greatly reduced.^{lxxiii}

When the advantages are as great as these it would be surprising if every hamburger, hot dog and can of pet food was not being sourced from either lab-grown meat, or a plant-based alternative, in the next couple of decades. Ground beef products will come off the production line first because their structure is more easily obtainable, but in time there will be steaks that are indistinguishable from those we slice off the carcasses of dead animals today. The important difference being; no bovine will need to suffer and give up its life in order to produce them.

Plant-based meat alternatives

Exciting as the prospect of clean meat is, and its future is bright, it is not the only alternative to abattoir meat that science offers. Plant-based foods, some of which resemble meat in texture, taste and appearance, are coming onto the market in greater numbers each year and may have even greater commercial potential than clean meat because they can be manufactured more efficiently. In fact, even Professor Mark Post, whose team at Maastricht University in the Netherlands was responsible for producing the clean meat patty in 2013, says that if a time comes when people are unable to tell the difference between clean meat and plant-based meat alternatives, there will be no

place for clean meat.^{lxxiv} I think that's a bit pessimistic because it seems likely there will always be people who want to eat meat regardless, and who will be prepared to pay a higher price for it.

Fortunately, companies developing plant-based meat substitutes have attracted funding from philanthropists like Bill Gates and Richard Branson, and it is encouraging to note that demand for value-added vegetarian products increased in the United States by 8% between 2010 and 2012. It is predicted that the 'meat alternative' market will experience a compound annual growth rate of 8.4% and be valued at \$5.2 billion globally by 2020.^{lxxv} Promising, yes, but still miniscule compared to current meat and dairy production. For example, in 2013 meat and poultry sales in the US totalled \$198 billion, and the industry, overall, represented about 6% of the country's gross domestic product, contributing \$864.2 billion. Based on these numbers we can see how far there is to go, but as the differences between animal tissue and its vegan shadow become harder to detect, demand for plant-based meat alternatives will grow rapidly, and not just among vegans and vegetarians, but among meat-eaters keen to reduce their risk of chronic disease.

23. **Don't worry, it's quite normal**

A meat-eating friend recently suggested to me that there was something 'weird' about vegans being willing to eat commercial products that resemble meat, such as soy-based sausages or burgers, as if to be a 'real' vegan it was necessary to overturn

millions of years of evolutionary history and suddenly declare that meat was repulsive. This is a ridiculous idea because we are, historically, a meat-eating species and we can't wish our history away. This doesn't mean that most vegans aren't repulsed or saddened by what they see in butcher's shop windows, because they are. But this is only because they know what those animals had to endure before they were sliced up or ground into mincemeat. So, don't think there is anything odd about becoming vegan and still liking the idea of eating meat or enjoying the smell of it cooking. Doing so is in your DNA and if you have an itch to scratch I recommend a vegan sausage sizzle occasionally. Those sausages will soon become the only meat-like thing that interests you.

Conclusion

Most of us would agree (I hope) that there is something fundamentally wrong with making the lives of billions of sentient beings (those who are able to feel or perceive things) ones of intense suffering and violent death. A good way to bring a statement like this into focus is to substitute 'sentient beings' with 'human beings'. And although we cannot prove that what the animal-abuse industries do to their victims is wrong, by the same token neither can we prove that the rape and murder of human beings is wrong or that rescuing a drowning child is right. Some things are simply accepted by people everywhere as universal truths and no further discussion is needed. Such truths, when common to all of humanity, may be referred to as 'common sense' and their acceptance can lead to

statements confirming their veracity such as 'it's obvious'. It's obvious that we should rescue a drowning baby. I'll go along with that any day. But if it's obvious that we should not cause unnecessary pain and suffering to sentient beings, namely other people and the other animals, then surely it is equally obvious that we should, if in this regard only, treat other animals, as we would wish to be treated ourselves? If not, what is the ethical basis upon which we withdraw our concern for all sentient species other than our own?

Thankfully, a growing number of people across the globe have reached the conclusion that the suffering of all sentient beings is as important as their own and they're doing something about it. According to a 2008 survey with a statistically-significant sample of the US population, between 3% and 4% of Americans identified as vegans or vegetarians.^{lxxvi} A more recent 2017 survey suggests that the proportion of vegans has risen to around 6%.^{lxxvii} These figures must be treated with caution, because self-reported data is notoriously unreliable and definitions tend to vary from survey to survey. But, just for argument's sake, let us assume that 4% of the US population are vegan; that's about 13 million people. If we extrapolate this proportion to the 1.2 billion people who live in the developed world, and err on the side of conservatism, we see there are probably about 40 million who are vegan with, perhaps, several million more in the developing world who have access to animal products but have chosen a vegan lifestyle. (And of course there are hundreds of millions who are vegetarian, or close to it, because of economic, cultural or religious reasons.) If the

upward trend continues at its current rate, more than 30% of people in the developed world, most of them under 40, will be vegan by 2050^{lxxviii}. This may sound promising, and it would certainly be a massive improvement on today's catastrophic situation, but the levels of animal abuse and environmental destruction that would still exist at 30% would be completely unacceptable. If 70% of a larger population is still propping up the animal-abuse industries it will remain a disastrous situation. There is also the likelihood that as the middle classes in countries like China and India become wealthier they will want, mostly for reasons of social status, more meat. I am not convinced this will happen because climate change is going to hit these countries hard and animal products are going to become very expensive as a result. There are also the benefits of education and heightened social awareness to factor in and we could easily see these burgeoning middle classes finding a wiser path.

Given that becoming vegan is so easy and the strength of the arguments in its favour, I can think of no reason why veganism won't have become the chosen lifestyle for far more than 30% of the population in developed countries by the middle of this century. We are no longer bound to our past in the way we were even a generation ago. Younger people, those now in their teens and 20s or 30s, are critically aware of what is coming down the pipe and they're hungry for good ideas and veganism is one of the best, if not the best, among them. Today, we have access to information and food choices that were unheard of just 20 years ago. We stand on the cusp of a technological age

which can unshackle us from the stale, thoughtless habits of our past and allow us to make personal decisions that have a real and material effect on improving the world around us. The whole question surrounding animal welfare, in all its permutations and tangential impacts, gives each of us the opportunity to change the way we live and how the world operates. It's high time we seized the day no matter what our age or disposition in this fleeting life.

A cautionary note...It would be foolish to lose sight of the fact that all people (including the most ethical of vegans) contribute something towards the suffering of animals and the degradation of our environment, despite their best efforts to do otherwise.

If we catch a plane, for example, how many of us consider the greenhouse gases it produces or the birds and insects who may die from being sucked into its engines? Cars, trucks and trains pollute and kill in similar ways, and most of us drive one of them. If we buy an orange, do we consider the birds and bats who have died as a result of becoming entangled in the protection nets that cover the orange trees? Do we consider the numbers of small mammals that die when land is cleared for growing crops? Who thinks about the cost to the environment, and by extension, to the displacement and death of animals, when they switch on electricity, or use petroleum-based products such as phones, cameras, soap, aspirin, fridges, paint,

shampoo, bandages, or any number of other modern day necessities?

When it comes down to it, all of us are culpable to some extent, some much more than others, and we all need to be aware of this and humble in the face of it. But that shouldn't slow any of us down or weaken our resolve because these issues are far too important to be held back by our imperfections. You don't have to be Einstein to see that through the collective efforts and commitment of millions of people we can turn this thing around on all fronts. The first step in this process is to think carefully about what your shopping list is built upon. The rest will follow.

Afterword

And finally, because I can scarcely match it, I would like to finish with the quote of a quote from the Afterword of Colin Spencer's excellent book, *The Heretic's Feast*.

'The American naturalist, Henry Beston, in his account of a year in the life of the Great Beach of Cape Cod, The Outermost House, first published in 1928, put his finger on it when he said: "We need another and a wiser and perhaps a more mystical concept of animals." He rejected the fact that the animal was measured against man and patronised for its incompleteness. Animals have extended senses that we have lost and they hear voices that we are deaf to. Beston says: "They are not brethren, they are not underlings; they are other nations, caught with ourselves in the net of time, fellow prisoners of the splendour and travail of the earth."' lxxix

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