The Wilberforce Lecture

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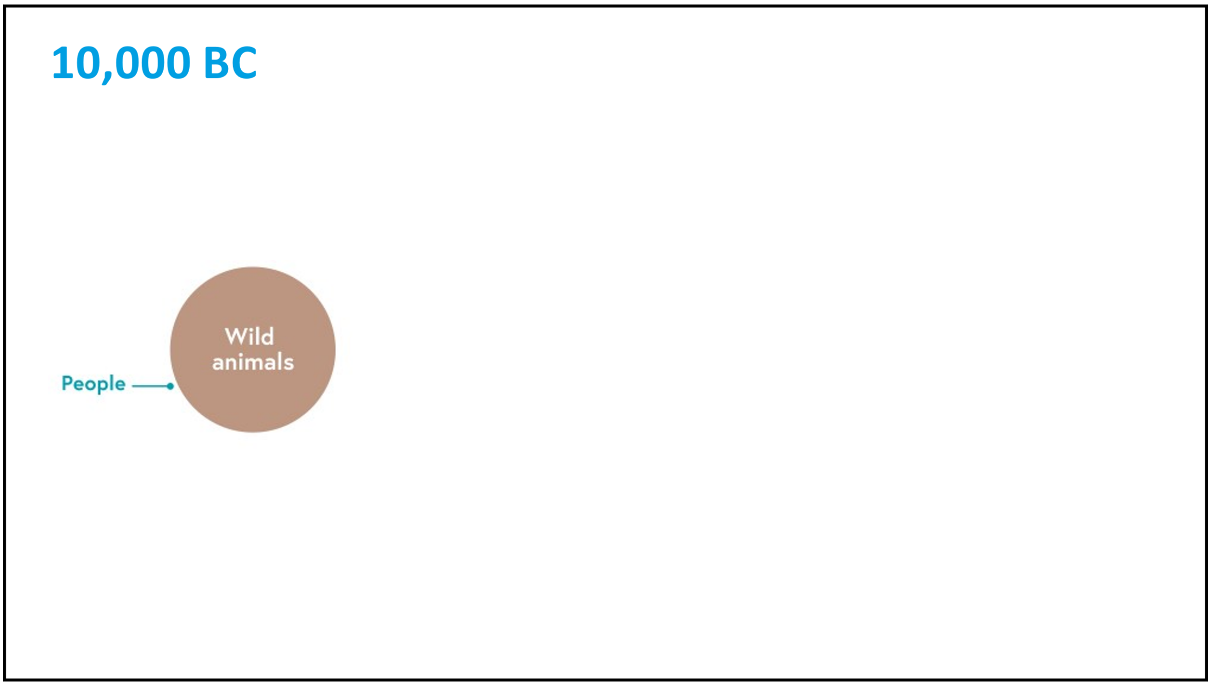
It is a great honour to be asked to give this, the inaugural Wilberforce Lecture.

Over the last four years, as the lead non-executive board member at the Department for Environment, Food and Rural Affairs, I have spent a lot of time thinking about the food system, and its relationship to the natural world. Last year I published the National Food Strategy, an independent review for government, which sets out how the way we eat is damaging the climate, biodiversity and human health – and what we need to do about it.

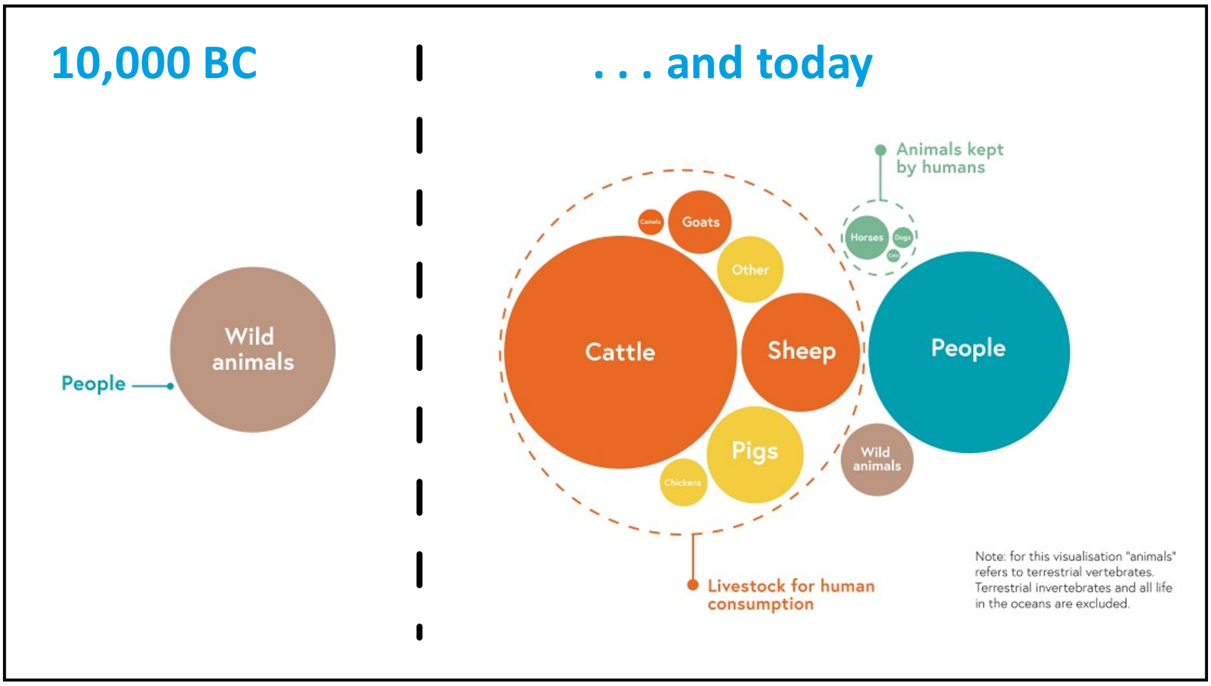
There are some fantastic charts and graphs in the National Food Strategy – I can say that because they weren't designed by me – and I want to start this lecture by showing you two in particular. They illustrate the extraordinary success with which humans have learnt to feed ourselves – but also the disastrous effect this has had on the animals with whom we share our planet.



This first graph shows the estimated biomass of humans - the tiny blue dot - versus wild, land-dwelling vertebrates and birds – the big brown circle - in 10,000 BC. This was the start of the Holocene era, when global temperatures entered an unprecedented era of stability: the moment in history where the seasons became predictable and agriculture therefore become possible. At this point, there were 2.5 million humans on Earth – a population dwarfed by the multitude of wild animals.

Humans had already developed many of the skills that would eventually enable us to become Earth's dominant species. Crucially, we had learned to cook other animals, which made it much easier for us to digest more nutrients, which in turn enabled us to shrink our guts and grow bigger brains instead.

Once global temperatures had settled down, we were able to use these big brains to develop a new system for feeding ourselves. We learned to farm - both plants and animals. Liberated from the relentless work of hunter-gathering, we began to trade surplus food for other goods and services, and develop more complex social networks. Civilisation, as we came to call it, was born.



Note: for this visualisation "animals" refers to terrestrial vertebrates. Terrestrial invertebrates and all life in the oceans are excluded.

This next graph shows the situation today. The population of humans has swollen to 7.8 billion. The food system created by Homo Sapiens has enabled our extraordinary success.

But as humans thrived, almost all other forms of wildlife went into decline. You can see on this chart that the biomass of wild animals has withered, thanks initially to our enthusiastic hunting of megafauna, and then to the damage our increasingly rapacious food system has done to the natural world. These days our pets (the small green circle), weigh almost as much as all the wild animals on the planet put together.

Land that used to sustain multitudes of species is now cultivated only for humans. Most animal life serves the same purpose. The combined weight of animals bred for food – the orange circles - is now more than 10 times the combined weight of all wild animals. This collapse in biodiversity is not showing any signs of slowing down. In the excellent book of essays published by the RSPCA earlier this year, Philip Lymbery – the CEO of Compassion in World Farming - points out that we have lost half our wild birds in this country since 1966. That's 44 million birds - a breeding pair lost every minute.

The success of the food system goes hand in hand with its destructive power. The bigger it gets, the greater the environmental impact. Globally, the food system is the second-biggest emitter of greenhouse gases (after the energy industry), and the primary cause of deforestation, freshwater shortage and pollution, and the collapse of aquatic wildlife. All this creates a vicious circle: wild animals are an essential part of the planetary ecosystem, enabling everything from pollination to the creation of carbon-munching plankton. But humans are creating an environment in which it is more and more difficult for wild animals to survive, let alone thrive.

Meanwhile, farm animals are in no way endangered – we farm about 80 billion of them each year. If we were to measure the success of a species by the volume of DNA it reproduces, farm animals could claim to be some of evolution's biggest winners.

But what kind of existence have we created for them? Most of the animals reared for food globally are factory-farmed: confined in pens, cages, and even multi-storey tower blocks, far from sunlight or greenery, unable to express their natural instincts. This is before we even consider some of the practices within industrial livestock farming that veer into active cruelty.

If this is all just too depressing, I apologise. But I must also point out an interesting philosophical irony. The fact that it pains us to contemplate what humans have done to animals in order to feed ourselves is, in itself, a by-product of the food system. If we hadn’t learnt to cook and eat other species, we would never have developed our big, complex brains. And without those brains we would not be able to comprehend the moral consequences of what we have done. Nor would we have the intellectual muscle required to change the food system and put right our mistakes.

We have evolved to be clever enough not to need to eat meat, even if we want to. We can make nutritious and delicious meals from plants instead. If we are to turn around our current environmental trajectory, we do need to eat less meat, to make space for wild animals and ecosystems. We also need – just in order to live with our own consciences – to reduce the cruelty involved in the rearing of livestock. At the moment, we are not making fast enough progress on either of these goals. And there are worrying signs that the government is rowing back on promised legislation to improve the lives of farm animals. So I want to use this lecture as a reminder of why this stuff really matters: not just to the rest of the animal kingdom, vital though that is, but to us. The human species.

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Late in his life, William Wilberforce, after whom this lecture is named, was taking a stroll around his wife's home city of Bath. By then a "little dwarfish figure, twisted in a . . . strange conformation", according to his contemporary biographer John Colquhoun, Wilberforce was puffing his way up a particularly steep street when he came across two men driving a horse-drawn cart laden with coal.

One of the horses lost its footing and fell. Immediately the larger of the two carters, a giant of a man, flew into a rage and started kicking and beating the exhausted animal. Wilberforce, who was in his Seventies and little more than five feet tall, rushed forward as the man raised his fist for another blow. We are told that Wilberforce poured upon the assailant "a torrent of elegant rebuke". The burly carter, "arrested at the very height of passion . . . stood with his face like a thundercloud, as if meditating to turn his stroke on the puny elf who appeared before him".

Luckily, the other carter recognised this puny elf. He stepped forward and whispered to his colleague not to punch the great anti-slavery campaigner and parliamentarian. "In an instant," we are told, "the lowering face cleared; and from rage and sullen hatred, the look passed into one of reverence."

This anecdote shows not only the prestige that Wilberforce had attained by the end of his life but also that the abolition of slavery was not his only life's work. In 1787, at the age of 28, Wilberforce had written in his diary: "God Almighty has placed before me ***two*** great objects: the suppression of the Slave Trade and the Reformation of Manners."

To modern ears this second object might sound a bit quaint, but manners in this context meant morals. And for Wilberforce, a devout Christian, the morality of the British nation was compromised by many of the barbaric practices that were common at the time.

To take one example, Wilberforce campaigned loudly against the crowd-pleasing “sport” of bull-baiting. Typically, a bull would be paraded through a town or village before being tethered to a stake. The bulldogs of the time were specially bred for this public spectacle, with huge heads, powerful jaws, and small bodies, to make it hard for a bull to shake them off.

The dogs, flattening themselves to the ground, would attempt to creep up on the bull, while the bull tried to knock them back with its horns. Eventually a dog would succeed in clamping itself onto the bull’s face or nose, tearing its skin to shreds, while the bull tried to throw it off. Often the dog would be hurled high into the air. If it didn’t break its neck on landing, it would crawl back to attack the bull again.

At the time, Wilberforce’s campaign to reform such “manners” was dismissed by many critics as po-faced and needless interference. He was accused of being motivated by “fussy disapproval of the lusty joys” of the working classes. A libertarian burn that sounds like it could have come from Georgian Twitter.

In 1824, almost 200 years ago, Wilberforce became a founding member of what was then the “Society for the Prevention of Cruelty to Animals”. Thanks partly to lobbying by the society, bull-baiting was banned under the Cruelty to

Animals Act of 1835, two years after Wilberforce’s death. In 1840, Queen Victoria allowed the society to add the “Royal” to its name.

Wilberforce’s concern for animal welfare was informed by his Christianity. Like most pious citizens of the time, he believed that God had, in the words of Genesis Chapter 1 Verse 26, given man “dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.” But in exercising this sovereignty, Wilberforce believed, humanity must take care not to be wantonly cruel or thoughtless. To behave unkindly towards animals was a failing in itself, but also a corruption of our divinely exalted soul.

This is similar to the position taken by some modern-day humanists. They, too, regard humanity as a uniquely moral species, alone among the animals in having the rights and obligations that come with extreme sentience. It is this uniqueness, they argue, that means we have a duty to treat animals with compassion, sparing them unnecessary suffering. The word “unnecessary” is doing a lot of heavy lifting here.

But what if humans are not as special as we like to think? As far back as Aristotle, philosophers recognized that the so-called “higher animals” experience some of the same emotions as humans. Charles Darwin went further still, arguing that “there is no fundamental difference between man and higher animals in their mental faculties”, and that even the lower animals “manifestly feel pleasure and pain, happiness and misery.” "Natura non facit saltum” was how he put it in his Origin of Species – Nature does not make leaps.

Darwin was very much in the minority at the time, not least among his fellow scientists. It is only in recent decades that more detailed research into animal sentience has begun to vindicate him. Even the so-called “lower animals”, it seems, have more complex inner lives than most scientists previously imagined.

In the 1990s, a young neuroscientist called Robert Elwood was sitting in his local pub when he spotted the seafood chef Rick Stein having a pint. The two men started chatting, and when Stein learned that Elwood was studying crustaceans, he asked him for a definitive answer to a question that has troubled many a restaurant chef. Can lobsters feel pain?

Elwood replied that it was impossible to know for certain, because the neurobiology of the lobster is so far removed from our own. But, unsatisfied by his own answer, he went away determined to find out.

The received wisdom at the time was that invertebrates cannot feel pain. Although they recoil from painful things, such as hot or sharp objects, this was assumed to be purely reflexive: an automatic instinct to avoid injury.

Elwood began experimenting on shore crabs: the kind you see children hoiking out of the water and plonking into buckets at the seaside. He painted a mild irritant onto their antennae to see if they showed signs of pain. The crabs rubbed their antennae against the glass of their tank, apparently trying to rub off the irritant. When Elwood applied an anaesthetic over the area, they stopped rubbing. This is behaviour that suggests they ***could*** feel pain.

In subsequent experiments, Elwood established that crustaceans will learn to avoid certain areas of a tank if they experience an electric shock there. This suggests a capacity not just for feeling pain, but for remembering it and learning from it. They also guard wounded limbs, as if to protect themselves from further pain.

In case there are any seafood chefs in our audience, you should know that Elwood is not a fan of boiling lobsters alive. He says it is quicker and kinder to stab them through the head.

Elwood and other scientists are rapidly expanding our understanding of what the "lower animals" can feel and do. Bees, for example, have been shown to display signs of nervousness, and can quickly learn to avoid unpleasant experiences. Fish turn out to have rather good memories, and can be trained to perform simple tasks in return for rewards. They can also plan ahead, solve problems and even play.

There are still sceptics who argue that all this is dubious anthropomorphism. They point out that some of these animals don't even have the brain structures that enable humans to feel pain. But the fact that some species may experience the world through very different neural pathways to us is not proof that they don't feel at all. In fact, it is precisely our anthropomorphic tendency – our insistence on interpreting the whole animal kingdom in relation to ourselves – that has made us so dismissive of the lives of other species.

“If a lion could talk,” said the philosopher Ludwig Wittgenstein, “we would not understand him.” Most animals are sufficiently different from us to be pretty baffling, and this alien quality enables us to turn a blind eye to their suffering when it suits us to do so.

Nevertheless, we have all had moments when we look into the eyes of one of the “higher” animals – in my case, my cat Ronnie – and feel a current of understanding pass between us. This too used to be dismissed as mere sentimentality, but recent scientific research suggests that, once again, we have underestimated the sophistication of our fellow beasts.

Take dairy cows. For at least 10,000 years, humans have been rearing cows for milk. On modern dairy farms, cows are inseminated so that they become pregnant, give birth and start producing milk. Their calves are usually removed from them within 24 hours of birth and reared separately so that the mother can be milked commercially.

The distress this separation causes for both cow and calf is now well-documented. The cow bellows for her lost calf, sometimes for days. The calf, separated from its mother, goes on to develop similar behaviours to those observed in children who grow up without a strong attachment figure. When introduced into a herd, they appear withdrawn, anti-social and sometimes disruptive. Calves that are raised with their mothers have been shown to be more playful and curious, and better at navigating the social rules of the herd.

Even chickens appear to demonstrate maternal instincts. When researchers disturbed hen’s chicks with annoying puffs of air, the mothers clucked in protest. Their heart rate increased more than when they were subjected to the same treatment, suggesting that they cared more about the comfort of their young than about themselves.

Studies are even beginning to show that some animals might be able to harbour what we would describe as moral values. A 2003 study by Sarah Brosnan and Frans de Waal found that brown capuchin monkeys appear to have a sense of fairness. Two monkeys who knew each other well were briefly taken from their enclosure and placed in cages side by side. The researcher got them to perform a task where they were given food in return for handing over a small rock. As long as both monkeys were given cucumber, they happily went about the task. But then the researcher gave one of the monkeys a grape. The neighbouring monkey, having seen this, handed over her next rock in anticipation of also getting a grape. When the researcher gave her a slice of cucumber instead, she was visibly outraged. You can find a video of the experiment on YouTube, where you will see the short-changed monkey hurling the cucumber slice back at the researcher in disgust. This principled protest meant the monkey got neither grape nor cucumber, of course, but at least she had made her point.

As our understanding of animal sentience grows, it will become harder and harder to justify the relationship we have built with the animal kingdom. The roots of human exceptionalism look increasingly shallow. And even if you still believe that humans should have dominion over all the creeping things, can you honestly say that we are exerting that power kindly? I believe it is quite possible that in 200 years-time, we will look back at industrial livestock farming with some of the horror that we feel for bull-baiting now.

Compassion is one incentive for change. But here’s another, equally urgent, motive: self-interest.

As I said at the start of this lecture, the way we eat is destroying the planet on which we live. In particular, our appetite for meat. The food system is responsible for around 30% of global greenhouse gas emissions, and of that total, almost 80% is caused by livestock farming.

People tend to think this is all about burping cows. The methane produced by ruminant livestock is thought to have caused around one third of total global warming since the industrial revolution. But the problem is even bigger than that.

Livestock farming takes up a huge amount of land, water and fertiliser – vastly out of proportion to the amount of food it produces. It takes 20 times more land to produce one gram of protein from beef than from pulses.

85% of the farmland that feeds the UK is used for rearing livestock – either as pasture, or to grow crops to feed to animals. This is a wildly inefficient way to feed ourselves.

Much of our meat is imported – in some cases from countries, like Brazil or Australia, where ancient forests are still being cleared to create new land for rearing livestock. This is obviously disastrous for the wild species who live in those forests. But it is also disastrous for us, since these forests act as sponges to soak up carbon from our atmosphere.

The same is true of peat bogs, which are amazingly efficient at sequestering carbon. In this country, 56% of our peat land has now been drained and converted into farmland, which means it is actually emitting carbon instead of absorbing it.

There are many other unwelcome side-effects of the livestock industry, some of which – such as anti-microbial resistance and zoonotic disease – pose a direct threat to human life. I simply don't have time here to cover all the damage done by our meat-hungry food system.

In his book How to Love Animals, the writer Henry Mance neatly sums up our predicament: "If we lived in a vegan world," he writes, "and someone said there was an alternative which involved breeding and killing billions of animals, and denuding much of the world's surface of wildlife, I'm pretty sure that Silicon Valley's venture capitalists would pass."

The problem is, we ***do not*** live in that world. We live in a world where a strong appetite for meat is hard wired into most of our genes, and where the eating and preparation of meat has for centuries been central to our self-image and social rituals.

The British are famed as a nation of animal lovers. Yet we are also proud carnivores. Once nicknamed "Les Rosbifs" by the French because of our appetite for red meat, we still seem to believe there is something culturally sacred about the Englishman's God given right to a plate of sausages.

Mance calls this the “meat paradox”: the feat of cognitive dissonance that enables us to care about animal welfare while eating farmed animals. Studies have shown that the very act of eating meat changes our perspective on animal sentience. If you give someone a beef snack and ask them whether cows suffer pain, they are less likely to say “yes” than if you had given them nuts. As Mance puts it, “we don’t want to eat animals because we underplay their suffering; we underplay their suffering because we want to eat them”.

We look away from the suffering inflicted on animals in their production. Most people who eat, say, sausages, would be aghast if they saw what goes on in industrial pig farms. People who work in them have to become inured to the distress of the animals in order to do their job. A friend who worked on an intensive pig farm as a youth – and is still a meat eater – described the experience to me.

“You quickly get used to ignoring the horrible bits to get the job done,” he said. “The job is to make cheap bacon. From dragging dead pigs from filthy overcrowded stalls to smoking cigarettes with your fingers covered in fresh shit. It’s just habit. I became callous very quickly.” And as Roger Scruton admits in his essay Animal Rights and Wrongs “That which can be done only by a callous person, ought not to be done.”

At this point I should confess to suffering from the meat paradox myself. Despite everything I have learned while studying the food system, I remain a meat eater. I love the taste of liver, and kidneys and tripe. I love the technical challenge of smoking a beef rib for 12 hours until it is falling succulently off the bone. I love the social ritual of the barbecue and the roast dinner. Although I have cut back hard on my meat consumption, I am not a vegetarian. Nor do I believe that the British public as a whole are anywhere near ready to renounce meat.

For the National Food Strategy, we organised a series of focus groups to find out how the citizens of England feel about our food system, and how far they would be prepared to go to improve it. Across the board, there was a higher tolerance for state intervention than we had anticipated – except in one respect. The idea of introducing a “meat tax” was a non-starter. Every time we raised it, the atmosphere would suddenly crackle with hostility.

When we ran a public poll on the idea of a meat tax, we got a similar response. Although 50% of people believe the Government should set a target for meat reduction, only 26% like the idea of a tax on fresh meat. 48% oppose it.

Politicians are highly attuned to this public mood. When asked about the potential for a meat tax earlier last year, a Number 10 official was quoted as saying: “This is categorically not going to happen. We will not be imposing a meat tax on the great British banger or anything else.”

These are the powerful cultural and social tides that we are swimming against. So what ***can*** we do to reduce the amount of meat we eat, and at the same time rear farm animals more humanely?

As we have seen, Governments have limited room for manoeuvre on the first problem.

However, you don’t always need politicians, thank goodness, to get things done. For the Food Strategy we calculated that the UK needs to cut back on meat consumption by around 30% to achieve its biodiversity and climate goals. This would enable us to reclaim some of our least productive farmland – 20% of our farmland produces only 3% of our calories. We could use this land instead for improving biodiversity, soaking up carbon and producing renewable energy.

A 30% reduction in meat eating should be achievable through voluntary change, on the part of both businesses and consumers. The trend in most developed countries is already towards eating less meat. In this country, plant-based food is the fastest growing sector of the convenience food market, and already accounts for around one in five ready meals.

But we need the change to be faster still. This is the single most important thing that you and I, and everyone listening, can do as individuals to improve the food system. Each of us must cut back on our meat eating – not theoretically, some day in the future, but now. If you normally eat meat every day of the week, make tomorrow a veggie day. And the next day. There you go: a cut of almost 30% straight off the bat.

If we eat less meat, our land can be put to much better use.
To give this government credit where it’s due, I’m told it intends to stick with the planned reforms for payments to farmers despite rumours to the contrary. The Environmental Land Management Scheme will pay farmers for “public goods”, including protecting wild habitats, rather than simply for producing

food as was largely the case under the Common Agricultural Policy. This will be very good news for some of our wild species.

When it comes to animal welfare, however, things look less promising.

The UK has long been ahead of the international pack on animal welfare. The 1822 Cruel Treatment of Cattle Act made us the first nation ever to pass an animal welfare law, and today we have some of the best food production standards in the world.

Many practices that are illegal here, such as fur farming and the force-feeding of geese for fois gras, are still practiced in continental Europe, never mind the rest of the world. We banned sow stalls in 1999. In America (and until very recently in Europe too) it is still legal to keep sows in tight “gestation crates” for their entire pregnancies, so confined that they cannot even turn around. A 1976 edition of Hog Farm Management advised US farmers to “forget the pig is an animal — treat him just like a machine in a factory”. Not much has changed since then for the American pig.

From a commercial point of view, it is often cheaper to be ruthless in livestock farming. Pack as many animals as possible into the smallest space; keep disease under control with massive doses of antibiotics; feed them fast and kill them young. This creates a cheaper “product”, which can be used to undercut more conscientious farmers.

For this reason, it matters enormously who we trade with, and under what terms. It makes no sense to hold British farmers to high standards and then allow the import of cheap food produced to lower standards abroad. This just means exporting animal cruelty while undercutting our own farmers. When we spoke to focus groups about animal welfare, people repeatedly told us that they want high standards but don’t have time to research the provenance of every shrink-wrapped chicken, or the animal welfare laws in whichever country it came from. They want to feel confident that the meat they eat has been raised humanely, and they believe – rightly in my view – that this is a job for government.

And yet the government has refused to take this responsibility seriously. Take the recent trade bill with Australia, negotiated by our then Trade Secretary Liz Truss. At the time, she insisted that there was nothing in the deal that would compromise our food standards. She got rather cross with me when I pointed out – just as one example – that mulesing is commonplace in Australia. This horrific practice is intended to prevent flystrike infestations in sheep. The farmer trusses up a young lamb in chains, with its legs bunched up by its head, and suspends it from a metal clamp. He then slices the skin off its buttocks in strips, creating a butterfly-shaped expanse of raw and bleeding flesh across its backside. This is often done with no anaesthetic. When it eventually heals, the flayed area doesn’t grow back its wool, which makes it less hospitable to flies.

Amazingly, there is still some debate in Australia about whether mulesing constitutes cruelty. New Zealand has banned it. But we don’t need to have that debate here. It would never be allowed under British law, and the British public would be appalled if anyone suggested it should be. Yet the Australian trade deal means it is now legal to import into this country lamb born to mothers who have endured this barbaric practice.

When I spoke to Liz Truss about this during a public debate, she argued that the standards set by the World Organisation for Animal Health were robust enough. But this simply isn’t true. The WOAH requires universal agreement to bring in new rules, and its membership ranges from liberal democracies to Islamic theocracies to communist dictatorships. Only 32 of its 182 member countries even recognize animal sentience in law.

Truss is now our prime minister and has made no secret of her liberalising, anti-red-tape instincts. I like to think that, as an entrepreneur and former restaurant CEO, I too am on the side of growth. But I don’t believe that anyone – farmers, the food industry, the British public – wants to see animal welfare sacrificed on the bonfire of red tape.

Earlier this year the government dropped plans to ban the import of foie gras and fur. Last week we learned that the Kept Animals Bill – which, among other things, would have made us the first European country to ban the export of live animals – had been quietly dropped from the parliamentary agenda in this session. This law has been in the making for literally decades: it was first proposed in 1977, by the Conservative MP Janet Fookes. Every year, thousands of animals are sent abroad to be fattened up and then slaughtered. Sheep and calves, often only weeks old, are crammed into trucks without food or water, sometimes for days.

Banning this cruel and unnecessary practice was rightly a manifesto commitment for this government. It now says that it will pass the legislation “as soon as parliamentary time allows”.

It is critical that the government honours this pledge. We have a global reputation on animal welfare that has been hard earned, it would be madness to trash it.

It is also critical that organisations like the RSPCA continue to lobby politicians, but also lobby us – the public. We must not be allowed to ignore the suffering that our appetites cause, the cruelty that is still allowed behind closed doors.

And it is critical that we, however hard we find it, do our own bit by cutting down on the meat in our diets.

I would like to end by quoting Wilberforce again: “Having heard all of this, you may choose to look the other way,” he said, “but you can never again say you did not know.”

Thank you.