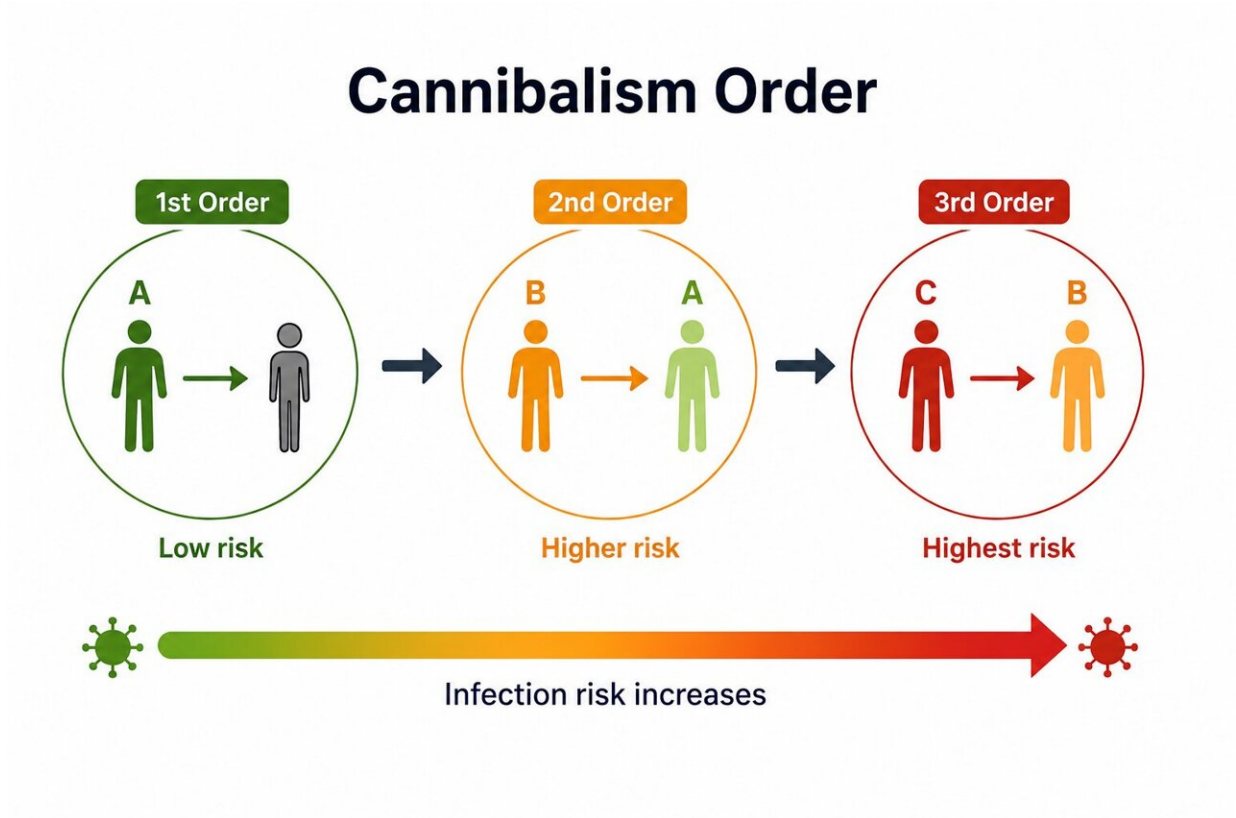
Cannibalism could keep people alive—so why did humans reject it almost everywhere?

July 6 2026, by Sayan Tribedi



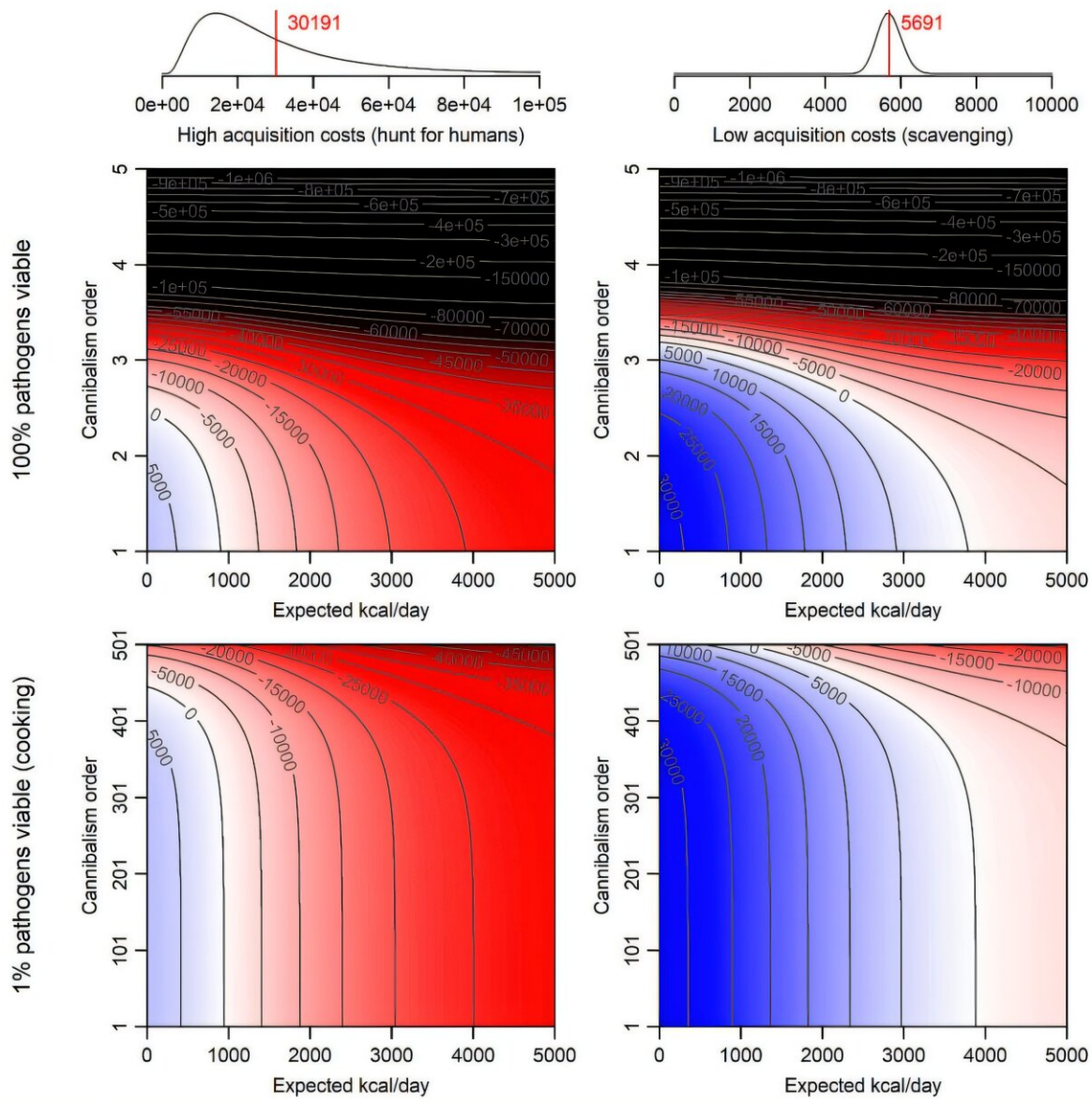
A simplified diagram illustrating "cannibalism order." As human-to-human consumption is repeated (A → B → C), the risk of transmitting infectious diseases increases, making cannibalism progressively less advantageous over time, according to the study's model. Credit: Generated by AI tools for illustrative purposes.

From ancient graves to stories of survival on the frontier, signs of human flesh-eating turn stomachs, even as they raise questions. Anthropologists have uncovered bones cut up with axes and chops—like a skull from England dating back 14,700 years that had the meat scraped off its jaws. Such finds confirm that our ancestors sometimes ate each other, but now every human culture views cannibalism as a final taboo. But if eating kin saved lives, why didn't it become routine?

A new study by a Polish-Czech team offers a compelling answer, revealing a gruesome trade-off: a few extra calories now, but a potentially deadly epidemic later. While human meat provides calories—roughly "an average meal" by caloric content—their mathematical model confirms this only pays off under extreme scarcity, such as when the bodies of the dead are readily available. However, as soon as cannibalism spreads beyond a few survivors, the hidden costs rapidly overwhelm any gains.

The problem isn't just modest energy returns; it's disease. Humans share nearly identical biochemistry, making each human plate a vector for pathogens. The model demonstrates that the risk of catching a deadly pathogen climbs exponentially with the length of the cannibalism chain, a risk even cooking can't eliminate, especially for prions like those responsible for kuru in the Fore tribes of Papua New Guinea.

This study was published in the journal *Proceedings of the National Academy of Sciences*



This striking heatmap visually maps out the energetic viability of cannibalism. Imagine it as a "danger zone" chart: areas in red show where cannibalism is a net loss, while blue areas indicate where it might offer a temporary energy boost. Crucially, the chart reveals how quickly the "danger zone" expands as the "cannibalism order" (how many times a body has been part of a cannibalistic chain) increases, and how much harder it is to gain energy from human flesh if you have to hunt for it or eat it raw. It vividly illustrates the paper's core finding: cannibalism is rarely a good idea, and becomes a terrible one very fast. Credit: Michal Misiak et al, The cannibalistic trade-off: Why human cannibalism

emerges and why taboos suppress it, *Proceedings of the National Academy of Sciences* (2026). DOI: 10.1073/pnas.2605120123

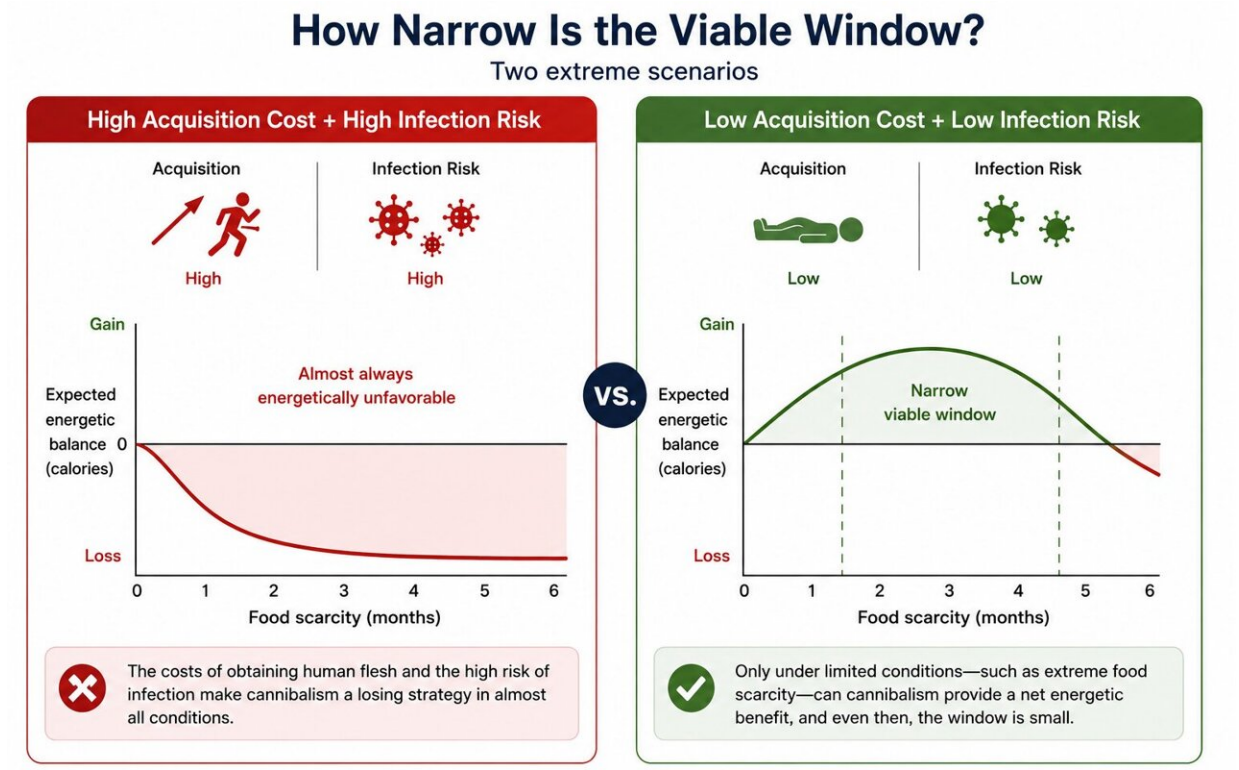
Feasts or fights?

Cannibalism didn't happen only from hunger—it turns up in myths, religious rites and war, too. In some cultures, consuming enemies (or ancestors) was believed to transfer power or honor. The Aztecs, for example, famously depicted sacrificial cannibalism in 16th-century codices. But even in those cases, it was rare and symbolic, not a dinner plan.

The new model isolates the purely nutritional trade-off: It doesn't include social or ritual gains (like terrorizing foes or gaining status). Without those extras, cannibalism only "pays" when people are almost starving. And because infectious parasites accumulate with every generation of cannibals, a killing spree of human flesh-eating rapidly becomes a population sink.

A deadly food chain

The scientists show that eating human flesh is like signing a death warrant for disease. They cite kuru as one case—but the same logic applies to any prion: Once an organism serving as food is very similar to the eater, even a tiny dose of misfolded protein can jump the species barrier. "Pathogens have an easier task because they end up in an organism with almost identical physiology," the team explains.



A comparison of two extreme scenarios from the study's model. When acquiring human flesh is difficult and infection risk is high, cannibalism is energetically unfavorable. Under low acquisition cost and low infection risk, it becomes beneficial only within a narrow survival window. Credit: Generated by AI tools using Figure 1 of the paper Michal Misiak et al, The cannibalistic trade-off: Why human cannibalism emerges and why taboos suppress it, *Proceedings of the National Academy of Sciences* (2026). DOI: 10.1073/pnas.2605120123

In their model, groups that let cannibalism run unchecked eventually collapse under runaway epidemics. The Straits Times reports the conclusion bluntly: "The long-term practice of cannibalism can lead to population collapse by causing illnesses in those who eat other people." Every cannibal who eats another cannibal just compounds the risk—a phenomenon the paper calls cannibalism order.

Can cooking help? A bit, but not much. High heat might kill many bacteria and viruses, but prions laugh at it. The model finds that even if people always fully roast the flesh, the inevitable prions in nervous tissue still accumulate and eventually undo the benefit. So the basic story remains: Unless almost every human meal is a rare windfall (like a corpse after a disaster), the epidemic cost of cannibalism quickly outweighs its calories.

Taboo as a safeguard

So why do we all feel repulsed by cannibalism today? The study offers a surprising answer: What seems like an arbitrary moral rule may actually be nature's warning sign. In their words, cannibalism taboos may have "emerged not as arbitrary moral prohibitions, but as predictable cultural responses to epidemiological constraints." These cultural responses imply that disgust at eating people could be a form of collective immune defense.

As one researcher put it, "Taboo acts as an evolutionary safeguard." Groups that did not curb cannibalism, he notes, simply did not survive. Cultural rules that ban eating kin—even when you're starving—might have spread because they helped societies avoid ruinous outbreaks.

This view reframes the horror of cannibalism as a kind of early epidemiology lesson. A taboo that seems like cruelty (or superstition) might really be a survival tactic. It also helps explain why humans went to such lengths to prevent even a trace of cannibalism; the authors suggest almost any exposure could be catastrophic in the long run. And with new climate-driven famines on the horizon, these ancient lessons may become relevant again.

As one interview summarized, severe global warming "could trigger mass cannibalism" if food dries up—and that's precisely when we'd most

wish we still had our protective taboos.

More information: Michal Misiak et al, The cannibalistic trade-off: Why human cannibalism emerges and why taboos suppress it, *Proceedings of the National Academy of Sciences* (2026). DOI: 10.1073/pnas.2605120123