

In February 2022, my sister had a baby who died after one week in the NICU from hypoxic ischemic encephalopathy. During labor there was a period of low oxygen perfusion to his brain that caused irreversible damage. MRI of the brain indicated that if he survived, he may not be able to breathe independently, move his body, or speak. Even his executive function may be severely impaired based on diffuse injury to the frontal lobe. It took his parents' entire emotional reserve to make him 'comfort measures only' and allow him to die. After removing respiratory support, his body compensated for around 36 hours until he stopped breathing in my sister's arms. I can hear her sobs. When my nephew was carried off, never again to be seen, the finality sent a wave of nausea through his dad who lunged for a trash can and just made it. We drove home through the snow around 3am without the car seat.

Nearly two years later, my sister's recovery is ongoing. She has made strides but for the longest time strained to get through the day. Everything evoked her loss, and nothing felt whole. A few minutes in her presence revealed a primitive, biological foundation for the illness. She wanted only to hold him, so instead cycled through his limited photos, or journaled in his vacant bedroom. She cradled a pillow in attempts to fill the physical void. For 40 plus weeks the baby lived in her body. Part of her then died in him. The magnitude of loss she continues to experience reflects a maternal devotion cultivated over millions of years of evolution. Hers is an ancient sickness to which other species are susceptible.

My sister would nurse for several weeks after her baby died. She admirably donated the milk but could not bring herself to pump longer than necessary. Aply producing this precious substance without its intended recipient was unbearable for her. Likewise with the lochia, resumption of menses, insomnia, and dehydration headaches from crying. I had never witnessed a waking nightmare, but my sister's had a familiar essence. It occurred to me in that dim hospital room where my nephew lay dying under a pair of desperate hazel eyes. The powerlessness, inevitability, loss of control, injustice of theft—for ten years I had advocated against this plight in a mammal with whom we share 80% of our DNA. It was not the first time I had cried over spilt milk.

Before quitting dairy, I could not see the big deal. *Milking a cow does not hurt her. Dairy is good for you. It has always been this way.* I had never considered that the intended recipient of a cow's milk is someone else. It never occurred to me that modern calves are born into a zero-sum game: the more they feed, the less marketable milk. I was unaware that calves are thus removed from their mothers on day one of life to be fed minimal portions of milk replacement before they are prematurely weaned. I had never considered that male calves are then either killed immediately to cut costs, shipped to the feedlot to be slaughtered within two years for beef, or immobilized in crates to stunt muscle development for four months before being cleaved into veal.

I would learn that female calves born in milk factories assume the same fate as their mothers. There is the human injection of bull semen through her cervix; the nine months of pregnancy in isolation; the calving day which may seem to redeem the experience until her newborn is carried off, never again to be seen; the attachment of metal pumps to her udders; the repeat insemination two months later; the bearing, birthing, and bereaving 2-4 more calves in her lifetime; the shipment to a slaughterhouse after five years, though she could have lived twenty; the single-file

procession up a ramp; the floor receding so her underbelly is suspended by a conveyor belt; the visceral panic and thrashing; the bolt gun to her forehead; the ascension of her hindlegs by chains; the inverted posture and severing of her throat; and the avoidance of her flesh by vegetarians.

I was one of them. Even after accepting the above, it took me three years to quit dairy. I thought it would be a sacrifice. I clung white-knuckled to the possibility that my pleasure in consuming dairy might exceed the cow's pain in producing it. Halfheartedly I asked what difference will it make to restrict myself, with all the ill in the world. I posed various compromises. Maybe I could just buy organic or grass-fed. But I already knew: to pay for modern dairy is to subsidize someone else's beef. There is no moral distinction.

Why does no grocery store carry dog's milk? Or pig's milk? Ice cream could be churned from pig secretions just as easily. Pizza cheese could be curdled from the splatters of a lactating poodle or labrador. The only reason cow's milk seems appropriate is because we grew up with it—a mere consequence of our parents growing up with it. Challenging this norm goes with challenging the broader assumption that humans have transcended kingdom animalia. Religion and technology, often clashing, actually cooperate in the illusion that humans are fundamentally distinct from other animals. Monotheistic traditions write our superiority into creation, and each subsequent technological creation seems to validate our superiority.

Let us not conflate intelligence with transcendence. As Charles Darwin said, "The difference in mind between man and the higher animals, great as it is, certainly is one of degree and not of kind." Distinction from our mammalian cousins dissolves further when it comes to physiology and primary emotion. To involuntarily transform a colorful meal into a brown log, to synthesize two million red blood cells every second, to fear and want, to love and lose, to finally die when the brain's electricity goes out—we are animals to the bone. My nephew was an infant animal who could not be saved by our most advanced medical technology. My sister is a mother animal in mourning.

In family medicine residency I have discovered no better vantage point to glimpse our nature than the foot of a birthing patient's bed. The fruit of her labor emerges from the same canal where hundreds of millions of seeds were deposited ten months earlier. The embryo multiplies and ripens through a cascade of biochemical signaling and maternal interplay that make our greatest innovations seem like Skittles. A mature fetus whose amniotic pond has abruptly receded is now rhythmically expelled by strong and sustained contractions of the uterus. Mom pushes fervently in sync with the contractions until the head, malleable and autonomous, extends under her pubic bone and protrudes from the vulvae.

I still find the sight unnerving, alien. (Perhaps for the same reason, in this quintessentially natural moment, that it felt *natural* to consume milk and meat products from a concentration camp: modern life quietly instills the denial that we too are animals, born of the flesh, and no more capable of suffering than the other sentient beings with whom we share an evolutionary past). The baby's higher shoulder is delivered, then the lower one. Minding the umbilical cord, the body is guided out and secured. A vigorous baby cries and squirms until passed to Mom's chest for a period of calm. The rubbery cord is clamped and cut, and the maternal end is gently tugged

for several minutes until the placenta, like a grotesque bundt cake, plops onto a dish for inspection.

That is if all goes well. My nephew was born limp and rushed to the warmer for respiratory support. Soon he was wheeled to the NICU for whole-body cooling to drop his oxygen requirement and protect his brain. To imagine my sister's anguish in that moment, superimposed on peripartum disorientation, is sickening. Many of us will never experience this depth of fear. It should by no means diminish her experience to suggest that it was largely mediated by primitive brain regions nonexclusive to humans. The amygdala is an almond-sized area that facilitates fear and panic, interacting with the adjacent hippocampus to catalogue memories laden with emotion. Psychologist Daniel Goleman writes, "The amygdala in the emotional center sees and hears everything that occurs to us instantaneously and is the trigger point for the fight or flight response." Evolving 150 million years ago within the limbic system, it has been implicated in post-traumatic stress disorders across species from humans, to rodents, to cows, to birds.

When a cow's contractions begin, she becomes restless and seeks a secluded area (without finding one in the modern case). She often lies down to deliver, and after birth promptly stands to turn and greet the newborn with hundreds of licks from head to hoof. Her licking stimulates the calf's breathing; ultimately dries him to prevent hypothermia; removes pungent fluid to evade predators; repletes her own nutrients; and induces pituitary gland secretion of oxytocin, the love hormone. More oxytocin enters her circulation when the calf discovers a teat to suckle colostrum. This elixir of antibodies, antimicrobials, prebiotics, and growth factors mirrors human colostrum as a remarkably formative food. Cow factories tend to permit initial nursing of colostrum since it is less marketable, and also confers partial immunity from infection in this calf who is not yet optimized for death. But keeping him on the udder beyond twenty-four hours yields diminishing returns. The milk is now more valuable bottled. Though she would naturally nurse for six months, the cow cannot outbid us and will lose her calf on his first day.

Permanent separation of mother and newborn is perhaps the cruelest practice on a modern dairy. More excruciating than her mastitis from the industrial pumps. More debilitating than her lameness from the shackles and concrete. More withering than the hot-iron extraction of her horn buds, or the docking of her tail without anesthesia. More harrowing than the roar and lurch of a cramped truck en route to slaughter. Of all our violations, the theft of her calf sends a cow into proper derangement. Her behaviors are best understood from the videos which abound online. They show that suffering does not require a sophisticated neocortex or frontal lobe. This is why my sister and her husband allowed their son to die. It is why the severely cognitively disabled who survive are sheltered. It is why we would not dream of subjecting our dogs or cats to a factory farm, let alone consuming them between a bun. The animals we enslave and exsanguinate have a sensory cortex and limbic system. They recognize torment from across the shed.

In 1852 Harriet Beecher Stowe wrote, "What man has nerve to do, man has not nerve to hear." Those who made it this far *have* the nerve to hear, and thus to do. We are witnessing a cultural shift. Plant-based milks comprise sixteen percent of the global milk market today. Last year, plant-based milk sales grew by twice as much as cow's milk sales *shrunk*. Many project the trend to continue exponentially until the dairy industry collapses in the 2030's. For all my leveling of

species, humanity does emerge in fights like these to expedite abolition. My sister's loss confirms what needs to be done. Anything is easier than what she and our spotted sisters endure.

## Resources

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