

Fourteen roads, one crossroads

Why the strongest objections to the meat industry come, of all places, from disciplines that want nothing to do with each other.

There's a trick you learn in the philosophy of science and never quite shake off. It's called **consilience**, it goes back to William Whewell, and it runs roughly like this:

When several investigations that have nothing methodologically in common arrive at the same point, that is a stronger indication of truth than any one of them alone.

The reason is unglamorous. A single study can be wrong. Two studies using the same method can be wrong in the same way. But when a geneticist, a soil scientist, a behavioural biologist and a legal scholar all set out from completely different places and **arrive at the same crossroads**, you'd need a fairly imaginative conspiracy to explain that away.

I applied this trick to a question where I'd have preferred a different answer.

Fourteen roads

The question was: what, exactly, is going on with industrial animal production? Not as a matter of mood, but as a matter of fact.

So I walked fourteen roads separately, under a rule: don't let them talk to each other until each one has been walked to its end. Biochemistry. Epidemiology. Digestive physiology. Ecology and climate. Zoonoses and antimicrobial resistance. Behavioural biology and pain research. The labour sociology of slaughterhouses. Food politics and lobbying. Law. Global food security. Health economics. Ethics. Political economy. And one layer on my own bias.

What stayed with me wasn't a single finding. It was that they **all pointed the same way**, though none of them knew the others existed.

The number that tips it

If you take one number away from this piece, take this one:

36 percent of the calories from the world's crops don't go to people. They go into the feed trough. About twelve percent comes back.

(Cassidy et al. 2013, *Environmental Research Letters*.)

That's physics, not opinion. Every step in a food chain loses energy. Run grain through an animal before eating it, and you pay most of the calories as a transit fee.

And now the part that surprised me most.

The most common objection to any critique of the meat industry is: *"But how do we feed the world?"* It's raised to defend the industry. Yet take it seriously, do the arithmetic, and **it flips**. Industrial grain feeding withdraws calories from the global food supply. It doesn't add them. Redirected, those calories could in principle feed roughly four billion more people.

The strongest objection turns out, on inspection, to be an argument for the other side.

What I'm not claiming — and this matters to me more than anything else

Here I have to pull a brake, and it's one that almost never gets pulled in this debate.

Not all feed competes with human food.

A cow on a meadow that is not cropland and never will be turns cellulose — which we cannot digest — into protein. A pig on a smallholding eats kitchen scraps and bran. There the animal is a **net gain**: it unlocks food that would otherwise be lost.

My critique hits industrial grain feeding with full force, extensive grazing only partly — and subsistence husbandry **not at all**.

And that is not a polite footnote. The Maasai, the Inuit, the smallholder in Malawi are not “exceptions” I graciously grant. Food sovereignty and cultural self-determination are **independent claims of justice**. An animal ethics that overrides them becomes unjust itself — it becomes colonial. Anyone who uses the animal question to pass judgement on poor or indigenous people has misunderstood the question.

The same goes for the obvious economic lever. Yes, a steak's shelf price conceals its true costs — the health costs of red and processed meat alone are estimated at around USD 285 billion for 2020 (Springmann et al. 2018). And yes, a corrective tax would fix that. But food consumption taxes are **regressive**: they hit the poorest hardest. Price truth without redistribution and without redirecting existing subsidies isn't progress; it's just a different injustice.

The addressee is the **structure** — not the person at the chiller cabinet with too little money.

Cat, dog, human

A small story, because it puts the thing in focus.

The **cat** is an *obligate* carnivore. It cannot synthesise enough taurine. Without animal tissue it goes blind and dies. For the cat there is no choice, and therefore no ethical question.

The **dog** was once a wolf. During domestication it acquired extra copies of the starch-digesting gene *AMY2B* (Axelsson et al. 2013) — it became an omnivore alongside us, at the edge of the grain field.

The **human** has no such shackle at all. We have salivary amylase, a long small intestine, no shearing fangs. We are omnivores — which doesn't mean “we must”, but: **we can choose**.

And it is precisely there, in that freedom, that the ethical question arises at all. It doesn't arise for the cat. It doesn't arise for the herder who has no alternative. It arises for us.

Six philosophers who can't stand each other

I expected ethics to be the softest part. It turned out to be the most surprising.

Peter Singer (utilitarianism) and Tom Regan (inviolable rights) are **fundamentally at odds** in their foundations — Regan explicitly attacked Singer's approach. Christine Korsgaard argues from Kant, Martha Nussbaum from Aristotle, Donaldson and Kymlicka from political theory, Carol Adams from feminism. These six approaches contradict each other on nearly everything that counts.

And they come out at the same place: **industrial animal exploitation is unjustifiable where plant-based alternatives are available**.

When theories that fight each other produce the same result, it's rarely down to the theories. Usually it's down to the matter itself.

(The strong counter-positions — Carl Cohen, Roger Scruton, contractualism, the predation problem — are spelled out, not waved away. If you want to refute me, the ethics volume holds the best ammunition.)

Why I publish my own errors

There are errors in this work. I found them myself.

I had assigned one study to the wrong journal. Another source carried an author name that couldn't be substantiated. Both are corrected — and both are **documented inside the work**, correction and all, instead of quietly disappearing.

This isn't coyness. It's the heart of the matter. I'm a marxist, I say so openly, and I therefore built in and documented a self-audit procedure rather than pretending to have no standpoint. If you distrust my political economy: **delete it**. The other thirteen layers still stand. That is exactly what the consilience construction is built for.

And every source lies open — with a DOI, the biomedical ones additionally with a PubMed ID, verified twice. Peer review is a trust procedure. Disclosure is a checking procedure. You don't have to believe me. You can look.

The crossroads

At the end, fourteen roads meet at the same crossroads. The biochemist, the soil scientist, the behavioural biologist, the lawyer, the economist, the philosopher — none of them set out to prove the others right.

They all arrived there anyway.

That is not a proof, and I don't claim it is one. But it is the kind of agreement at which one should honestly stop looking for a way out — and start talking about the structure that produces all of it.

The complete work — main paper, nine deep-dives, source criticism, verification records and all raw data — is available bilingually and freely under CC BY 4.0. It may be reused in full with attribution.

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