

The Importance of Animals in Permaculture
Systems and Permaculture Diets,
Including a Discussion on Veganism

by David Brown

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Preface

No topic is more important in permaculture than this one, especially when we consider the two aspects of system and diet. So when I took up the suggestion to write an article for publication, I found myself writing a small book! I state my opinions which I believe are rational and based on the facts, but I will change them if new information so requires, as I have already done while researching for this article. I also include opinions that I believe have merit even though I don't entirely agree with them.

I express my thanks to the permaculture experts who contributed suggestions to improve the article for publication, but as the author, I remain solely responsible.

I wrote the article first and then decided that it might be easier on the eye and the brain if the text was interspersed with some other visuals, so I added cartoons. However, the cartoons change the mood of the article by bringing in satire – while the text is a discussion of the issues. Therefore, I invite you to enjoy the cartoons, but read the article as though they are not there.

To avoid getting lost by going sideways, I have left some details in the article which are not strictly correct because it doesn't affect the main point. Also, I ignore absurd arguments, eg, that eating meat is a slippery slope that can lead to cannibalism.



I have deliberately avoided writing an academic paper full of references, appendices, bibliography, etc, that will gather dust on a shelf somewhere. The style is closer to journalism, as 'thoughts for discussion'. Readers can freely search for information without me leading. But be careful using online search engines (eg, Google) which track your past preferences and can give results consistent with them and so keep you in the dark about anything that will challenge your biases.

Personal disclosure: For medical reasons I am advised to avoid red meat but that advice is specific to me and this article is written for people in general, not for people with special medical circumstances and dietary needs. I think a healthy, balanced diet includes animal products, probably with some red meat. However, I do not believe that if a diet includes meat, everything is OK and nothing needs improving.

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You are recommended to read the **Conclusions** on [page 29](#), before reading the article.

Earth Health

Energy accounting

Every conversion process takes energy. For ecological reasons it is essential that the substantial energy inputs to produce our food, fuel, and fibre come from the sun. Otherwise we are using a complex process which we call *farming*, to convert coal and oil to industrialised food and other products.

The figures on which comparisons and decisions are made, often come from the USA and Europe – such is the hegemony of rich and powerful countries. However, their methods of production are wasteful, inefficient, and factory-style, and do not apply everywhere. Mostly, they are the opposite of permaculture.

Consider an old-style, Australian dairy farm where cows are in the paddock eating grass. The grass is stored energy from the sun. The cows use that solar energy to move around and find their food as well as to make the milk. At milking time twice a day the cows walk to the dairy to be milked, and then they return to the paddock, all powered by the sun. We hope for the day when wheat grains and soy seeds jump out of the plant and fly to the silo with solar energy rather than tractors and harvesters. The cows also reproduce themselves using solar power and the calves grow by the same energy process. We hope for the day when tractors and harvesters will reproduce themselves by having little babies that grow into big, powerful machines by the energy of the sun.

In our rangelands, cattle and sheep convert plants that are inedible for humans into edible food (red meat). American conveyor belt feedlots and their massive energy and water requirements should not be used to damn animal farming elsewhere in the world where those practices do not apply.

The global food and clothing reticulation system has high energy costs for transport – ships, trains, lorries, and worst of all, air flights. Add the demands of refrigeration and storage. None of this would be possible without coal, oil, and gas. The transportation is often unreliable and can lead to conflict. Conflict leads to bigger energy demands and pollution.

Unlike animal products, plant foods require cooking to make their energy available to humans. The potatoes, wheat and soy we harvest are not food for us, despite that we call them ‘food’. Eaten like that, uncooked, would give little energy and cause us problems. We don't have four stomachs and a gut fermentation process like ruminants. And we don't eat our faeces to put it through our gut twice, like guinea pigs. We cook it – a process unique to humans, which has allowed us to multiply and dominate the Earth.

Dairy products are an example of an animal-based food that is ready to consume immediately it comes from the animal, and it can be processed in various ways to make yoghurt, cheese, etc, usually without cooking. We usually cook fish, eggs, poultry, red meat but that cooking is faster and takes much less energy than for plant foods that provide our energy needs. The high energy cost of cooking plant derived food is often left out of the energy accounting and this presents plant products more favourably than the reality.

Animals act as solar powered storage units for keeping living protein. The various processes needed to convert the sun's energy to make an animal, each take energy, and the animal becomes an energy store which is kept alive (and edible) by more solar energy. In some societies animals are kept in this way to provide for times when other food sources are scarce or absent. We use electric refrigerators powered by coal, oil, and gas. Industrialised societies can use more energy

to grow, transport and store food (plant and animal) than there is in the food, because they use coal, oil, and gas to do it.

Animal products and services besides food

Animals provide many more products and services than just food, eg.:

- excreta – in some countries, excreta is used for cooking fuel (as well as to fertilise gardens and ponds). Rice is grown in paddy fields with ducks which control some pests and provide excreta fertilisation.
- wool,
- lanolin,
- hair,
- feathers & down,
- leather,
- skins,
- fur,
- bone,
- fat and wax,
- gelatine and glues,
- protection – eg, geese are used to ward off foxes, like guard dogs with wings,
- transport, especially horses,
- mechanical power, especially bullocks,
- entertainment – the antics of all animals,
- soul health, mental wellbeing.

Cheaper, equivalent products to wool, hair, feathers & down, leather, skins, and fur, can be obtained more simply from oil derived plastics in one form or another, but they are not as good. Goose/duck down and wool are brilliant for keeping warm and for wearing, which is why nature invented them, to keep animals warm.

Many advantages are gained from using natural materials rather than cheaper synthetics, but these are ignored because reducing the use of synthetic materials made from oil adds to their cost. A good example of the advantages is the use of wool for clothing, ugg boots, etc. (See the [article](#) about home grown wool for wedding dresses by the ABC.)¹

The sheep provide other benefits too, and at the end of their life the wool fabric can be absorbed back into the soil.

Plastics such as acrylic, polyester, rayon, nylon, and other space-age developments can be used to make clothing, carpets and floor coverings. Shoes, belts and hats are made of plastics. This is cheaper and easier than wool, furs, and leather. But it is more flammable, not as warm, and electrostatic. No one knows the long term effect of living electrostatically charged, except for getting electric shocks from time to time when touching certain things. Natural plant fibres – cotton, flax (linen), hemp, and bamboo, are better than plastics but do not have the warmth of wool or furs or leather, and when they are wet, they do not let the skin breathe. Dacron is a warm filling for doonas and cold weather coats – it is so much easier and cheaper to produce than feathers and goose down. But all these artificial fibres are reliant on big business and its industrial processes powered by coal, oil, and gas. They are not DIY for a permaculture community.

¹ <https://www.abc.net.au/news/2023-04-02/wool-industry-fashion-houses-regional-sa-bridal-wedding-gown/102161120>



Leather has many uses beside clothing and shoes and handbags. Here are two very old and much used, hand-me-down cases of mine made from leather, wood, paper, and steel – unlike plastics they are all able to return to the soil.

Plastics problem

However, the biggest disadvantage of this modern technology is to the Earth which suffers the proliferation of plastic, much of it as tiny micro-plastic particles in our soils and seas. This proliferation is an enormous problem which is getting worse every day. For example, there are areas of our oceans that are much larger than some countries, covered in a swirling mess of floating plastics.



We have seen many graphic images of animals suffering, perhaps with a tortured death from entanglement in, or ingestion of plastics.



The scale of animal damage is massive, not just in our oceans (where it is easier to photograph). People talk about the need to collect all the plastic, to dispose of it ‘properly’ (whatever that means), recycle it. Any centralised method found to deal with plastics or any part of this problem, will be energy demanding and probably polluting.



A lot of the clothing and carpeting plastic disposed of on land is easier to hide than in the ocean. Fast fashion is under increasing scrutiny over [greenwashing](#).²

Plastic bottles last a long time in the environment – three minutes of use, followed by years on Earth. The World Wildlife Foundation estimates that plastic bottles take 450 years to break down, disintegrating into toxic chemicals.

Closer to home, the Victorian Department of Climate Change, Energy, the Environment and Water's [National Plastics Plan Summary](#) contains some gut-wrenching estimates.³

By 2050, the department predicts that 99% of sea birds will have ingested plastic and the amount of plastic in our oceans will outweigh fish. The summary also states that 84% of Australia's annual plastic consumption is single-use plastic and only 13% of that is recycled.

The department predicts that global plastic use will double by 2040. So if there were any faint hopes that future generations might reduce plastic waste, the reverse is true. (The larger number of human consumers on Earth will contribute a significant part of that increase.)

“Bulk-buy plastic drink bottles are on the rise in our supermarkets and petrol stations, normalising them rather than inviting people to refill reusable drink bottles”

I am hammering the use of plastics because it will bring massive future problems across a wide range of areas, not least animal welfare, and it is of major concern for permaculture systems.

The tiny particles known as micro-plastics and nanoplastics are now ubiquitous and when they get into a system they mostly stay there, bringing all sorts of toxic effects. We don't know the effect of the micro-plastics, eg, on hormones and the capacity to reproduce successfully. These particles are taken up by the roots and leaves of plants, and have been isolated in rice. They can penetrate into the body and organs of many animals, eg, they have been found in the blood of humans. Plastic is now in the fresh snow falling in Antarctica, so we can expect it in penguins. We have no idea what the full consequences will be in the effect of these novel organic substances on living things and how they will react with each other to create new substances.

² <https://www.abc.net.au/news/2022-11-03/fast-fashion-greenwashing-claims-sustainability-environment/101602678>

³ <https://www.dccew.gov.au/environment/protection/waste/publications/national-plastics-plan-summary>

Therefore, we need to be careful that our lifestyle is not just comfortable for us because of our blindness and ignorance. As well as being an animal rights issue and a health issue, the substitution of plastics for animal products is injurious for the Earth, with unknown long term consequences. In general, the killing of an individual animal does not affect the rest of nature. It is highly unlikely that this wholesale plastics attack on nature is better for the Earth than killing some individual animals and so avoid the use of plastics.

Avoid imperialism

Most so-called ‘primitive societies’ cannot get their food and other needs unless they can breed animals and use their products. We should avoid the imperialism of insisting on an animal-free lifestyle for those people which makes them dependent on our technologies. We have done enough colonialism in our history and it is clear that we have far less insight than the so-called ‘primitive’ people. This applies to our own Aboriginal people in their traditional lifestyle, eg, if they use kangaroo skins to keep warm it is much better than Dacron.

There is another form of ‘imperialism’ that we must also avoid. It manifests itself in a strident dominance over the land and a macho demand for total independence from everyone else. *I am boss and I choose my lifestyle and diet by what I want and I have no responsibility for anything else.* This Alpha-male attitude is bad for personal and ecological health and for all relationships and it is the opposite of permaculture.⁴

Care for soil – shit and piss

The most important goal in growing our needs is to replenish and improve good soils. This should not come as a surprise to anyone who has an understanding of permaculture. The soil must be regarded as an organism – more important than every plant and animal organism in the system.

There is a great Australian invention: Wheat and sheep farms. But to identify them like that, fails to identify their genius. They are actually **legume** and **shit** farms which grow wheat and wool. The legumes (clover, lupins, alfalfa, etc) produce protein, and put nitrogen into the soil. The shit comes from the sheep and it is the most important product the livestock provides because it feeds the soil organisms. Animals are an essential part of the system for soil health, and nothing is as critical to our future as soil health. It is unlikely that animals would be economic to keep just for their shit and wildfire minimisation, without also providing meat, milk, eggs, wool, etc, as side products, but from an ecological perspective, those things should only be seen as collateral, side products. Therefore, I am troubled by the prospect that for the sake of a ‘religious’ dietary dogma with popular appeal, or a misplaced concern with how to deal with climate change, animals might be removed from our systems of natural production. Without the side products, animals create too much work and trouble to be justified solely for their replenishment of the soil with shit.

There are bad farming practices, so my commendation is limited to this particular aspect which explains why our farms were able to use so much less factory nitrogenous fertilizer and oil fuels than in the USA. This is also where figures from the USA present a false picture if applied to different farming practices.

We should note that in these legume-wheat-sheep-shit farms, the biggest aspect of degradation comes from the growing of wheat for the vegetarian part of our diet. This requires the total clearing away of native plant species because they are weeds which get in the way, affect machinery, compete with the useful plant (wheat) for light, water and soil nutrients, and contaminate the harvested product. It is not enough to clear all the trees – their stumps must also be removed to allow for later ploughing and planting. This wholesale clearing and annual ploughing

⁴ Some Alpha-males are women.

causes erosion, soil salinity, dust storms, and sends to extinction many species of native plants and probably some animal species. We have no idea how many species have been wiped out, because the clearing occurred before we ever knew those species existed.

Caring for our soils also requires us to avoid them becoming compacted, as compaction reduces their absorption of moisture and severely affects root growth. Most West Australian agricultural soils are easily compacted. Organic matter helps to avoid compaction by changing the soil structure. But we must also consider the mechanical processes which cause compaction: our livestock and machinery standing or moving on the land. The degree of compaction is determined by weight, 'foot' area, and impact (which is the speed at which the weight is applied).

Kangaroos don't move by jumping or hopping – they bounce. Their hind legs are spring-loaded with tendons so that most of the energy is regained for subsequent bounces, like a bouncing ball.⁵ The result is that their weight is gently eased onto the ground with each bounce. Also, their weight bears on two relatively large feet that are padded and soft, and this further reduces the compaction. By contrast our farm animals (cows, pigs, sheep, goats) cause compaction because they have a 'clumsy' movement (like us humans) with no bounce. They plod along and all the energy that lifted a leg for a step is lost when that leg hits the ground – they walk and run: plonk, plonk, plonk. Also they are hard hoofed and their whole weight bears on a fairly small surface area of two feet.

Monocultures



Raising domestic animals does not demand a ruthless monoculture as does most cropping of plants.

Consider how all the plants grow in Australia, especially native species affected by our growing of cultivated plants. In a paddock of wheat there is just wheat – nothing else. There is no place for any other plant or animal, including kangaroos, numbats, or lizards, and there are no trees for the birds. It is an ecological desert.

⁵ A mature male kangaroo can cover 5 metres with each bounce.

On the other hand, sheep and cows can be grazed in semi-wild country after clearing poisonous plants that they might eat. They can share the land with carnivores such as numbats and quolls, and to some extent with kangaroos and other herbivores. This is not to say there are no problems with this practice – only that there are far fewer than widespread plant cropping brings.

Where a no-till regime is adopted to avoid the loss of soil, the weeds are suppressed by covering with herbicides, sometimes using spraying aircraft to do it. (This benefits herbicide manufacturers especially because as the weeds develop resistance to the poison, the dosage must be increased.)

Dairy farms where cows are pastured in paddocks covered with grass do not need ploughing. In addition, trees are often included for shade and to break the wind, which benefits some other species.

I know of a community farm overseas where the members are vegan and they claim to apply permaculture when in reality, they practise monoculture. The farm has a bleak climate with foggy, long, cold winters, but despite that, the grass grows quickly, and they have to keep it cut down because in summer they have deadly snakes and their region is prone to wildfires. I was surprised that they spent so much time driving around on large, diesel powered, grass mowing machines, then gathering up the cut grass into heaps to be burnt when it dries out. When I asked why they don't use geese to do the same job, they agreed that it was an ideal environment for geese but they could not have geese because of their vegan principles. I could not persuade them what their dog could have told them: that you can keep animals with no intention to kill them, nor that geese would turn the problematic grass into useful dung and enrich the soil. The geese would also give the humans some entertainment with time to lie in a hammock instead of driving around on their noisy, grass mowing machines. (Lying in a hammock is an essential aspect of all true permaculture systems! ☺)

Water requirements

The water requirements of growing rice, cotton, fruit, nuts, and vegetables, are substantial and it is especially inappropriate in such a dry, water deprived country as Australia to grow these products for export.

Climate

The methane argument makes the contribution of ruminant farm animals to climate change a reason to avoid eating meat and dairy products. But that argument is very selective. Paddy fields growing rice produce a lot of methane too, but this gets almost no attention. The whole focus is on burping cows. Why? Methane is a greenhouse gas regardless of where it comes from. (This is important to me because I eat almost 100 kg of rice per year and very little dairy food.)

Methane (CH_4) is a much more potent greenhouse gas than carbon dioxide (CO_2). The greenhouse gas effect of methane is 23 times greater than carbon dioxide per molecule. That is a simple matter of physics. However, it is a misleading comparison because methane stays in the atmosphere for about a decade before it is broken down and rendered harmless as a greenhouse gas. On the other hand carbon dioxide remains for a thousand years or more. The source of the methane is also critical. For millions of years the Earth has had animals and bogs and rotting biomass that release methane into the air as part of biochemical cycles. In that case it might not be a problem. But where it is released to the atmosphere from underground as a consequence of human industry, it is adding new methane, and that is a problem. Carbon dioxide is part of similar natural cycles, as well as of industrial societies.

University of Queensland researchers are working to create pretend cattle stomachs to test if slow-release, anti-burping tablets could substantially reduce methane emissions – see the

article [*University of Queensland's promising research to drastically reduce livestock methane emissions.*](#)⁶

Red seaweed could be the answer to slashing methane emissions from cows – see the article [*Red seaweed could be the answer to slashing methane emissions from cows, study shows.*](#)⁷

These treatments are possible in a grass fed systems; they don't require conveyor belt feeding or pen fed cows. Kelp and other seaweeds have also proved effective and we should suppose that they have other advantages in providing a wider range of dietary nutrients.

There are sheep on the coast of Scotland that live on seaweed as their main diet rather than as an additive. This has continued for many years, long before there was any concern about climate change. These sheep are very healthy.

It is argued that the addition of cows, and other ruminants to bush, reduces atmospheric carbon – see [*Across the globe, farmers put grazing livestock to work to help the environment and improve biodiversity.*](#)⁸

The article [*Dairy farmer uses multi-species, legumes and charcoal to combat climate change*](#) is about research underway.⁹

Kangaroos release virtually no methane despite having herbivorous diets similar to ruminants such as cattle, which release large quantities through exhaling and eructation (burping). Kangaroo's hydrogen by-product of fermentation is instead converted into acetate, which is then used to provide further energy. Scientists are interested in the possibility of transferring the bacteria responsible for this process from kangaroos to cattle. But this is another one of many reasons why we should take a short-cut and switch to using kangaroos instead of our foreign farm animals on which we are fixated.

This heading of *Climate* also raises the ‘plastics problem’ in articles that directly link the production and use of plastics to adverse climate effects from greenhouse gas emissions – see [*Plastic production creating greenhouse gases ‘equal to 5.7m cars’, conservation groups say.*](#)¹⁰

The article [*After the Barbie movie frenzy fades, how do we avoid tonnes of Barbie dolls going to landfill?*](#) gives further insight for quantifying emissions and the damage.¹¹

Species extinction

In Australia, our crop growing has caused more extinction of native plant species than any other single cause.

The article [*Across the globe, farmers put grazing livestock to work to help the environment and improve biodiversity*](#)¹² is about how animals are used in various parts of the world (Denmark, Florida, Queensland) to reduce atmospheric CO₂ by changing the vegetation, which in turn will restore many of the earlier species. We should not ignore the importance of insect species to ecological balance and the maintenance of other species, including plants. The extinction of an insect species might be far more damaging to an ecosystem and to our biological welfare than the loss of a warm cuddly species, such as koalas. A focus on individual animals, as is common in animal rights beliefs, fails to make this connection.

⁶ <https://www.abc.net.au/news/rural/2022-10-31/university-queensland-research-reduce-methane-in-cattle/101588928>

⁷ <https://www.abc.net.au/news/2023-04-03/low-methane-emissions-cows-seaweed-milk-dairy-industry/102169786>

⁸ <https://www.abc.net.au/news/rural/2022-07-24/pony-cattle-farmers-protecting-the-environment-conservation/101257052>

⁹ <https://www.abc.net.au/news/2023-05-08/dairy-farmer-multispecies-legumes-charcoal-combat-climate-change/101805962>

¹⁰ <https://www.abc.net.au/news/2023-07-10/plastic-waste-report-marine-conservation-society-wwf/102582230>

¹¹ <https://www.abc.net.au/news/2023-07-18/how-do-we-avoid-tonnes-of-barbie-landfill/102613532>

¹² <https://www.abc.net.au/news/rural/2022-07-24/pony-cattle-farmers-protecting-the-environment-conservation/101257052>

The article [Critically-endangered Capricorn yellow chat given a fighting chance by graziers' soft touch](#) makes the same point.¹³

Personal reasons for dietary choices

There are many reasons why some people choose to avoid eating meat (animal flesh) including their belief that it is better for their health, or better for the Earth, or because they feel more comfortable avoiding the killing of animals.



A definition from the American Indians

The word *vegan* was coined relatively recently, in 1944. It is more tightly defined than *vegetarian* and is used of people who avoid all animal products in their diet. By comparison, the much older word *vegetarian* is quite loose and is used of people who include in their diet any or all of: fish, eggs, dairy products, and even duck and chook, but none of them eat red meat.

Therefore, I think it is clearer if I use the more precise terms: *vegan* and *veganism*. Some narrow vegans even avoid honey as an animal product – which I think is a weird classification – honey is flower nectar collected and processed by bees.

Most people who promote a non animal diet mean well. They are sincere and they don't impose their beliefs on others. Others are self-righteous, dogmatic, one-eyed, 'religious' absolutists and fanatics. They call meat eaters, carnivores, which is sometimes a reflection of their own ignorance, and sometimes a deliberately intended insult.

¹³ <https://www.abc.net.au/news/rural/2022-08-06/cattle-saving-the-capricorn-yellow-chat/101299774>

Diet and geography

Regions should be able to feed themselves. How many vegans or vegan communities grow all their own food and supply all of their survival needs?

As a generalisation we can say that a vegan diet becomes increasingly impractical as people live closer to the poles. In other words, veganism is much more feasible if you live closer to the Equator than to the Poles – it is feasible because (i) the plants will grow there and (ii) our bodies don't have to use as much energy to keep warm as is needed closer to the poles, so we can survive with less energy dense foods. The Inuit people must live on animal products with very little else. There is disagreement about whether the word, *Eskimo*, means “*eater of raw meat*”, but there is no dispute that meat is a critical food for them. Even plants become carnivorous when they cannot get necessary nutrients from the soil.

I emphasise the word *live* to make my point clear by distinguishing it from the word *reside* because most people in wealthy countries do not live where they *reside*. I have heard many such people boast that they live in geographically tiny countries that feed a human population of many millions, eg, the Netherlands.¹⁴ They ignore the global system of food reticulation. For example, the people who reside in Europe do not live in Europe. They live in Florida (oranges) Venezuela (bananas) Australia (wheat) the world's oceans (fish), Africa (coffee) New Zealand (wool) India (cotton), and so on. Much of the food production in their home country is in glasshouses with artificial lighting and other energy demanding features.

Agribusiness and industrial production and processing

Most of the arguments against meat eating don't apply in a permaculture situation. They apply to agribusiness and the global food reticulation system. The external and environmental issues and some of the health arguments put forward against meat eating are also only valid regarding agribusiness. Agribusiness and the global food reticulation system are still a really bad idea even if everyone were to be vegan. Absolutist animal rights that forbid killing animals in all circumstances, is an argument against permaculture.

There are global problems with soy, including: human exploitation involved in production, the high demands made on the soil, monopoly control of the seed market by big agribusiness, widespread use of genetically modified seed, vast areas of monoculture that is both mono-species and mono-genetic, which threatens disaster in the same way as the potato famines in Europe (including Ireland). This is not permaculture, but it shows that an exclusive plant-based diet is not a solution when the problem is global agribusiness and its industrial food production.

This is apparent in the article on [Making the burger of the future](#),¹⁵ which brings out some of the problems involved in trying to substitute plant based material. (This product would not suit vegans because it includes egg.)

The science and engineering might seem wonderful to those who are happy to live on food synthesized in industrial factories. Certainly it fits well in the big agribusiness mode of production but as such, it is the complete antithesis of self-help, independent permaculture systems. Centralized, high tech factories+laboratories would be totally out of place even in a large, communal permaculture. The energy and greenhouse costs involved in building and operating them and in transporting food to and from them, should be factored in their evaluation, but isn't.

¹⁴ This idea of ecological footprint to assess responsibility for degradation is often misunderstood when people don't see that it makes the ecological distinction between where people live and where they reside. So, eg, it can mislead to give the Aboriginal people of Australia the largest ‘footprint’ of any people in the world – they ranged over a huge area of land. But we could express the idea in this way: It is not the area that matters – it is how many of you there are and how deeply you tread. There were few of them and they trod lightly. Assessed correctly, modern Western societies have a much bigger footprint and it includes a lot of transportation and refrigeration and so makes it heavier.

¹⁵ <https://www.abc.net.au/news/2022-11-17/how-does-this-plant-based-burger-stack-up/100711690>

The article [Lab-produced meat could be on Australian supermarket shelves as soon as next year](#) is about a method to produce animal meat without raising and killing animals.¹⁶ It could satisfy a person who maintains a vegan diet solely for ‘animal rights’ reasons, but it still requires synthesizing in industrial factories.

There is also [research](#) into adding fats found in the soil to give vegan meat-substitutes the taste and smooth texture of meat in the mouth.¹⁷ If adopted it will expand factory food production that makes people dependent on big corporations. None of this is permaculture.

I am not sure whether to be amused or affronted by the desire to make red meat the standard for appearance, taste and texture, and so, manufacture vegetable foods to fake that standard. In this way the idea is to perpetrate a deception on the body's ability to distinguish different foods by those characteristics, which should enable us to avoid a diet with a narrow range of foods. If people really want a vegetable-only-diet, why don't they learn to avoid a craving for red meat, and enjoy the appearance, taste and texture of plant foods as they are? If a plant based food is made to look and taste like meat, our bodies will assume that we are eating meat. This is carried to extremes by parasitic vocabulary where the manufacturers of vegan foods want to deceptively label their products as ‘*meat*’, and ‘*milk*’.

As well as our mouths being good at distinguishing taste and texture, the human eye can discern very tiny differences in the shapes, colours, and surface textures of things. This capacity is useful to distinguish a poisonous berry from a good food berry that looks almost exactly the same, and so saves us from sickness or death. It is also useful to distinguish edible berries from two different species that look almost identical, which allows us to choose both and so get a wider range of nutrients. Industrial foods block our animal capacity to make these fine distinctions on the basis of taste, texture, and visual appearance.

Supermarkets

We have supermarkets dominating the means of production of the standardised ‘food’ they sell – lacking nutrients and taste. They insist on a standardised shape, size and colour for those ‘farm’ products and much is thrown out because it does not meet the standard.¹⁸ This is the opposite of permaculture.

Much of the processed ‘food’ is not food at all. In terms of the Earth's health and our health, we would do far better to close down supermarkets and their supports than to switch to a vegan diet. Despite their lack of nutrients and taste, the products in the supermarket are beautiful to look at if you want a feast for your eyes. The packaging is artistic and beautiful. We could spend hours gazing in adoration at a packet of Corn Flakes with its wonderfully colourful graphics! ☺

When we are in the supermarket we are confronted by an array of packaging shapes, sizes and colours and so our ability to distinguish different foods by visual cues, is deceived. Our ancient evolutionary visual assessment concludes that we are getting a wide range of nutrients, but if we read the list of ingredients, we can see that the nutrients are limited and much the same from one packet to the next: sugar, salt, colouring, flavouring, oil, wheat, gluten, vitamins, etc.

A wide range of foods is desirable for us and for the Earth.

¹⁶ <https://www.abc.net.au/news/rural/2023-06-27/cultured-lab-meat-to-sell-in-australia-to-rival-plant-based-meat/102527330>

¹⁷ <https://www.abc.net.au/news/2023-07-17/meat-alternative-protein-substitute-industry-stock-market-fall/102597196>

¹⁸ Any tiny mark on fruit or vegetables that indicates that it has been bitten by a bird or insect, makes it unsuitable for sale because it is not of unblemished appearance. Years ago I read some research which claimed that plants respond to being bitten by putting chemicals into their leaves and fruit to deter future attacks and these chemicals are anti-cancer agents, but I have not seen any follow-up.

Permaculture as a Hunter-Gatherer System

In its early manifestation, *permaculture* was defined rather loosely as *permanent agriculture* but I think that definition can mislead us. It seems to me that permaculture is not a progression that sophisticates an agricultural mode of production so much as a clever return to an earlier, hunter-gatherer mode.

Permaculture sophisticates the hunter-gatherer mode of supply by adding a wide range of species (much more than earlier hunter-gatherer modes) which it localises in the system.¹⁹

It is not possible to remove the ‘**hunter**’ aspect from Hunter-Gatherer and have a viable system of supply. To live off a permaculture system in temperate Australia is difficult if animal products are excluded from the supply side, including diet. For example, in addition to other services rendered, ‘backyard’ ducks and chooks can convert waste and wild produce/material and pests (snails) into nutritious eggs and meat. In addition to kangaroos we could hunt and eat rabbits and other non-native, invasive species while we work to eradicate them.

Hunter-gatherer societies keep native bird and small animal species better than agricultural societies.²⁰ This is a matter that also touches on animal rights.

Human Health

Plant foods are inherently more dangerous, possibly poisonous, not least when we include the fungus species with many confusing look-alikes between toxic and agreeable.²¹ Plants produce toxins to protect themselves from being eaten. That includes protection from our species, *Homo sapiens*, and includes plant species that we eat. A lot of selecting and breeding of plants has been done to lower the toxin levels. As a rough generalisation, this process is the same as making the plants more palatable.

Animals filter out many of these toxins, so by eating animal products we avoid quite a bit. On the other hand and again as a generalisation, animal products are more likely than plant products to be infected with unwelcome bacteria and viruses, but these will mostly be removed by proper cooking, eg, avian flu.

There is a problem with numerous added chemicals in plants, and with antibiotics in animals – but that is agribusiness, not permaculture.

Two WWOOFer places where I worked (one in New Zealand and the other in Denmark, Europe) gave me this same account of their experience: That vegetarians do not have the same stamina (staying power) for lengthy heavy work as people who eat animal products, and vegans have even less. They get tired much sooner than if they ate animal products which are more energy dense. It was also said that their brains get starved through low blood sugar levels. This

¹⁹ The biggest bad mark against permaculture is the careless way it treats the introduction of new species to a system. The first book, *Permaculture One* has a very casual approach and does not warn against introducing plants that could reasonably become invasive weeds, eg, stinging nettle, *Urtica urens*; *Urtica dioica*. Tasmania's acclimatisation society was overjoyed when they got blackberry cuttings to take root and give fruit. Then birds spread the seeds across Tasmania and blackberry thickets are now a curse in the wild and across a lot of farmland. Plant nurseries selling pretty plants to home gardeners are a major source of this invasive weed problem. But there is good money to be made by the nurseries and later by Monsanto and other herbicide manufacturers.

²⁰ *New Scientist*, 2022 June 4, p19

²¹ Here, I use the words ‘plant’ and ‘fungus’ according to ordinary, ancient, spoken English, in which fungus organisms were considered to be plants and to form part of the Plant Kingdom. Mushrooms are like plant foods in the way we expect to find them sold in the vegetable part of the market, they grow in the ground and are collected by being cut off like broccoli. I recognise that more recently fungus organisms have been reclassified into a separate Fungus Kingdom because in the contemporary, technical, scientific understanding, they are not plants.

experience was confirmed in other parts of the world: That vegetarians need more than 3 meals per day and vegans even more frequent, maybe 6 or 7 meals each day.

The diet of athletes and others who need physical and psychological stamina is worth considering – see [*What runner Jess Hull and weightlifter Kiana Elliott eat and why — and what we can learn from it.*](#)²²

There are many such articles, backed with research findings that conclude that animal products must be included in the diet. However, there are also many such articles backed with research findings that push the opposite view. So that line of enquiry does not seem to get us anywhere in reaching firm conclusions.

Nutrition in food varies according to how the food was produced, eg, milk from grass-fed or pastured cows provides more beneficial fats and higher amounts of some vitamins than milk from cows raised in pens and fed by conveyor belt. For instance, milk from grass-fed cows raised on pasture can have up to 92% more omega-3 fatty acids and 94% more conjugated linoleic acid. (Grass feeding also precludes the possibility of Mad Cow disease, which should be called *Mad Human disease* because of the absolutely idiotic way we fed cows.)

Health and longevity

There have been studies of the health and longevity of Seventh Day Adventists who live in the fruit and nut growing areas of California. Their religion requires them to be vegetarian and the studies show that they are healthier and live longer than the average American. This has been attributed to their diet, but there are many other factors at play which are known to contribute to health and longevity, eg, they have a ‘higher’ purpose in their lives, and they live in a community of people who care about each other and look after each other, and their sexual risks are lower, etc.

I believe that more recently, a comparative study was done on the Mormons in Utah who are similar to the Adventists in many respects. They also have a purpose in their lives and they live in a community of people who care about each other and look after each other, etc. But they have one big point of divergence. Utah is not a place to grow fruit and vegetables and the more significant agriculture is beef ranches with the result that the Mormons eat more red meat than the American average but they experience better health and longevity than the Adventists.

Primarily, the art of selecting a good diet for humans is to put aside our corrupted ideas and taste buds that lead us astray, and feed our bodies' good micro-organisms whatever will make them happy. If we do that, they will look after us and give us good health. Likewise, the way to get good production from land is to feed the good organisms in the soil, whatever will make them happy.

Balanced diet

There are many different opinions and even contradictory recommendations for a good diet for humans. However, the primary purpose of eating is to get the energy chemicals we need to stay alive (proteins, carbohydrates, fats and oils). Second in importance to energy foods, we need some green leafy matter (and we share this need even with carnivorous creatures such as cats and dogs).

In general, humans are wise to have the widest diet possible: Eat a little bit of everything, eg, if mushrooms provide some nutrition that is similar to meat, we can add mushrooms to our diet and cut down on meat. Some chemicals in milk are especially good for protecting teeth in addition to the calcium they provide, so we are better not to narrow our diet by removing

²² <https://www.abc.net.au/news/2023-02-18/what-athletes-eat-jessica-hull-kiana-elliott-nutrition-food/101916078>

dairy. The way to achieve a very wide diet is to put different foods on the menu for different days, eg, avoid the common practice of eating the same breakfast every day. Also, a diet will be widened by processing raw products in different ways to provide different chemical substances, eg, cooking, sprouting, fermenting, etc.

In a comparison between vegans and the general population, I would expect that vegans who monitor their diet will be healthier, because their food is better selected than the general ‘junk’ consumed by much of the population. It is not unusual for a select group of individuals to perform better statistically compared to the ‘everyone else’ group. The ‘meat-eaters’ category includes those who eat salami, sausages, and other such processed products, often with added high sodium content beyond the sodium already in the meat.

Australian salami has meat (including pork), salt (sodium chloride), dextrose (maize or tapioca), milk solids, spices, lactose (milk), mineral salt (sodium salt of triphosphoric acid), vegetables, flavourings, preservative (sodium nitrite), dry sherry, starter culture, and natural wood smoke. We need some sodium in our diet, but a high level increases risk for many unpleasant diseases. Most non-cottage cheeses are loaded with added sodium. (I once ate a cheese that seemed like it was pure salt glued together by a tiny amount of dairy product. Fortunately, I was at the beach, so I could use the seawater to wash the salt out of my mouth. ☺☺)

Fat is another well known health risk that is often boosted in processed meats. We know that butchers have been successfully prosecuted for putting an unlawfully high proportion of lean meat in their sausages. There are many normal sources of high fat intake, especially in take-away foods, fish and chips, hamburgers.²³ Vegans don't eat those products, so a comparison of their health outcomes with meat eaters is invalid if the latter includes people who do eat processed meats.

Some people argue that red meat should be avoided because it causes constipation, but that is a false argument. The iron in meat can bind up the bowel and yet no one argues that we should remove all iron from our diet, especially the diet of menstruating women. That line of argument also demonstrates a defect in our Western approach to good health, which is reductionist and atomistic. There is no perfect food, so everything we swallow has got some negative aspect. Even pure H₂O will make us ill if we have enough of it, but the solution is not to avoid water but rather to ingest many other things in addition.

The suitability of food X should not be determined by consuming large quantities of it and then if it causes problems, removing it from the diet. Put simplistically: Meat makes us constipated because we are not eating enough figs, and figs give us the runs because we are not eating enough meat. The holistic, balanced, permaculture way of thinking is: Do not ask what you should remove from your diet; always ask what you should add, because primarily your diet is poor through what it lacks. So eat meat and eat many kinds of fig-type, balancing foods and be healthy. (If this were adopted across the population, the total consumption of red meat would fall.)

In Hunter-Gatherer societies, the eating pattern would be cyclical. Hunters catch the meat as fish or as a large animal and the whole society gorges on the catch for some days, eating almost nothing else until it is gone. During that period their bodies would throw off toxins from their non-meat foods. After the meat is gone they would have a period without meat and their bodies are able to dispose of the toxins from the meat. In addition, the different plant species are food-bearing at different times of the year, so there is a natural fasting from each food in their diet. This dietary seasonality has been removed by refrigeration and freezing so that it is possible for us to eat almost every food throughout the year.

²³ This is another advantage of kangaroo meat – it is virtually fat free.

Finally settling down to my vegan, gluten free, soy free, antibiotics free, raw, non GMO, organic, fat free, low carb meal!



Our obsession for removing 'bad' things from our diet is unhealthy.

Dietary allergies, intolerances

Lactose intolerance and cow's milk allergy are two different conditions caused by dairy intake. A milk allergy is an immune reaction to one of the many proteins in animal milk, most often caused by the alpha S1-casein protein in cow's milk. A milk allergy is sometimes confused with lactose intolerance because they often share symptoms. The two conditions are very different, however.

Lactose intolerance occurs when a person lacks the enzyme (lactase) to metabolize lactose – a milk sugar – in the intestines. This intolerance is a carbohydrate intolerance caused by the body's inability to digest lactose, whereas cow's milk allergy is an immune reaction to the proteins found in milk. Cow's milk has a higher amount of lactose than milk from other animals.

A 2015 review estimated that 65 to 70 percent of the world's population has some form of lactose intolerance. Switching from regular milk to almond so called 'milk' might be trading one bad reaction for another. Tree nuts such as almonds, walnuts, cashews, and pecans; top the list of allergy offenders. In addition, nearly half of people allergic to peanuts are allergic to tree nuts. Soy is one of the 'big eight' allergens, so it is important to watch for symptoms, especially in children. Soybeans are in the legume family, along with peanuts, beans, lentils, and peas.

Unlike a cow's milk allergy, which typically resolves at a very early age, tree nut allergies tend to last a lifetime. Only 9% of children will outgrow an allergy to almonds and other tree nuts.²⁴

When people eat things that are unsuitable for them, it can be deadly and so make their noble motives irrelevant. A tiny amount of peanuts, tree nuts, seeds (sesame, safflower, coconut, etc) can kill some people by anaphylactic shock, whereas other people can happily munch on them. A substantial number of people in the world would be malnourished, made ill, starved, or killed by a vegan diet. Consequently, vegans should not present their views as a panacea diet for everyone in the world. This is another way that Imperialism can manifested.

Dietary deficiencies

Everything needed in a human diet can be obtained from red meat so long as some of it is eaten raw to obtain vitamin C. That makes sense, because it is close to what human bodies are made from. It is the substantial native diet of the Eskimos (Inuit).

People who avoid animal products must take care to construct a suitable diet, and deficiencies are common – eg, iron, zinc, vitamin B12. A B12 deficiency leads to pernicious anaemia with incurable, nasty consequences. Some people get an injection of B12 once or twice a year, but that relies on Big Pharma (and another plastic syringe being disposed of). Is that permaculture? Bill Mollison would certainly say it isn't. Surely it is easier and better for the environment to break the vegan diet and get the necessary vitamin B12 by eating the liver of a cow or sheep every six months or so?

Science is fairly clear about a lot of unhealthy 'foods' we should avoid, mainly highly processed stuff. But science does not know everything about diet and all the dietary micronutrients that we humans need. A balanced diet is needed, so despite that eggs are probably the richest food across the whole range of required nutrients, a diet consisting solely of eggs is a very bad diet. Furthermore, dietary needs vary because of individual genetic and geographic differences. (See [*Plant-based diets good for the heart.*](#))²⁵

Science can make a list of all the known, essential micronutrients, but there is no list of all those that are not known, as yet undiscovered. Therefore, generally it makes sense to widen the range of foods and eat a small amount of everything with the bulk of the diet being vegetable rather than animal. The article [*How a vegan diet could affect your intelligence*](#) adopts a humble approach to our knowledge while adding various other dietary needs that are unknown to most vegans.²⁶

Mouth hygiene

Vegans eat more starch for energy and so have more sugars in their mouths, and hence more dental caries. In general, dentists get more work drilling and filling teeth because of the bread in the sandwich than from its meat, cheese, or egg, especially if it is made with processed white bread.

Prehistoric humans didn't have toothbrushes, or floss, or toothpaste, and they certainly didn't have Listerine. Yet because of their diet their mouths were a lot healthier than ours are today, according to Alan Cooper, Director of the Australian Centre for Ancient DNA. He says, "Hunter-gatherers had really good teeth. [But] as soon as you get to farming populations, you see this massive change. Huge amounts of gum disease. And cavities start cropping up. And

²⁴ The information in this paragraph came from various sources and is only included to show how both plants and animal foods have problems.

²⁵ <https://www.bbc.com/news/health-65697535>

²⁶ <https://www.bbc.com/future/article/20200127-how-a-vegan-diet-could-affect-your-intelligence>

thousands of years later, we're still waging, and often losing, our war against [oral disease](#).²⁷ Our changing diets are largely to blame.”

In a [study](#) published in *Nature Genetics*,²⁸ Cooper and his research team looked at calcified plaque on ancient teeth from 34 prehistoric human skeletons. What they found was that as our diets changed over time – shifting from meat, vegetables and nuts to carbohydrates and sugar – so too did the composition of bacteria in our mouths.



*These ancient (prehistoric) human teeth are healthy
– much better than ours today. Down with farming!*

Not all oral bacteria are bad. In fact, many of these microbes help us by protecting against more dangerous pathogens. However, the researchers found that as prehistoric humans transitioned from hunting and gathering to farming, certain types of disease-causing bacteria that were particularly efficient at using carbohydrates, started to win out over other types of ‘friendly’ bacteria in human mouths.

The addition of processed flour and sugar during the Industrial Revolution only made matters worse.

“What you've really created is an ecosystem which is very low in diversity and full of opportunistic pathogens that have jumped in to utilize the resources which are now free,” Cooper says. And that's a problem, because the dominance of harmful bacteria means that our mouths are basically in a constant state of disease. He says that we are walking around with a continuous immune response, which is not a good thing. “It causes problems all over the place.” In addition to oral disease, those [problems](#) can include diabetes, obesity and even heart disease.²⁹

According to Cooper, bacteria make up approximately 90 percent of the cells in our bodies. He believes that we focus too much on ourselves and not enough on this so-called [microbiome](#).³⁰ “We brush our teeth and we floss, and we think that we've got good oral hygiene. But [we're]

²⁷ <http://www.cdc.gov/chronicdisease/resources/publications/AAG/doh.htm>

²⁸ <http://www.nature.com/ng/journal/vaop/ncurrent/full/ng.2536.html>

²⁹ <http://jdr.sagepub.com/content/88/6/490.abstract>

³⁰ <http://commonfund.nih.gov/hmp/>

completely failing to deal with the underlying problem,” he says. “Ten years from now, I think we're going to find that the whole microbiome is a key part of what you get monitored for and treated for.”

As for right now, Cooper suggests that one way to help return your microbiome to a healthier, more balanced state might be to cut out all of those processed carbs and start eating like our hunter-gatherer ancestors.



In addition, teeth gums need exercise by different forms of chewing, especially spongy powerful chewing on grisly meat. This is not possible on a plant based diet (carrots provide a different form of chewing). A solution for people who, for whatever reasons don't eat meat (including vegans), might be to chew on some rubber or tough, spongy material, eg, a baby's chewing ring. This ‘mechanical massaging’ of the gums is additional to the chemical (nutritional) benefits from eating meat and it fits with a permaculture understanding that biological processes rarely perform only one function.

Our eating equipment, teeth, enzymes

We can determine the diet of an animal species by studying its eating equipment. Birds, with their wide variety of beaks are a good example of this: eagles, spoonbills, canaries, ducks, pelicans, honeyeaters, herons, parrots, pigeons, shags, magpies, storks, flamingos, etc, have beaks to suit their diet (or do they have diets to suit their beaks?).

Cats and dogs have canine teeth to tear meat, teeth suitable for carnivores. Rabbits and sheep are herbivores which have incisors for cutting and molar teeth necessary to grind grains and vegetables. Pigs and humans have three kinds of teeth as they are omnivores (incisors and

canines for cutting and tearing, plus molars for grinding). Therefore, I think it is contradicting nature and biology to argue that we humans should not eat meat. Why should the human animal be the one and only exception to a universal biological reality?

I wonder if the number of each type of teeth gives us some indication of the proportions of foods in our diet. Incisors = 8, canines = 4, and premolars+molars = 20, so the meat eating teeth only account for 14% of the total. Does this suggest that 86% of our dietary intake should be from non-meat sources? If we take the relative size of the teeth, the percentage for meat drops much further. This is just a speculation.

Finally, the body must produce the digestive enzymes appropriate to its diet. Herbivores will get sick if fed on meat and carnivores will get sick on a diet of vegetation, because they lack the enzymes. Humans have enzymes to process vegetation, grains and meat.

Culture and nature

There are important differences between humans and other animal species in relation to food, but they are based on culture not on nature. An important aspect of the distinctive relationship that humans have to food is: we prepare it, we cook it, and mix it in recipes (with recipe books full of tasty pictures), and we eat it as a social occasion with etiquette, table and chairs, crockery and cutlery, and so on. We share our food from the garden and also in meals that we eat with others. Humans also do research regarding food and diet, and we write and read articles about healthy diets (such as this one). But how and when and with whom we should eat, are cultural matters that do not determine what foods we should eat or not eat.



The infants of many animal species are taught by their mothers what to eat. Human infants must be taught what things are inedible and until babies learn that, they will eat anything, including soap and slugs. But for humans, this teaching is also a matter of culture and taboos, so we have Jews and Muslims who won't eat pork, while Hindus will, and Hindus reject beef which is acceptable to Jews and Muslims. Europeans will not eat dog but SE Asians and others do so.

In modern Western culture there is a lot of rubbish in what we are taught, in particular that we must remove 'bad' things from our diet (in addition to soap and slugs). There are endless recommendations that tell us that this item or that item is bad for us and we should stop eating it. Meat is one of the big taboos in this dietary avoidance pattern and the sentiment in the followers of this taboo ranges from mild personal avoidance to fanatical abhorrence and rejection, not only of the food but also of the people who supply meat and those who eat it.

Soul health, mental wellbeing³¹

Contact with animals (and plants) is good for our mental health as well as our physical health, especially for kids. Dogs are taken into hospitals and nursing homes by volunteers for people to pet. This is believed to benefit patients (and staff) by its psychological effects which bring physical changes: relief from stress, lower blood pressure, sense of companionship, etc.

Health practitioners often have aquariums in their waiting rooms to relax people.



This happy kid is in hospital in 1956 being treated with duckling therapy and medical technology.

³¹ Unfortunately the word *soul* has changed its meaning as people have sought to 'spiritualise' everything (YUK!). *Soul* used to refer to the totality of a person's being, and so it included their body. You don't HAVE a soul, you ARE a soul. This meaning is seen in the Genesis Story of Creation where it says: *Adam became a living soul*, and again in S.O.S messages sent mainly by people wrecked at sea and at risk of drowning. They are calling the rescuers to save their souls by pulling their bodies out of the water and taking them back to land. They are not asking for people to pray for them so that when they drown their 'souls' will go to heaven.

People can have contact with animals without owning them, eg, living near farms where animals can be met, talked to, fed, stroked, and more or less ‘adopted’.

The benefit from animals is both mental and physical. Kids who grow up in close contact with a variety of animals from very early (eg, on a mixed farm) seem to build an immune defence against asthma and some other allergies for later in life. In addition, taking care of non-human creatures teaches kids responsibility and kindness which is beneficial for good mental health.

Living in a permaculture system should be even better for mental health because it brings the satisfaction of being a more fully human animal with greater security through independence from the supermarket for basic needs. Indeed, in permaculture thinking, mental health and physical health are seen as interdependent, not as totally separate categories, so *soul* is an appropriate word.

Our soul health requires a place for wild animals, which is achieved by a variety of methods, ranging from bird boxes through to Zone 5 (in larger permaculture systems).

Ethics

General issues

In Australia, I hope we are now at last overcoming our Cultural Cringe which has led us to believe that nothing good could come out of this place – everything of value must be imported from foreign lands, brought here by migrants, etc. So it is often easier to persuade us to follow the practices adopted elsewhere (especially the USA) because we believe ourselves to be ignorant descendants of criminals sent to this prison colony by the Motherland. This cringing attitude blinds us to two important truths raised many times in this article: (i) ecological intelligence would use kangaroos in place of alien farm animals, and (ii) we foolishly reject traditional, Aboriginal wisdom (which lacks ‘noble’, foreign origin).

In modern European cultures, our thinking starts with ‘me’, ‘Me’, and ‘ME’, and it doesn't move very far from that. Our ethics is anthropocentric. (Some lessons from ancient Aboriginal ways would help here.) We call ourselves *Homo sapiens* (wise man) but we are the stupid species and we make ourselves the basis of all judgments about values. We re-create the world in our own image. We refuse to see ourselves as animals that must fit in with nature. The normal ethical approach is human-centred, based on the idea that other living things have value proportionate to how much they are like us. Furthermore, we distinguish the so-called ‘higher animals’, being those that are most like us, and we accord them the highest value among living things.

Permaculture is based on cooperation and it is the cooperative, permaculture community that aims for self sufficiency in providing basic needs, not the individual practitioner. Suburban backyards should be integrated with community production, but the rules in many municipalities do not support this.

Small-scale permaculture systems have been designed with a goat for milk, some chooks for eggs, and fruit and vegetable growing, but wool and grains present a problem. (Grains are not as critical like wool – they can be removed from our diet.) The total energy demands for transporting wool is not high because of its infrequency, unlike food where the supply must be replenished every day. Consequently, wool can be produced and processed into clothes at a greater distance from its use, it is not necessary for every small-scale permaculture practitioner to be able to breed and shear sheep and process the wool to clothes.

Permaculture supports human specialisation within communities, eg, where someone grows the wool for everyone, which should reduce consumption of energy, material resources, and not least,

time. This cooperation is the mark of community, even if the participants live geographically separated, and cooperation in community is the basis of ethics.

Ethical principles will be determined by whether a person's concern is (i) Earth factors (eg, climate), or (ii) health reasons, or (iii) animal rights. But in permaculture, all three apply: (i) The ethical person supports the wellbeing of the living Earth. (ii) It is unethical not to value your own health and the health of others. (iii) Ethics requires that we are concerned about animals and do not cause them unnecessary suffering. I put Earth factors first because I think it is the most important, and in its broad scope it probably encompasses the other two.

However, by its narrow focus on animals and its exclusion of plants, the third concern raises an ethical question. What is the basis for the dogmatic, ethical distinction between plants and animals?

Plants and animals



We will never understand plants even to the little extent that we understand animals.

In 1927, Sir Jagadis Bose published the results he got from his “Death Recorder”, which he claimed showed the agony of a cabbage as it dies through scalding (*Plant Autographs and their Revelations*). I remain unconvinced, but his work does show that the sharp distinction we make between plants and animals can be challenged. The reality is that plant life is an inscrutable mystery for us, but we should not assume from our ignorance that plants do not suffer in a way that we can neither observe nor comprehend.

Why do some people get jumpy about swatting a mosquito that is biting them, but not hesitate before chopping down a huge tree which has another 400 years in its 700 year life span? Why is there no **Royal Society for the Prevention of Cruelty to Plants**? I think animals have rights but I also think plants have rights (perhaps in a different way).³²

³² Cabbages don't want to be eaten by anything, including slugs and humans. They want to be left alone to live, flower, go to seed, and germinate little cabbages that continue the process. If we consider the issues biologically and individually, cabbages and all living things have rights. However, if we consider the issues ecologically in terms of the system as a whole, we see that the living Earth has the supreme rights and that is how the ‘right’ to kill comes in. It is not primarily the right of the predator-killer, it is the right of the biosphere to survive through these processes.

See the article [Plants can 'talk' and scientists have recorded the sound they make as they die of thirst](https://www.abc.net.au/news/2023-03-31/plants-talk-die-of-thirst-popping-sound/102167028) for more information.³³

We should not simply formulate and follow noble principles that make us feel good. Instead, consider the Earth and do what is best for the ecology, and teach yourself to make that feel good.

Animal rights

There are definite issues in our society that need to be addressed re the treatment of animals. Many people are questioning and want a ban on: horse and greyhound racing, and live cattle/sheep exports. Another grey area of concern is the uses of animals for testing purposes.

But some testing is not in the grey area, it is absolutely evil, eg, the use of animals by tobacco companies to improve their cigarettes (which includes the main commercial drive to make them more addictive). I cannot understand how any so-called ethics panel could even allow such a research application to be put on the agenda, let alone approve it. The tobacco company directors should be forced to be the guinea pigs in such testing and save the rabbits and monkeys, etc.



We have moved on various issues in Australia, eg, no animals except dogs are permitted in circuses. There are moves to prohibit using animals as prizes in competitions where a person is presented with a cute puppy or kitten that they don't want and cannot look after.

Here is my 10-S TEST as a check-list of our animals' entitlements:

- SUNLIGHT – artificial lighting is no substitute, especially if it is never turned off, which will disrupt the diurnal pattern.
- SHELTER – for animals that need it, including protection from attack.
- SHADE – there is nothing like trees.
- SOIL CONTACT – rather than concrete or a metal cage – for many reasons.
- SPACE – freedom to move around, no cramping, no claustrophobia!
- SUSTENANCE – according to the animal's needs.
- SLEEP – according to the animal's patterns.
- SEX – according to the animal's patterns.

³³ <https://www.abc.net.au/news/2023-03-31/plants-talk-die-of-thirst-popping-sound/102167028>

- SWEAT – the opportunity for exercise and where relevant, for heavy exertion.
- SYMPATHY – there will be no needless suffering.

These requirements all fit with Permaculture but they don't all apply in every situation. On many of its points the list damns the practice of keeping battery chooks and pen-fed cattle. Animal activists who peacefully protest against those cruel practices are not extremists. The extremism is in those who treat animals in that way and in the societies that tolerate it. 'Normality' can be extremism.



A cartoon that reverses the normal approach.

Earlier, I pointed to the Plastics Problem. At the very least, a person who claims to be concerned about animal rights should hesitate before they continue to use plastics for necessary things (clothing, etc) rather than raise animals for that purpose. They might feel good but do a lot more harm.



This image demonstrates ridiculous, mushy-gushy sentimentality.

Fear cannot be removed unless all of wild nature is wiped out, plus more. Fear is an essential part of life. It is sensible for animals to fear crocodiles and snakes.

Pain cannot be removed unless there is no more sickness, injury, birthing processes, etc.

Pain is essential to life, eg, to protect against injury.

Would the fear and pain of the world's animals be removed if they were all domesticated and living in our tender care? Of course not. But anyway, that is a stupid fantasy – a utopian fairy story that fails to see the difference between a hoped-for Heaven and this actual Earth.

In general, an animal has a much more peaceful and longer life on a farm than it would have in the wild. In at least one respect it could be argued that a farm animal has a better life than humans, because if it is suffering incurable agony we will expect the farmer to exercise kindness and terminate its life to end its misery.

Down the track we are going to confront new issues in relation to animals used to supply transplant organs, eg, from a pig to humans. A pig's heart has been transplanted at least once. The procedure was unsuccessful but it is early days and the technology is being sophisticated. We should expect such pigs to be raised for wealthy people. This will be called *technological progress*.

Ultimately, every species puts itself first in importance and that is how survival works. The first tome on Permaculture stated it fairly bluntly, but I believe correctly, with emphasis on the word, *may*:

Personal action is sometimes distasteful but necessary ... Possums damaging fruit trees may require the use of a rifle.

Permaculture One, 5.5

I know someone who as a child saw animals killed in an abattoir and they hated it. So they avoided red meat, chicken, fish, dairy, and eggs, plus leather and wool. But they did not impose their personal ideas on their kids. They prepared for them meals rich in animal products, leaving their kids to make decisions for themselves when they are older. I would judge their behaviour to be ethical.

I certainly do not think that 'superior' White-fellas, should try to persuade Aboriginal people to change their traditional lifestyle to fit with our feelings.

- We should not send Whitefella missionaries to the 'primitive Blacks' to teach them to be civilised.
- Instead, we should adopt their ways, eg eat kangaroo meat and use the skins to make shoes, and avoid using oil derived plastics.

If a person keeps a goat for milk, a sheep for wool, chooks for eggs, and all of them for manure to feed the soil and to control weeds and protect from fire, what should they do when their animal becomes old and perhaps in pain? Should they kill it and bury it to feed the soil rather than let it live out its life in discomfort or agony? And should they pre-empt that day by killing the animal earlier and eating it?

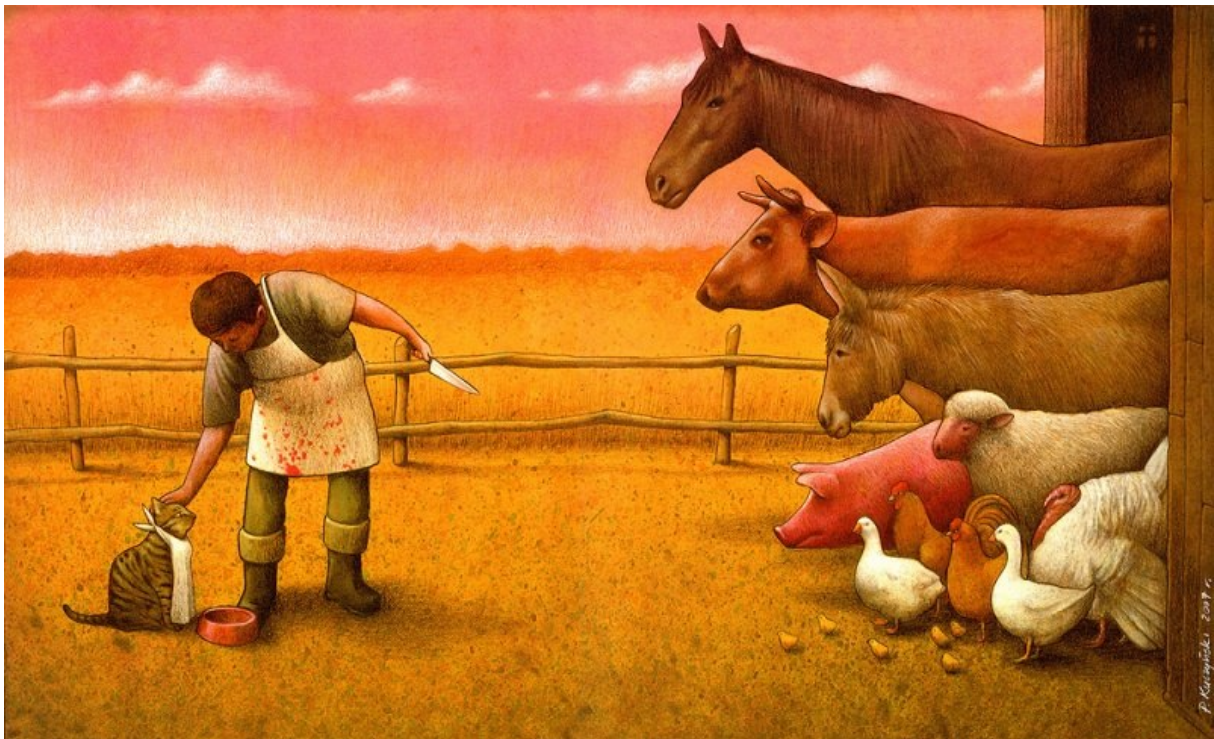
I doubt that the purpose of the Universe is to provide us humans with emotional comfort. Should it be the aim of our lives to avoid discomfort at all costs? Life is awkward regarding many issues. We have sickness, accidents, pain, betrayal, death, bushfires, floods, droughts, divorce, war, destruction, hatred, etc. Maintaining comfortable feelings at all costs leads to absurdities, including greater suffering, eg, where people try to adapt their cats and dogs to live on a vegetable diet and the RSPCA has to step in to prevent animal starvation and cruelty. Being at peace with oneself can be falsely based on ethical blindness, ignorance of consequences, and smug self-satisfaction. We must remember that the path to hell is paved with nice intentions and comfortable feelings. Perhaps we should feel uncomfortable sometimes, eg, when we kill other creatures.

I know of irresponsible, animal rights people who care for stray cats because they believe in 'animal welfare'. If they are told that their cats kill birds, etc, they reply: *That is what cats do and it is not my responsibility*. So much for the birds.

Bill Mollison spoke against both cats and dogs in permaculture and there is no doubt he was right about cats because it would be an ecological blessing if there were no cats in Australia. But in my opinion dogs can have a useful place in some systems. (I like cats and prefer them over dogs but personal preferences should never control our decisions about nature.)



The number of animals killed in the world every day would be massively reduced if people had no carnivorous pets such as cats, dogs, snakes, etc.



It is not ethical to accept killing animals to feed pets but not to feed people.

I joined a webinar where the two discussion leaders tried to persuade people to give up eating meat. One of them had a huge dog and the other had a cat and a dog, and those pets would eat more meat than an average adult human. When they were challenged on this, they said that they could not bear to live without their pets.

There is another much bigger failing in most animal rights ethics and it reflects how we are individualistic in recognising the rights of animals (or at least the warm cuddly animals). Rights are accorded to each individual animal when our primary focus should be the rights of the species. It is like having a legal system that forbids murder but has no rules against genocide, when in nature, species genocide is the big problem, not least because it affects the balance of the whole life system. In part, our difficulty here is that we can point to individual animals but we cannot see or touch a species because 'species' is an abstract idea in our minds. There can be enormous differences in the size and shape of individuals within any species, as we see with dogs. We cannot love a species with the sentiment that we have towards individual animals. But our human responsibility to nature and the Earth is to ensure that no species is made extinct by our doing and if that means we must kill some individual animals then that is also our responsibility.

Australia has been condemned by animal rights activists overseas for protecting our own native species (plants and animals) by killing alien animals: cats, foxes, rabbits, brumbies, camels, goats, cane toads, starlings, etc. Their concern about animals being killed does not extend to Australian native creatures in the wild being killed by these alien species. Is this the cultural cringe again? I doubt that the foreign activists would be able to name any of our native animals except kangaroos and koalas and they would not know that there are about 70 different types of kangaroo. We should not forget that permaculture is committed to the care of all native species and that Zone 5 is part of larger permaculture systems to further that goal. That care extends to killing all species that are a threat if that is the necessary and effective way to protect and sustain our native species. The volunteer shooters who do this necessary work should be regarded as national heroes, and as a bare minimum their ammunition should be provided at public expense.



This native creature represents a concern of permaculture that we rarely mention.

Sometimes an animal rights perspective closes possibilities for re-wilding the environment for the benefit of species which are almost extinct outside zoos. Any species that is dependent on humans is not secure – they have to be able to look after themselves. Where potentially dangerous animals such as wolves and bears are returned to places where they once roamed, there will be strong opposition from people who live in those places. Although these creatures are generally afraid of humans and will keep their distance, occasionally one becomes bold and an actual danger, injuring and killing people. If for political rather than scientific reasons, that animal is not killed or removed, the others might learn its ways and also cause damage. The result will be a change in the politics so that all of that species will be removed and consequently, the ecosystem will lose. This is another problem with animal rights focusing on individual animals rather than on species and living systems.³⁴

Why should we expect to find a perfect diet that is healthy for us and for the Earth when there are far too many human consumers in the world? People feel uncomfortable if they must face the fact that our species is grabbing a totally disproportionate chunk of the Earth's material and energy resources. Their discomfort leads to blindness and denial. Overcoming greed and sharing, is not a solution. Our greed is seen in the way we breed and multiply our numbers and our demands, without care for other species. We must share with all other species of life, not just our own. Human numbers are expected to increase until about 2045 and then slowly contract from its higher figure. This is the elephant in the room and it is a central permaculture issue. In his *Permaculture Designers Manual*, Mollison formulates three aspects for the ethical basis of permaculture, the third being: “Setting limits to Population and Consumption”.

Perhaps the best feature of permaculture is that it keeps many consequences of our actions close to home, in front of our eyes, ie, local – not far away, out of sight: out of mind, as do typical, modern lifestyles. This is a good ethical foundation. So a permaculture practitioner might say:

Yes, I kill animals to meet my needs.³⁵ I do it because that is how nature lives and all the alternatives that life offers me are worse for the Earth. And I kill with my own hands so it makes me feel uncomfortable, and that keeps me humble, but I have the satisfaction of knowing that it is done right by the animal.

Only privileged, well-fed people will say we should cut animal products out of the world's diet. If veganism is a form of purity, it is only possible for relatively well off people (usually in wealthy nations). Starving people have no desire to forego eating anything that will postpone death, including rats. A substantial amount of the world's human energy foods is derived from animal products, so if the world switched to a vegan diet there would be mass starvation.

Conclusions

The most important change we need is in our own heads – by removing the certainty, dogmatism, and arrogance of our opinions so we are free to see the facts.

I am struck most by the ‘religious’ certainty and self-righteousness, people patting themselves on the back, wallowing in their assumed virtuous life. There are no doubts, no questions. Some of them think they follow and promote permaculture. This ‘religious’ certainty is strongest in extreme ‘animal-rights’ activists, but is not exclusive to them.

³⁴ <https://www.bbc.com/future/article/20230627-the-alpine-row-over-problem-bears>

³⁵ Hitler's Nazi Reich is the only regime in recorded history that officially discouraged eating animal flesh. They had a number of reasons, including the desire to avoid cruelty to animals. Considering the way they treated unacceptable humans (Jews, Gypsies, cripples, etc) that reason is bizarre, but they were blinded by their arrogant, self-righteous purity and a belief in their mission to rid the world of evil. This is a warning to avoid any similar attitude. We can have strong opinions in permaculture but we must hold them with equally strong self-doubt. Dietary choices is one area where this is sometimes missing.

A person who has a vegan diet because they believe that animal raising has an adverse effect on Earth's climate, can easily change their diet when they get new, contrary information. This is because their diet is only a relative strategy which they have adopted to achieve their fundamental goal to protect the climate, so they are not really changing their mind. It would be a change of mind if they decide that concern about human-caused climate change is a conspiracy of codswallop invented by scientists and radicals who want to destroy our society. The same applies to people motivated by health reasons who later discover that their vegan diet is bad for their health. On the other hand, for extreme animal rights people who claim that killing animals is never justified, there can be no change (except possibly a laboratory based, industrial food source from 'meat cells' not involving animals).¹⁶

We should learn and follow the wisdom of ancient Aboriginal societies. To lead ecologically sound lives we must accept some intellectual and emotional discomfort – the Cosmos does not exist to fit in with our sensitivities. To live ethically in a world of paradox and partial knowledge, we might have to leave our comfort zone. Rather than focus solely on our 'virtuous' choices, we must consider all the consequences that flow from our lifestyle (eg, plastics pollution).

These are some goals:

- get food, fuel, and fibre by 'hunting' and gathering;
- grow and produce as much as possible locally;
- critically examine agribusiness;
- increase the harnessing of sunlight and avoid reliance on coal, oil, and gas;
- avoid commercial reticulation of supplies through supermarkets, etc; and
- adopt the other features of permaculture.

A diet that is healthy for the Earth, for society, and for individuals:

- reduces industrial processing of food;
- 'obeys' biology expressed in human teeth and digesting enzymes;
- is as wide as possible – where we eat a small amount of everything, including animal products.

In many societies, overall consumption of meat and other animal products should be reduced.

A permaculture system without animals is incomplete and a diet without animal products is incomplete.

Regardless of our diet, we must keep animals in permaculture systems for soul and soil health.

My dogmatic conclusion arising from contradictory results in complex situations is that we should not be dogmatic in our opinions, except that we should be dogmatic in our opinion that we should not be dogmatic in our opinions. Perhaps we could have a bet both ways by being vegan on Mondays, Wednesdays, and Fridays, meat eating on Tuesdays, Thursdays, and Saturdays, and have a Day of Rest from all eating on Sundays. This is called: *The Brown Diet*.

Trying to impress a hipster...



I was thinking about going "vegan."



I'm a level-five vegan. I won't eat anything that casts a shadow.

featured on ifunny.com

I particularly like this cartoon because it pokes fun at the whole discussion, including David Brown writing this article – and self-mockery is good for us all! ☺