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Butchery of the Planet

Defending the living world and its people requires a shift from meat to a plant-based diet

Whether human beings survive this century and the next, whether other lifeforms can live alongside us: above all this depends on the way we eat. We can cut our consumption of everything else close to zero and still drive living systems to collapse, unless we change our diets.

All the evidence now points in one direction: the crucial shift is from an animal- to a plant-based diet. A paper published last week in *Science*¹ reveals that while some kinds of meat and dairy production are more damaging than others, all are more harmful to the living world than growing plant protein. It shows that animal farming takes up 83% of the world's agricultural land, but delivers only 18% of our calories. A plant-based diet cuts the use of land by 76% and halves the greenhouse gases and other pollution caused by food production.

Part of the reason is the extreme inefficiency of feeding livestock on grain: most of its nutritional value is lost in conversion from plant protein to animal protein. This reinforces my contention that if you want to eat less soya, you should eat soya: most of the world's production of this crop, and the accompanying destruction of forest, savannah and marshland², is driven by the wasteful practice of feeding animals on food that humans can eat.

More damaging still is free range meat: the environmental impacts of converting grass into flesh, the paper remarks, "are immense under any production method practiced today". This is because so much land is required to produce every grass-fed steak or lamb chop. Though roughly twice as much land³ is used for grazing worldwide than for crop production, it provides just 1.2% of the protein we eat⁴. While much of this pastureland cannot be used to grow crops, it can be used for rewilding⁵: allowing the many rich ecosystems destroyed by livestock farming to recover, absorbing carbon from the atmosphere, protecting watersheds⁶ and halting the sixth great extinction⁷ in its tracks.

The land that should be devoted to the preservation of human life and the rest of the living world is used instead to produce a tiny amount of meat.

¹ <http://science.sciencemag.org/content/360/6392/987>

² <http://fern.org/sites/default/files/news-pdf/TheAvoidableCrisisPDF.pdf>

³ <http://www.fao.org/docrep/012/i0680e/i0680e.pdf>

⁴ https://www.fcrn.org.uk/sites/default/files/project-files/fcrn_gnc_report.pdf

⁵ <https://www.rewildingbritain.org.uk/>

⁶ <https://www.theguardian.com/commentisfree/2014/jan/13/flooding-public-spending-britain-europe-policies-homes>

⁷ <https://www.theguardian.com/environment/2018/may/21/human-race-just-001-of-all-life-but-has-destroyed-over-80-of-wild-mammals-study>

Whenever I raise the crucial issue of yield per hectare, I receive a barrage of vituperation and abuse. But I'm not having a go at farmers, just pointing out that the figures don't add up. We can neither feed the world's growing population nor protect its living systems through animal farming. Meat and dairy are an extravagance we can no longer afford.

There is no way out of this. Those who claim that⁸ "regenerative" or "holistic" ranching mimics nature deceive themselves. It relies on fencing, while in nature wild herbivores roam freely, often across vast distances. It excludes or eradicates predators, crucial to the healthy functioning of all living systems. It tends to eliminate tree seedlings, ensuring that the complex mosaics of woody vegetation found in many natural systems – essential to support a wide range of wildlife – are absent.

The animal industry demands ever greater assaults on the living world. Witness the badger slaughter in the UK, now spreading across the country⁹ in response to the misguided requests of dairy farmers. People ask how I would justify the return of wolves, knowing that they will kill some sheep. I ask how they justify the eradication of wolves and a vast range of other wildlife¹⁰ to make way for sheep. The most important environmental action we can take is to reduce the amount of land used by farming.

Unless you can cook well – and many people have neither the skills nor the space – a plant-based diet can be either boring or expensive. We need better and cheaper vegan ready meals and quick and easy meat substitutes. The big shift will come with the mass production of cultured meat¹¹. There are three main objections. The first is that the idea of artificial meat is disgusting. If you feel this way, I invite you to look at how your sausages, burgers and chicken nuggets are currently raised¹², slaughtered¹³ and processed¹⁴. Having worked on an intensive pig farm¹⁵, I'm more aware than most of what disgusting looks like.

The second objection is that cultured meat undermines local food production. Perhaps those who make this claim¹⁶ are unaware of where animal feed comes from. Passing Argentinian soya through a nearby pig before it reaches you does not make it any more local than turning it directly into food for humans. The third objection has greater merit: cultured meat lends itself to corporate concentration. Again, the animal feed industry (and, increasingly, livestock production¹⁷) has been captured by giant conglomerates. But we should fight to ensure that cultured meat does not go the same way: in this sector as in all others, we need strong anti-trust laws.

This could also be a chance to break our complete dependence on artificial nitrogen. Traditionally, animal and plant farming were integrated through the use of manure. Losses from this system led to a gradual decline in soil fertility. The development of industrial fertilisers saved us from starvation, but

⁸ <https://theecologist.org/2014/mar/21/omni-benefits-regenerative-pasture>

⁹ <https://www.zsl.org/blogs/science/badger-culling-%E2%80%93-coming-soon-to-countryside-near-you>

¹⁰ <http://www.monbiot.com/2013/05/24/feral-searching-for-enchantment-on-the-frontiers-of-rewilding/>

¹¹ <https://www.theguardian.com/environment/2018/apr/30/lab-grown-meat-how-a-bunch-of-geeks-scared-the-meat-industry>

¹² <https://theintercept.com/2017/10/05/factory-farms-fbi-missing-piglets-animal-rights-glenn-greenwald/>

¹³ <https://www.theguardian.com/environment/2016/aug/28/fsa-4000-breaches-animal-welfare-laws-uk-abattoirs-two-years>

¹⁴ <https://www.theguardian.com/business/2017/sep/28/blood-sweat-deceit-west-midlands-poultry-plant>

¹⁵ <https://www.theguardian.com/commentisfree/2014/dec/23/winters-tale-things-i-did-queen-country>

¹⁶ <https://sustainablefoodtrust.org/articles/fake-meat-impossibly-hard-to-swallow/>

¹⁷ <https://www.theguardian.com/environment/2017/jul/17/uk-has-nearly-800-livestock-mega-farms-investigation-reveals>

at a high environmental cost¹⁸. Today, the link between livestock and crops has mostly been broken: crops are grown with industrial chemicals while animal slurry stacks up, unused, in stinking lagoons¹⁹, wipes out rivers²⁰ and creates dead zones at sea²¹. When it is applied to the land, it threatens to accelerate antibiotic resistance²².

In switching to a plant-based diet, we could make use of a neat synergy. Most protein crops – peas and beans – capture nitrogen from the air, fertilising themselves and raising nitrate levels in the soil²³ that subsequent crops, such as cereals and oilseeds, can use. While the transition to plant protein is unlikely to eliminate the global system's need for artificial fertiliser, the pioneering work of vegan organic growers²⁴, using only plant-based composts and importing as little fertility as possible from elsewhere, should be supported by research, that governments have so far conspicuously failed to fund.

Understandably, the livestock industry will resist all this, using the bucolic images and pastoral fantasies that have beguiled us for so long. But they can't force us to eat meat. The shift is ours to make. It becomes easier every year.

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¹⁸ <https://anewnatureblog.wordpress.com/2018/06/04/the-nitrogen-dilemma/>

¹⁹ <https://www.theguardian.com/environment/2018/may/24/pig-farm-agriculture-its-wrong-to-stink-up-other-peoples-lives-fighting-the-manure-lagoons-of-north-carolina>

²⁰ <https://www.theguardian.com/environment/2015/oct/05/think-dairy-farming-is-benign-our-rivers-tell-a-different-story>

²¹ <https://www.theguardian.com/environment/2017/aug/01/meat-industry-dead-zone-gulf-of-mexico-environment-pollution>

²² <https://www.sciencedirect.com/science/article/pii/S0160412002000843>

²³ <https://link.springer.com/article/10.1023/A:1024189029226>

²⁴ <http://www.tolhurstorganic.co.uk/>