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THE BIOME WITHIN: CONCEPTION AND CHANGE IN THE PARADISE VALLEY

By

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Thesis

Presented in partial fulfillment of the requirements for the degree of:

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ABSTRACT

Kirchhoff, Austin, M.S., December 2022

About the Biome Within

Chairperson: Mark Sundeen

The Biome Within is an essay collection that meditates on change. Born and raised in the Paradise Valley of southwest Montana, Austin recounts stories from her childhood, painting a picture of rural life in the Valley that contrasts with its modern-day incarnation as a luxury get-away and millionaire's playground. Even as Austin pines for a time and a place that no longer exists, embodying the nostalgia that she identifies in the Valley's transplants, the reader comes to understand that the author – and her family's way of making a living – are culpable in creating the changes that she now laments. The tourism industry is painted as a double-edged sword: it's the lifeblood of the Valley, propping up an ecosystem of dude ranches, rafting companies, and Airbnb owners; but it also sucks the life out of the Valley, pricing out working families, bankrupting local schools, and enabling a make-believe-cowboy lifestyle.

Alongside meditations on the outside world, Austin reveals her first pregnancy and ties the changes happening within her own body to the changes in the Paradise Valley. Embracing motherhood is complicated by the aftermath of the Dobbs decision and the once-in-500-year flood of the Yellowstone River – disasters of different natures. On the one hand, Austin struggles with what it means to become an ecosystem to the child she carries when so many women are stripped of the right to chart the course of their reproductive lives. Meanwhile, climate change manifests near and far and begs the author to wrestle with the moral decision of bringing a child into the world.

Inspired by the echoing truths in Jim Harrison's poetry and the weaving, unharried pace of Eula Biss's prose, Austin endeavors to capture the turning points of her life and the Valley she loves. She hopes to add her own voice to a group of writers and creators who are thinking critically about Montana's character and their role in shaping it.



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THE BIOME WITHIN

Conception and Change in the Paradise Valley

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Vistas: On Perception

We park as soon as the drifts in the road begin to look like more than four-wheel drive can handle. We lower our voices to whispers before we even get out of the truck, careful to close the doors gently. It's still dark in the timber, though the sky is cast in predawn periwinkle. I check my phone – 7:17 am – just a few minutes shy of shooting light.

We shoulder our packs and my dad starts to cut uphill through the deep snow. Max, my husband, follows in his tracks, and I fall in line behind them, stretching out my normal stride to match theirs. It's easier to walk through broken snow, but more importantly, it's quieter than all of us taking our own paths. The elk we're looking for could be anywhere.

We crest the hill and the landscape opens up before us. The creek bottom below is full of cottonwoods, the low slopes above it coated in white with a few patches of brown where the wind has swept away the snow. The slopes ripple into draws thick with timber. If they're bedded down in there, we'll never see them. I sit down in the snow, pull out my binoculars, and start to glass, tracing a methodical pattern over the landscape, looking for movement, a buff rump, any bit of an antler rack. After a few minutes, Max nudges my elbow and points behind us to a hillside on the opposite side of the gulley where we parked the truck. At first, I think I see sagebrush. Then I realize all the sagebrush are elk, so many they dot the hillside like freckles on a redhead's cheeks. We smile and shake our heads at each other. Of *course* they're over there, on private land where most of us don't have permission to hunt.

"No bulls, though," Max whispers as he continues to glass the herd. That's good. The regulations for the district we're in dictate that a hunter may only harvest a brow-tined bull –

no spikes and no cows. The snow has pushed most of the cows out of the high country, but bulls are likely to stay in the mountains longer, waiting until later in the season to make their way down to the lower slopes and valleys.

After a while, we decide to walk to a new outcrop with a different view. We move slowly and stop often, making sure we pick a route that keeps us upwind of the state section we periodically pause to glass. I breathe deeply through my nose, hoping I might catch a whiff of an elk bedded nearby. If you've ever smelled one, you'll never forget its musky stench. I'm aware of every footstep, trying to make them as soft as possible while moving efficiently. I push branches out of my way before they can slide against my coat and listen intently, hearing nothing but wind and the rustle of leaves. Compared to any wild animal, I'm probably making a ruckus, but it's the sneakiest this human ever gets.

After a few hours of glassing from different vantage points, we decide to call it quits in this area and check another nearby drainage. We're skunked there, too. In the third drainage, we see a few mule deer and some tracks, but nothing fresh. The sun sits low by the time we head back towards the house. We pause on a neighbor's property to glass the hillsides one last time, hoping we'll see something worth returning to in the morning. We do: a veritable highway of tracks mar the hillside coming up from a sheltered creek bottom. We make plans to come back in the morning and return home after what was, all-in-all, a typical hunting day. Most hunters, most of the time, come up empty-handed. *They don't call it killing*, my dad likes to say.

Filling a tag is always the end goal, but few hunters would stick with this hobby if they didn't enjoy the process – that is: fruitlessly sneaking around the woods in a state of

hyperawareness. I personally couldn't care less about whether the hunt is a "success." I go because looking for animals is one of the only ways I can access a sense of total embodiment. Every one of my senses is alert out there, fully functioning. Hunting requires you to be wholly present. You notice that which your eye would typically gloss over. You trudge up hillsides you would usually never bother to ascend. For me, for many, hunting is an opportunity to use our every human faculty. It's a meditation in a world increasingly full of distractions that seem hell bent on pulling us out of our physical realities.

I specify *physical* realities because, as much as I would like to ignore them, digital realities exist, perhaps even dominate, in our culture. Nearly a third of the US population is on TikTok, averaging 80 minutes of use time per day. Two-thirds of US teens watch the app "almost constantly," according to a Pew Research Center survey from early 2022.ⁱ Another survey from Common Sense Media showed that overall screen use among teens grew by 17% in the past two years, landing at eight hours and 39 minutes for ages 13 to 18 in 2021.ⁱⁱ The potential harms of excessive screen time, and especially social media, are well-publicized and I won't spill more ink on them here. What concerns me is what happens when an entire generation learns to perceive the world through a screen, to share their personal experiences through photos and videos instead of feelings and felt sensations. What human parts of us atrophy when we retreat from our physical selves and embed in the metaverse?

The essays in this collection are not aimed at taking down social media; you won't read about TikTok again in these pages. But they are an effort to counteract the effects I witness in myself and others when I succumb to the all-consuming *image*, allowing my other senses to deteriorate as I become one giant, content-consuming eyeball. They are an attempt to re-enter

the body, re-enter the natural world, and embrace a hunter's mentality in everyday life as I try to capture the changes that I witness and feel within myself and the place I call home: the Paradise Valley of southwest Montana.

You might call them my personal vistas. As it's used today, *vista* usually refers to a sweeping and broad view, like the open hillsides we gazed that morning. But the original meaning of the word captured a narrower outlook, much like the perspective one gleans through a binocular lens, or what you'd see staring down a pathway hemmed in by tall trees. Its secondary meaning is akin to *outlook* – “an extensive mental view,” usually of the future. In other words, a vista, as it was originally understood, denotes the constricted vision of where you expect to be in the near future.

Given the pace of change – climatic and otherwise – it seems our vistas have grown hazy, granting only blurred glimpses into an uncertain future. The vistas I describe in these essays often harken backwards, as though I am standing in the middle of a tunnel, one eye looking back to a sense of self and place that feels obsolete, perhaps unattainable; one eye looking forward to a future that feels at once thrilling and under threat.

Some changes still feel normal, cyclic: the pulse of seasons, the rise and fall of rivers, the fuzzy coats that grow on once sleek horses in winter. Other changes are jarring, like the aftermath of natural disaster or the smooth plate of concrete foundation poured over forest floor. Still other changes – birth, death – manifest in natural and harrowing ways all at once. Week by week, my body morphs into new shapes as the child within me grows, alveoli blossoming in its lungs, the pads on its fingertips curving into distinctive prints. Meanwhile, across the country, my grandmother suffers her second stroke in the span of two months and

forgets me. Her tongue hangs heavy in her mouth. She learns to walk again while I learn novel words for the slow greeting of new life and the gradual goodbye of death. *That*, above all, is my effort here: to hunt down language to survive the present moment as fully embodied, fully human as I can be.

The essays in this collection are each distinct and meant to stand alone. They are not linked chronologically, though a reader will note certain themes and characters recur as I explore changes in the Paradise Valley, in my family, and within myself. The stories I recount are as true and as accurate as the nature of human memory allows.

We venture out the next morning to the glassing spot we visited the evening before. The wind is howling, so I'm relieved we don't have to get out of the truck yet. There's a good chance the herd that was here yesterday will return and bed down here today, out of the wind in the protection of the thick brush of the creek bottom. We glass. We sip coffee from our thermoses. We wait. Hunting is often an exercise in getting up early to do nothing but sit patiently and watch. The sun comes up over the mountains across the Yellowstone River and trickles down the hillsides, pouring over our truck and into the creek bottom. About a half hour later, the creek bottom starts to stir. The spit of land we've been staring at all morning seems to rise up and shake off the snow. At least fifty 500-lb animals appear as if from nowhere and start to climb out of the drainage. I watch them go and wonder what else my eyes miss in this world.

Valleys: On the Land and the Landed

I was 21 years old sitting at a round seminar table on Yale's campus when I realized I had become a chameleon. The class was called "Wilderness in the North American Imagination," a senior year elective I planned to coast through on my way to graduation. On the first day, the redheaded graduate student in charge led us out of the classroom and up a quiet, shaded street, pointing out trees in boulevards and weeds stuck in the pavement. After about an hour, she climbed on top of a flat rock where, as I remember it, she procured a taxidermy alpaca from her bag and boomed out a Robert Frost poem.

Some weeks later, I and the seven other students who hadn't been turned off by the dead alpaca sat around the seminar table with the day's readings spread out in front of us and the word "cowboy" sloppily chalked on the board. The readings covered cattle drives and brandings, rangeland and riding, waxing poetic in the style of American myth. The other students were animated, commenting on the text like it spoke of a way of life cast in black and white, as frozen in time as that stuffed alpaca's face. I was reserved. In my skinny jeans and boat shoes, 2,000 miles from home, all I could think about was my dad. At that very moment, he was probably in the saddle, wide-brim hat on his head, silk scarf tied round his neck, rope draped in a coil over his right thigh, checking up on cows somewhere on the side of a mountain. It was a Wednesday, I think.

I didn't bring him up in the seminar discussion. I can't tell you why I held my background at arm's length. All I can say is that mine was a disjointed existence; my upbringing felt tied only loosely to my present reality. I found that telling my classmates about the stock I came from

conjured up rodeo-western tropes that didn't feel genuine, especially from the context of Yale's manicured lawns and stone-rimmed bell towers. Even I found myself somewhat unbelievable, like incarnate cognitive dissonance. It was easier to be a chameleon, donning new colors and new shoes on the flights between Bozeman and LaGuardia. After four years of shifting, I'd mostly forgotten which colors were truly mine.

Nearly a decade later and back to my roots, it's now my days spent in seminar classrooms on Yale's campus that feel like a sort of dream, a version of myself that is more fiction than fact. Psychologists have a term for people like me, who tend to look back on their lives as though they're reading about a character from a novel. We're *dividers*.ⁱ Phases of our lives feel fragmented, like each chapter contains its own distinct and singular plot arc. We're constantly reacquainting ourselves with the hero of our own story.

The divisions of my life are bordered by geographical change. I realize now that, to a significant degree, I become where I am. Physical geographies tell their own stories, too, influencing and bending to the lives they host in a constant feedback loop. The history of any bit of land has its own dividers that reach back on geological time scales, flexing and changing by epochs within periods within eras within eons. The warm, shallow sea that North America was in the Paleozoic Era would not recognize herself in the Holocene, but the land bears the markings of its past: in fossil records, in the contours of mountain ranges, in the long-evolved expression of its creatures' genes. We and the Earth each are the culmination of what we have been and who and what formed us.

Now I stand on the precipice of a new chapter – motherhood: my body the land that buckles and bends to form the shape of a new being. I find myself, suddenly, compelled to tear

down the divisions in my life so that I might tell a cohesive story, like a unified narrative is paramount to my one-day child's ability to understand the context of their existence.

This is the story of one small part of the world, and one person among many who called it home, and a way of life that is perhaps as much a vestige of the North American imagination as my Yale classmates assumed.

Context

Beyond the gravel road that ends at my childhood home, through the mangy sage and cheat grass, and up a lichen-stippled rockface there is a flat stone where the boundary between heaven and earth splinters. My great-great-great grandmother would have called it a *thin place*, the Celtic term for where one can transcend human experience and glimpse the divine. From this stone, I can see the whole southern end of southwest Montana's Paradise Valley. The Yellowstone River cuts through its belly and the land swings up on either side to lap at the edges of the Absaroka and Gallatin Mountain ranges.

For thousands of years, Native Americans frequented the Paradise Valley. The Absaroka – “Children of the Large-Beaked Bird” – used the Valley as their summer hunting grounds and called the river by what they surely found there: Elk River. When French trappers arrived, they christened the river “Yellow Rock,” inspired by the semolina-colored sandstone bluffs that sporadically tower over its banks. In the first of many aggressions, the foreigners also misinterpreted the meaning of Absaroka and called the tribe the Crow People, though the “large-beaked bird” probably referred to the crow's craftier cousin, the raven.

The Lewis and Clark Expedition encountered the Crow in 1806 and translated the river's French name to English: Yellowstone. The remainder of the 19th century in Paradise Valley played out in a familiar pattern of systematic colonization. White settlers arrived in droves shortly after gold was discovered in Emigrant Gulch and the railroad linked its way to Livingston, the Valley's northern edge. The Crow established ties with the white fur trappers and settlers, creating an alliance that they hoped would insulate them from long-standing conflict with the neighboring Cheyenne and Sioux. They inked their first formal treaty with the US government in 1825, agreeing to acknowledge the absolute supremacy of the US government in their lands in exchange for federal protection from neighboring tribes. In 1851, the Crow, along with a host of other Plains tribes, signed a new treaty with the US government that allotted them 38.5 million acres of land and promised an annual payment of \$50,000 for 50 years. The Senate quickly reneged, shaving the payment tenure down to 10 years during the treaty's ratification process.

Over the next four decades, forced negotiations and financial pressure pushed the Crow to sell off nearly 30 million acres of their land. In 1887, Congress passed the General Allotment Act, which gave 160 acres of reservation land to the head of each tribal family and opened up the rest of the land to white settlement. In the wake of the Allotment Act, the Crow reservation was whittled down to the 2.2 million acres it is today, a fraction of their original territory and located just south of Billings, hundreds of miles from Paradise Valley.

Where the Crow and other tribes were driven out, white families settled. Around this time, one of the most storied inhabitants of the Valley erected a toll road in the southern end of the basin where the sweeping landscape narrows into a steep-walled canyon that bears his

name: Yankee Jim. Families from New York, Wyoming, Tennessee and elsewhere followed him to the creek drainage just north of the canyon, a bowl-shaped pocket of land called Tom Miner Basin where they established cattle ranches.

Yankee Jim erected his house and toll booth just a mile south of what would become my childhood home a hundred years later. He demanded a nickel for every person and head of livestock that passed through the canyon, the only route to the north entrance to Yellowstone Park. He operated a profitable business, even set up his own guest house, and milked the natural riches of Yellowstone Park until the railroad bought up his land rights and blazed through his road in the first few years of the 20th century.

And so the roots of what the Paradise Valley is today took hold, grounded in the legacy of Native American displacement, agrarian settlement, and the pioneers of profiteering. These, whether I like it or not, are my forebearers.

In 1983, the family that owned the majority of land near the bottom of Tom Miner Basin subdivided their ranch into lots of 20 acres each and began selling them off. A decade later, my parents purchased the last of those lots, a stretch of unimproved land on the banks of the river for \$48,000. I was six months old; my brother was two; my sister was four; and my mother's belly would swell with my younger sister within a year.

While they lived and wrangled on a luxury dude ranch in the next drainage over, my parents went to work creating the small ranch I grew up on. First, they dug a well. Then they laid the foundation of the house and of the barn. They hand cut massive round logs and chinked them together until the house stood tall. My mom, a teacher, sketched out the home's interior on lined graph paper and bought the cheapest versions of door handles and faucets she could

find, all of which still work just fine today. They built a windbreak around a round corral at the bottom of one field and made plans for a future riding arena at the base of a second field. The barn and shop went up a year after we moved in alongside two more corrals and a hayshed.

They bought the land with cash and paid for building materials as they could afford them. They traded favors for the services of the neighbor electrician, the neighbor who drove an excavator, and the neighbor plumber, none of whom live in the Valley anymore. When they ran out of money, they put their building plans on hold and my dad shod horses, trained horses, or guided hunting trips until they had enough funds to start again.

Rich, we were not, but I lived a childhood of abundance. I knew what every child instinctively knows, have they access to them: haysheds are naught but scratchy castles. In the nooks below the kissing bellies of round bales I would find litters of wild kittens and endear myself to them with sliced hot dog rounds. My sister and I would re-arrange the square bales like furniture and adorn the hollow spaces between them with garlands of red twine. As the sun set late in the summer, we would lie on our backs beneath the lip of the roof and squeal when the bats took flight, their zippy black bodies like lead pencil smears against the indigo sky.

It was here – between the sand-floored riding arena, the round corral, and the alfalfa fields – that the smell of horse shit, dust, and sweet hay first mingled in the back of my throat and became the scent of home.

But not just my home. A raft of animals both wild and broke filtered through season-by-season. A mother fox stayed for one illuminating summer. I sat cross-legged in the alfalfa field 100 yards away from her with my small binoculars trained on her den's entrance. In due time,

three furry orange heads with pert ears emerged. I wanted to, but I didn't creep closer. She had to think we were ignoring her, my dad told me. Only then would she feel welcome to stay.

Like most kids, I came to understand my place in the world by way of comparison. The neighborhood I grew up in was separated by miles of alfalfa fields and county road, but a neighborhood, we most certainly were. Our members included my siblings (3), the Coder boys (8), the Coogler girls (3), the Nickerson kids (2), and Matthew (the only child). In the summertime, our ranks swelled with the Eisen girls (3), the Orfalea boys (2), the Childress grandkids (2), and whatever friends they brought with them from Chicago, Santa Barbara, and Welcome, NC, respectively.

When the Coders moved away, the Orfaleas bought their home, a grand log cabin whose back porch bordered Tom Miner Creek. I watched transfixed when a wrecking ball rolled in and knocked the whole thing down. A construction crew followed on the wrecking ball's heels and built a new log home twice the size of the old one. They dug two ponds and built a fake rock waterfall in one of them, but the greatest improvement they bestowed upon the neighborhood came after construction was complete, when they rolled in a large, brand-spanking-new trampoline.

One day the following summer, I finished moving handline irrigation with my siblings, peeled off my wet clothes, pulled on a clean t-shirt and shorts over my swimsuit, and traded my rubber boots for flip flops. I walked a quarter mile down the old railroad, cut through a few acres of alfalfa, and crossed the downed log that delivered me to the Coders'-turned-Orfaleas'

back porch. I met Keenan, the Orfaea boy, and we jumped on the trampoline until our faces turned beet red and dripped with sweat.

Then we raced to the pond, stripping off shorts and tees and leaving them in the grass. Keenan, who grew up with a pool and the Pacific Ocean out his back door, climbed to the top of the waterfall and cannonballed in. I, who learned to swim on P.E. trips to the pool at the Best Western, waded in from the shore. Later we scooped handfuls of mud from the squishy bottom of the pond and smoothed it over our arms and legs. We sat in the sun until the mud dried, started to crack, and we could peel it off in large, satisfying chunks.

When I noticed the sun starting to head toward the horizon, I told Keenan I needed to get home to help with the evening irrigation move. I jumped back into the pond and held my breath underwater while I scrubbed away the caked mud from my arms and legs. When I resurfaced, Keenan was staring at me like he had something to say.

What's up? I asked.

I wondered why he looked over my head while he tried to find the words. *It's just... if your parents ever need help ... you know my parents could help them, right?*

I didn't know what to say. My dad could rope a steer from any horse he rode and, just the week prior, I had watched my mom balance atop a narrow beam in our kitchen to clean the skylights. It never occurred to me that they might be the kind of people who needed help. But I just nodded, shoved my feet into my flip flops, and raced home.

Over the next few years, I learned that there was a difference between the kids in the neighborhood who boarded the school bus to the nearby town of Gardiner in the fall and the kids who boarded planes that took them back to cities they called their *real* homes. But all of us

still belonged to the neighborhood. And I still felt like the richest kid in the Valley; I just realized we didn't have much money.

A few years after Keenan's parents renovated the Coders' place, they bought several thousand acres of land near the top of Tom Miner Basin, tucked between a ring of steep mountain cliffs and bordered by thousands of acres of national forest that butted up against the border of Yellowstone, most of it leased to them to graze. They hired my dad to run cattle and horses on the place and paid him more than he had ever earned guiding pack hunting trips. So they did help us, after all, by absorbing our family into the ecosystem of assistants, groundskeepers, and caretakers they supported: the economic biome of the modern day West.

I came to understand that this Valley is gilded, reflecting its shimmer on the people rooted here. In the soft light of morning and the shadow of sharp peaks, the fox finds her den, the wealthy find a second home, and the rest of us find a way to make a living.

Perspective

In 1902, the Northern Pacific Railroad finished laying track from Livingston through the Paradise Valley to Gardiner, an unincorporated community that hosts the north entrance to Yellowstone National Park and the school where I went to kindergarten through 12th grade.

Rail travel bolstered visitation to Yellowstone, aided along by advertising campaigns that likened visiting Yellowstone to falling down a rabbit hole and popping up in a Wonderland: crystalline lakes bordered by evergreens, erupting geysers, bubbling mud pots, roaring waterfalls, and grizzly bears that would eat out of the palm of your hand.

In 1903, a year after the last tracks were linked to connected Livingston and Gardiner, then-President Theodore Roosevelt visited the Park's north entrance to lay the cornerstone of his namesake arch in front of a crowd of thousands of people. Today, the town's population numbers a mere 879. Since 2013, three years after I graduated Gardiner High, the town's population has declined by nearly 19% and the proportion of residents under age 18 has dropped from 16% to less than 5%,ⁱⁱ crippling the school's budget to such a degree that it was forced to transition to four-day school weeks.

Retrodicting revenue from Montana's lodging use tax suggests that 5% of housing units in Gardiner were Airbnbs a decade ago. Today, that figure has grown to about 20%; one Airbnb for every five full-time households.ⁱⁱⁱ Within the roughly 40 miles that stretch between Gardiner and Emigrant, the next closest community, there are 143 listed Airbnbs and over 300 VRBOs. My parents' place lands equidistant between the two towns. Like many in the Valley, we're part of the problem: a guest house on my parents' property and my grandparents' old home a half-mile up the hill are both listed as nightly rentals.

It's easy money. Rentals in the area earn around \$5,000 per month.^{iv} Though teasing out Airbnbs' impact on macro trends like population and housing costs is a statistically acrobatic move, studies from elsewhere suggest they play a part in restricting the housing supply, driving up local rental and home prices, and pushing out long-term residents. The trend seems to be playing out in the Valley.

It's strange to see a new rental car every week in front of homes I used to know by the owners' last names. But stranger still are the homes that changed hands and now stand empty for most of the year. Data on the growth of out-of-state home buyers and second-home-

owners in the Paradise Valley is difficult to source reliably. The median household income in Montana (\$56,539 as of 2020) has not kept pace with the rising cost of homes, which supports the idea that buyers are coming from wealthier zip codes. According to Zillow, the typical home value in the area has more than doubled in the past decade – up from \$253K in 2012 to \$653K today in Gardiner. Zillow suggests that the land my parents bought for \$48K in 1992 would sell for \$1.87M today.

Every year seems to bring more development and fewer full-time residents to the Valley. Pockets are fuller, but the community is beginning to echo.

The families that remain in the Valley full-time are something akin to modern-day cowboys. In the American imagination, cowboys tend to be solitary figures, independent, capable, self-sufficient. Their bosses rarely make an appearance in the myths of the Wild West. But most of the original cowboys weren't free souls, making their own way on the open range; they were young men strapped for cash. They went where they were told, rounded up cattle that weren't theirs, and ranged on land that didn't belong to them. The lives of most modern-day cowboys look similar, unless you happen to luck into the right last name. Many work on large cattle operations, caretake for absentee landowners, or wrangle on guest ranches, adopting a role that's part authentic, part parody.

The guest ranches that pepper Paradise Valley today arrived in the wake of rail travel. As the industrial revolution painted a black smudge of coal exhaust across the eastern countryside, travelers yearned for reprieve from the smoot and smog that hung heavy over manufacturing cities. Dude ranches established themselves as hideaways where visitors from the eastern US

and Europe could come to reclaim some of the freedom sacrificed to industrial development.

“Dudes” at that time were not synonymous with city slickers who wouldn’t know a latigo from a lasso. In the early 1900s, they were more akin to former rough riders, accustomed to the saddle and likely to prove useful around the ranch.

As rail travel went out of fashion in lockstep with the rise of the automobile, travelers started staying in hotels, driving themselves through Yellowstone, and choosing to visit resorts instead of shack up on working ranches to experience the West firsthand. The dude ranches in the Paradise Valley grew out of this taste for luxury and became the kind of affluent playgrounds that they are today – ranch resorts that are booked out a year in advance for a week of guided trail rides and five-star meals.

Mountain Sky is one such getaway, a feather in the asset cap of Home Depot founder Arthur Blank. It was there, just 20 miles north of my childhood home, that my dad cut his teeth wrangling horses. My parents guided trail rides in the summer and stayed as caretakers and horse trainers through the winter while they built the home I grew up in. As a result, horses outnumbered the people in my life for some time. I certainly knew the horses better – which ones were sweet, which stubborn, which the bullies, which the bullied. The people were more transient: guests that turned over week-after-week when a new slew of vacationers bounced up the gravel road in decaled vans, fresh from the airport an hour away, clean boots and cowboy hats in tow. I would have never guessed, decades later, how much I would feel like one of them as I stepped off the plane from Yale, chameleon skin mid-shift. If you constantly change colors, who – really – are you?

I'm standing in the damp sand of the arena, sweating in my blue jeans, staring into the glossy black eyes of a mare that I realize, suddenly, is afraid of me. Her name is Francy. Thick white hairs streak her black mane and soft white lashes halo her eyes, which have been wide as skipping stones for the past fifteen minutes. Her ears stand straight up and point toward me. Her nostrils flare.

You're not directing her feet, my dad tells me. *She's trying to understand you, but you don't know what you're asking for.* We've been at this for most of the morning and his knees are sore, so he has pulled up a stool to sit on at the edge of the arena. It's surprising to me, lately, how tired he looks sometimes.

I nod. I know what I want to ask for; I just don't know how to tell Francy. With nothing but a halter in hand, I'm trying to do what sounds simple: get Francy to roll her front and hindquarters in a smooth circle, the basics of natural horsemanship groundwork. But with the clumsy way I'm going about it, I'm only succeeding in making both of us frustrated and putting a brace in her hind end. This, my dad reminds me, is a good way to get bucked off, if you're dumb enough to climb onto the saddle.

Try again. I know this means I have one more shot before he takes over. For men like my dad, a horse's wellbeing always comes before whatever skill the rider is trying to master, and I'm on the edge of causing Francy more harm than my edification is worth.

I lift my hands to raise the end of the halter and walk toward Francy's left jaw, hoping the energy in my body is aligned with the movements of my hands and feet and will compel her to cross her left front foot over her right and glide to the side. Instead, she lifts her head

straight up in the air with a manic look in her eyes, flitting her chin left and right, trying to figure out what she needs to do to get away from me. I pull down on the rope. Wrong move.

Don't pull, never pull! Push rope! Push rope! My dad calls, already striding toward us. *Offer her a good deal and be clear about it.* I hand him the lead rope before he has a chance to ask for it.

He holds it loosely in the palm of his hand, a yawning U in the rope filling the space between him and Francy. In one fluid motion, he lifts one hand and she tilts her nose to the left. With a single step and – *there it is* – the push of rope, she flows to the side, left foot over right, and moves out into an easy circle.

There's the front end. Now I'll ask for the hind end, he says, and picks up the rope in a gentle arc. Francy turns her head toward the center of the circle. He moves towards her back feet with the *energy and feel and timing* he's always harping on about that I can't seem to grasp. Francy gets it. She bends toward the center and steps one back leg over the other. *Now the front end again,* my dad says, and the two of them move out in a sort of coordinated dance, Francy's front leg crossing over the other as they switch directions around the circle. Her jaw relaxes. Her eyes soften. She starts to lick her lips and work her mouth – signs of contentment.

Now she knows my feel. She knows what I'm asking for, he says. *And if I can direct her feet from down here, she knows I'll treat her fairly from the saddle.*

They call it breaking: the process of training a horse to follow a lead rope, accept a saddle, sense a rider's feel. For the natural horseman, it's a near spiritual experience, a kind of telepathic communion with the horse. The term could apply equally well to what happens to the human in the process. If done right, the rider is trained as much the animal, broken down

and humbled. They learn to read their horse, to know where its feet are, and to direct its feet with fairness and precision. All the while, the horse is just trying to survive. It's a prey animal. Deep in its genes, every horse balks at the feeling of something thrown over its back, reminiscent as it is of a predator leaping onto its shoulders and clamping its jaws onto its neck. The fact that a horse will let you throw a saddle on its back and swing on top is nothing short of a miracle. Someone, at some point, spent hours convincing that horse a rider wasn't trying to kill it. Breaking a horse is the slow process of earning a horse's trust. Do that, my dad likes to say, and they'll give you the world.

She's sensitive, my dad continues. All horses are. She can feel every micro movement of this rope. She can feel a fly land on her belly. A lot of people don't think about that.

I know that by "a lot of people" he means me, back from out-of-state cities he doesn't care to locate on a map and distracting desk jobs, trying to fast-track the knowledge he gained over a lifetime of practice. We both know I'm trying to make up for lost time. Neither of us wants to acknowledge it might be too late.

He picks up the rope once more and rolls Francy's hind end. Then he stops and lets his hands fall to his side. Francy stops, too, and looks at him head on, ears alert, earnest and unafraid, as if to say, *What next?*

He puts the halter back in my hand and gives me a sideways grin and a wink. *Try again, bud. Maybe you'll get this figured out before I die.* I try to return his smile as he heads back to his stool.

Prospects

One reading of American history might play out like an inverted triangle of land acquisition: throughout time, control of land has passed from the many to the increasingly few. The traditions of Native Americans are well known; land was not owned, but shared in and amongst tribes, with each customarily enjoying specific rights to the lands they frequented. Some tribes hunted in particular valleys while others fished its creeks and rivers. The General Allotment Act, mentioned earlier, was the nail in the coffin that the colonists built to privatize western land. In less than fifty years, some 150 million acres of the Native American land base, primarily the most productive acreage, was transferred to white settlers.^v That land encompassed three quarters of the area that Native Americans enjoyed prior to the act's passage in 1887. Land that had been used by millions was now parceled out to nuclear family units.

What is perhaps less well known is that the pilgrims who beget the settlers of the West were once familiar with a common sense of land ownership. Communal land was commonplace in the English countryside from where the pilgrims emigrated. In her essay "Theft of the Commons," Eula Biss writes that, although villagers did not own the land, they retained rights to use it: "... rights of pannage, of turbary, of estovers, and of piscary—rights to run their pigs in the woods, to cut peat for fuel, to gather wood from the forests, and to fish" – in short, rights to subsistence. The consequences of enclosure, a series of laws that privatized common land in England, rendered the practice of living off the land a crime. The passengers on the Mayflower were economic migrants, born of the enclosure movement. They set foot on America with the

plan to work communally and share the profits of their lands for the first seven years of settlement.^{vi} Of course, that plan didn't pan out.

Instead, all of America was settled, parceled out, sold and resold over the course of a few centuries. In the more recent past, government agreements like the North American Free Trade Agreement (NAFTA) further consolidated land by creating the economic incentives for agro-capitalists to scoop up the land of small-scale farmers and, with the help of industrial-scale machinery, pesticides, and genetically-modified seed innovations of the Green Revolution, grow an unprecedented amount of grain at scale. Within a few years of NAFTA going into effect, over 4.7 million farming families in Mexico and the US lost their land; just a couple of hundred thousand Iowa farmers could now grow twice as much corn as three million small-scale farmers.^{vii}

Today, the industrial agriculture revolution is complete, every corner of the US map has been scribbled in, and the only remaining land resembling "commons" are national parks and land held by central or local governments for managed, recreational enjoyment – a form of consumption that holds little similarities to the productive commons of the past. We are nearing the top of the pyramid where the dirt of this country will belong to only the most elite slice of society. Increasingly, the modern-day landgrab is a conquest commanded by investment banks and billionaire wealth managers. In 2021, investors bought 24% of all single-family homes, up more than 10 percentage points over the average of the past decade.^{viii} In the West, land acquisition has taken on a privileged persona. Brokerages specializing in luxury, western ranch properties reported record sales in 2021 that have bled into 2022.^{ix} The nation's 100

largest landowners now own over 42.2 million acres, nearly the size of the state of the Washington.

There's yet another path to land consolidation: abdication. In the Paradise Valley, as elsewhere, small-scale farmers and ranchers like my dad are getting older, fewer of their children see a future for themselves on the ranch, and the temptation to subdivide and sell to developers is ever-present. Climate change isn't building any confidence in we-the-next-generation's ability to carve out a future for ourselves on the landscape.

In the summer of 2021, Montana experienced the worst drought it had seen in at least 20 years. In the same year, at my parents' place, as on countless other ranches in the state, thousands of grasshoppers descended and then multiplied, growing their numbers into the worst grasshopper outbreak the state had seen in 35 years. Walking through the fields felt like getting flicked by a hundred fingers at once. Grasshoppers would erupt with every step, billowing up from the ground and jumping stupidly into your arms, chest, and face.

They ate methodically, their tiny mandibles chomping the alfalfa down to the base, leaving a strange chalky dirt color in their wake where there should have been thick green grass and purple flower buds.

My dad watched helplessly from the kitchen window as the grasshoppers decimated his fields. A reformed regenerative rancher, he couldn't spray the fields with chemical controls, knowing what the poisons would do to the birds who would eat the dead bugs. Eventually, he tracked down a biocontrol product in Canada, a granule small enough for a grasshopper to eat and so sweet the sugars gave them alcohol poisoning. The carnage ended, but not in time to squeeze more than one thin cut of hay from the fields.

The onslaught of natural and seemingly malevolent forces has a vacuum effect on hope. The land, it seems, is against us, or at least indifferent to us. It feels easier to – just – do something else.

When one strikes out to a new place, what is it they seek? New opportunities? A fresh start? Gateway to an existence that more closely mirrors the person they feel they truly are? Freedom of movement is a fundamental right, upheld by the Supreme Court, and I cannot prescribe to a mentality that would seek to close the proverbial doors and stop the western land grab. We all came from *not here*, if you look back far enough. We cannot help it: we leave marks that forever change the valleys we inhabit. Where one person finds new meaning, another mourns the changes of the home they once knew.

To move freely is a luxury. To move freely *between* places, even more so. These days, grabbing a slice of the West doesn't mean you have to give up your apartment in Manhattan or San Francisco. It's a trapping of the new elite – the ability to call two places "home." The modern-day land grab that is re-shaping the land of the West could fit into an extension of economist Thorstein Veblen's *Theory of the Leisure Class*. Published in 1899, his theory put forth the idea that consumption is as much a signaling mechanism as it is a desire. It shows those around you that you have the means to live a life of luxury. But in the late 19th century, opportunities for consumption were limited, so the upper class came up with new ways to signal their wealth, primarily by leading lives of leisure. They became very good at sports, honed their manners excessively, lounged like it was their job. This leisure extended to classes vicarious to the elites, the sphere of people who the wealth-holders influenced and supported.

Servants were dressed up in expensive clothes, for example, or asked to spend their time on pointless tasks. At the same time, costliness became a charade for beauty. If a good was rare, expensive, or exclusive, it automatically became an object of desire.

Land ownership in the West today has become one such object of desire – expensive and tantalizingly limited. With their purchase, wealthy elites create a vicarious leisure class of the locals – aka, my people: property managers, entertainers, hosts, tour guides, all of whom surround and feed off of the landowner. We're culpable in feeding into the industry that creates the veneer of a western paradise, one in which anyone who comes here can reinvent themselves, find new meaning, perhaps even become a different person. Writing for *Town & Country*, Antonia Hitchens calls the movement West a “wholesome quest for purity ... The experience of primordial America offers salvation from, and alleviates, the existential burden of the overdeveloped world just outside the gate.” People with the means to do so use nature and the human ecosystem of support they command as a vehicle for personal transformation, “creating versions of themselves that they view as more authentic, virtuous, and community-minded.”

In this sense, the desire to move West is synonymous with a desire to go back in time, to a myth of the past that was somehow more contained and disciplined: a virtuous, settled time where the trappings of the modern world did not corrupt and disgust. There's a sense of nostalgia inherent in rural life – an unharried, grounded mode of existence, rich with tradition and meaning. Nostalgia was once considered a disorder. Feeble minds fell victim to its particular form of homesickness, pining for the past and familiarity. Nowadays, psychologists

consider nostalgia a coping mechanism – a way of drawing solace from the past in an uncertain present.^x It's a sign of one's deficit in belongingness in the present.

Nostalgia also sells. It sells land and Yellowstone t-shirts and trips to exclusive guest ranches and cowboy boots that will be worn one week per year. It kept my family afloat during my childhood and now, I admit, I suffer from it terribly.

In July of last summer, I found myself sitting on the cold metal bleachers of the Livingston Rodeo grounds as the Professional Bull Riding Rodeo was about to kick off. The rodeo clown, a veteran of his craft, joked about the hellish drive between Livingston and Big Timber and how Three Forks is the only town in American where you can get a lap dance with a giant cinnamon roll on the side. I laughed at the jokes with only a fraction of the crowd. It was peak tourist season in Livingston and much of the audience had never been to those small towns.

As I looked around the bleachers, people-watching to pass the time, I saw the usual: teenagers in short jean shorts and tank tops, cowboys with their lips full of chew, young couples passing their curious baby back and forth, and the folks who had clearly bought a cowboy hat just for the occasion. But I also kept seeing a certain logo pop up on hats and t-shirts – one I didn't recognize.

"What is Dutton Ranch?" I asked my friend.

"You don't watch *Yellowstone*, do you?" she replied, referencing the popular neo-western drama. "It's the ranch on the show. I guess they make t-shirts now."

A few hours later, the sun was setting over Livingston Peak, casting the Valley in a purple hue. It was a classic Montana July night, slightly cool, the low horizon pale blue and clear, the stars just starting to reveal themselves. Maybe I was tired, or maybe I'm just getting older, but as the fireworks started and the crowd stood, I couldn't help but feel like some of us had become part of the performance.

This place never belonged to me. But when my parents pass away, a stack of legal papers will declare that, in part, it does. Thing is, neither I nor my siblings know what the hell we're going to do with it.

The fact is that, without the Airbnb income, keeping the lights on, the pumps running, and the animals fed is a losing enterprise. Twenty acres is not a large enough area to pry a living from Montana soil. We would have to buy hay and hire help; none of us learned our dad's trade well enough to replicate it. Meanwhile, my husband and I live an hour away in Bozeman because we like having friends our own age and the prospect of sending our children to a school that isn't on the verge of collapse, even if it means abiding the new elite who have earned the town its nickname, Bozeangeles. Maybe, honestly, we also fear we aren't tough enough to make things work out there.

Giving up this place feels like a betrayal, like tossing away what my parents worked so hard to build and risking the land to the cold, steady press of the future unknown. To keep it would mean to lean into an industry that is slowly turning the Valley from a community into a resort town. Either option tastes bitter. Besides, there are homes here that are not mine to sacrifice.

In the early spring of this year, I drove to my parents' property and walked along the old rail line. I passed by a herd of elk, one spike among them, that were headed toward the soft new shoots of grass in my parents' alfalfa fields. Across the river, I watched four big horn sheep climb the bank beside the highway. One of the rams stared at me with a lopsided expression, the tip of his left horn broomed off into a scraggly callous. A pair of bald eagles twirled in flight above them. On my way back to the house, I dipped down to the river's edge and scanned for the beaver my dad told me he has been photographing lately.

Maybe this place has become too thin to hold the weight of all that we ask it to carry – the wild, the press of human development, the pillars of ecotourism and agricultural industries alike. For the sake of the wildlife, I hope that the whole Valley gets scooped up by uber-wealthy owners who only visit twice per year and set up conservation easements on their land. For the sake of the community, I hope the housing market collapses and brings working families back to the Valley. For myself, I hope that the great-great-great grandkits of the mother fox I watched in my youth returns here someday and finds it a welcome place to rest, raise her young, and ignite wonder in the mind of my child who, impossibly, might imagine a future for themselves here.

Drifts: On Absurdity

I've been looking for peanut butter for months, but the valuations are through the roof. I have savings, sure. And, yep, I have a good job. But the inventory's low, low, low and the prices are sky high. There's been a run on it. Makes a good investment, given its long shelf life. Everyone who can afford to has peanut butter portfolios. Flipping peanut butter is a lucrative business, turning crunchy creamy and creamy crunchy and adding hints of honey. Makes me think I'll be paying to scoop out of other peoples' peanut butter jars for the rest of my life.

The government is trying to do something about it, but I think they've got it all backwards. They think it's a supply issue – and *that* they can solve. We're growing more peanuts than ever, they say! They're knocking down housing developments and digging up concrete to make space for more peanut plant roots in the ground so peanut butter ownership can be a possibility for all of us. Three-quarters of Georgia and most of Texas have been repaved with dirt and nearly everyone is either growing peanuts or blanching peanuts or grinding peanuts or salting, oiling, or jarring peanuts for a living. Peanut butter concocting is a booming field. Everyone and their brother, it seems, is selling peanut butter on the side.

But as soon as all that fresh peanut butter hits the shelves, it's scooped right up. And a whole lot of it isn't even spread on bread. It's just sitting on pantry shelves, accumulating value, package seals never to be broken. I hear peanut butter agents are peddling peanut butter in the West over the phone, sight-unseen. So it's not a supply issue like they say. Runaway demand is to blame: sheer speculation on a newfound commodity. And *that* is something the government has no interest in solving – not while peanut butter dividends promise such jiffy returns.

Meanwhile, people are going peanut butter-less in the streets and our sandwiches are starting to feel hollowed out, pieces of bread held together with naught but a sad schmeer of jelly. For now, I guess we're all stuck living off our parents' jars, the goods they bought back before the boom. Thank goodness no one needs peanut butter to survive.

Horizons: On New Beginnings

Just past the put-in of the Henry's Fork of the Snake, the sky claps a beat of thunder and rain begins to pop holes into the river, its surface obsidian beneath the overcast sky and the short, black canyon walls. In a dry top and helmet, I don't feel the rain unless I look straight up. It is cold on my cheeks, refreshing in the late August heat. I tuck forward and roll my kayak upside-down where the water feels tepid and inviting. I tuck forward, reach my paddle to the surface, and concentrate on keeping my head down as I snap my hips to peel my torso out of the water. When I roll to the surface, I see the swirled purple and orange bottom of Zoe's boat as she takes her own dip; part warm-up, part baptism for a whitewater kayaker.

Our party is six and multi-colored. Brave bees from the river bank venture to investigate us – or what they think might be monstrous flowers in a rainbow array of kayaks and dry tops. We turn a corner in the canyon and spook a black bear from its post beneath a stand of chokecherry trees. The bear scampers up the steep river bank about 30 yards and then turns its face to ponder us. It's small, a juvenile. I think this may be its first season without its mother. The rain stops by the time we eddy out on the opposite bank to scout the first set of rapids.

From my vantage point atop the canyon ledge, I see two short drops that jettison water into an undercut rock wall before peeling out into a lazy pool. The pool gives way to a series of rapids ending in a 12-foot drop that looks like the lick of a green tongue limned in froth.

"You'll wanna lean hard left going into that," Wyatt notes, pointing at the drop. "See that rip curl wave? That's going to want to flip you." I study the line I plan to take: left around a large, pointed rock, paddle hard through the swirly hole, ferry right ahead of the drop, then hit it straight on with a powerful boof stroke.

We clamber back into our boats and pull on our spray skirts. From river level, I can't see the line I've planned. All I see is grey, grey sky beyond the horizon of the first short drop. I watch as five helmeted heads in front of me bob below the horizon's lip. I try to steady my breathing. The first drop comes fast and I stall for a moment in its hole. I lean forward and paddle hard, then ferry quickly right. Before I'm fully aware of it, I am halfway down the green tongue and plunging into roily, foaming whitewater. I did not lean left hard enough and the wave flips me over. It's quiet, almost peaceful upside-down, but I'd prefer if my face wasn't the closest thing to the rocks I know I'm headed towards. I reach through the foam with my paddle and find purchase on the water's surface and then I am up and bounding through the run out. I hear a *whoop!* from somewhere downriver and echo it.

We continue wending through the canyon, paddling boogie water. I follow Sam around a bend in the river and pull up short as he peels aggressively right. "Moose!" he yells, his voice tinged with some angst that the black bear didn't warrant. We gather in an eddy as far from the moose as possible. It's not as far as we would like. Her long legs are staked in the center of the river, the water lapping at her belly. She dunks her head into the water and pulls up mouthfuls of aquatic grasses. Each time, the water peels off her ears in rivulets and she stares at us while she slowly chews. I worry at whether she has a calf nearby. A mama moose can rear and stomp with enough force to stay a charging grizzly. We'd make for easy targets. I breathe a sigh of relief when she wanders river right and we take the opportunity to hug the left bank and paddle past her.

The overcast sky is fading to dusk by the time we reach the take-out. Missing it would mean launching off Upper Mesa Falls, a 114-ft drop to a certain death. Formed by an ancient

volcanic eruption, Upper and Lower Mesa Falls are the only remaining waterfalls on the Snake River that haven't been influenced by man. I can see mist rising above the horizon line of Upper Mesa, spooky against the backdrop of a tall canyon wall cloaked in moss. Ten stories high and 200 ft wide, the wall's birth, some 1.3 million years ago, must have been violent. Superheated volcanic ash called tuff and molten granite fused together in the eruption and formed the sheer, erosion-resistant cliff above which I step out of my boat. For hundreds of thousands of years, the canyon slowly matured as the river punched through the rock walls. I hoist my boat onto my shoulder, pick up by paddle with my free hand, and walk the paved visitor's path to the parking lot.

At five weeks old, my baby was as big as an apple seed that day, and still felt more like an idea than a physical reality. Had my partner and I not been trying, and had I not taken two pregnancy tests, I wouldn't have known that new life was budding within me, tucked safely behind my pelvic bone and, blessedly, symptom-free at that point.

Doctors counsel against sharing news of one's pregnancy until after the first trimester when risk of miscarriage plateaus to a minimum. I didn't want to share regardless. I was still adjusting – to the promise of imminent change, to a sense of wildness penetrating my being, to the pull of a current cut through millennia of evolution that unites man with bear and moose and mammal. We load the boats as dusk turned to dark. Somewhere between Idaho and Montana, my friends drift off to sleep and I embrace the silence as I drive. The car's headlights cut a thin yellow horizon line in the dark, and I – we – barrel towards it.

Borders: On Becoming an Ecosystem

Two Pink Lines

I felt no different. But I wasn't sure what I was *supposed* to feel and, besides, I'd already bought the test – three of them, in my zealotry. I had no intention of waiting for the potential new nature of my body to reveal itself. I wanted to know as soon as hormonally possible if a not-yet-human was spiking the human chorionic gonadotropin (hCG) in my system. So I peed on a stick, sat on the edge of the tub, and waited a grueling three minutes for the results. I re-read the box for the fifteenth time: it touted greater than 99% accuracy on the day of your missed period. I checked my ovulation app for the fifteenth time: that day was today. I tried to steel my mind against the possibility of a negative result, knowing we could try and try again. But I willed and wished for two pink lines to appear, simultaneously eager and terrified to be a mother, but knowing that it was what I wanted, what I chose, body willing.

Positive.

I took a second test just to be sure, trying to wrap my mind around this permanent rearrangement of my life. Then I made a phone call. It wasn't to my husband, or my mom, or any friend. I called my doctor's office, guessing that they'd be booked out for at least a month, and set up my first prenatal appointment. In just five minutes, I had established myself as the consummate 21st century medicalized care consumer than I am: I implored a scientific test to inform me of what I could not yet sense and then arranged for additional tests to guide me through a natural process that, for the most part, my body would handle without my cognizant input.

Until the relatively recent past, no woman in my position would have known with greater than 99% certainty that she had conceived. At-home pregnancy tests first showed up on drug store shelves in 1978, but they took two hours and involved nine steps, multiple vials, and an assortment of compounds, the red blood cells of sheep strangely among them.ⁱ Before then, women waited. They looked within, to the bodily sensations that went along with a cessation of “monthlies.” In pre-modern times, before pregnancy became the medicalized phenomenon it is today, the mother-to-be announced her pregnancy after she felt the first movements of the fetus in her womb – the “quickenings” – which usually occurs sometime between weeks 16 and 24. It never even occurred to me that I would be the one to affirmatively declare my own state of pregnancy. Everyone I know has their pregnancies revealed to them by someone or something outside of themselves.

In the context of all of human existence, this is new – and remarkable. Some would call it progress: where once the womb was shrouded in mystery, it has now been unveiled, brought into the light. Historian Barbara Duden would call it a form of “disembodiment:” the transformation of what was once a somatic, private experience into a public affair, mediated and controlled by doctors and those capable of co-opting scientific progress for their own aims.ⁱⁱ I call it the norm. A predictable series of appointments, adjusted for maternal risk, are how one “does” pregnancy in my world of middle-class America.

By most metrics, I would be a fool to trade places with a pregnant woman born centuries ago. Maternal and infant mortality rates have plummeted since the medicalization of pregnancy, especially since advances in prenatal imaging have become routine. But as I’ve lived through the early phases of my pregnancy, I’ve come to realize that a woman born centuries

ago had something I don't, something that the politicization of prenatal care, particularly the images it creates, slowly stripped away from women over the course of history. Where once woman and womb were indistinguishable, the imagery of today's pregnancies allows us – and others – to see separate entities. The fetus has become a budding life; the mother the ecosystem that exists to support it. In becoming an ecosystem, I realized, some part of me ceased to be human.

The Last Frontier

Writing for the *New Yorker*, Jia Tolentino quotes scholar Katie Gentile, who argues that the fetus functions as a “site of projected and displaced anxieties,” a “fantasy of wholeness in the face of overwhelming anxiety and an inability to have faith in a progressive, better future.” Gentile’s words could have easily described the role of the American frontier in the 19th century, what acclaimed historian Greg Grandin has called “a safety valve.”ⁱⁱⁱ When discontent grew in the early days of the Republic – fueled by low wages, poor working conditions, and the blackened skies and gouged earth left in the wake of the Industrial Revolution – Americans did not turn inward and think critically about how to solve racial and class inequality. Rather, we turned toward the frontier, toward “free” land, and the promise of renewal by way of expansion. Frederick Jackson Turner, who presented his “Frontier Thesis” at the Chicago World Fair in 1893, called the frontier “a magic fountain of youth in which America continually bathed and was rejuvenated.” The fact that the fount he described was carved through Native American homeland and spouted with bloodshed fueling a legacy of suppression that persists today was conveniently glossed over.

We have long since reached the end of the American frontier, having settled, mapped, catalogued, and extracted from sea to shining sea. That fountain of youth has dried up; the safety valve no longer functions. Has the fetus, then, become the new frontier? Is a woman's body the last border that must be breached to take control of a future that, otherwise, has become entirely uncertain? As Mother Earth hints at collapse with increasingly frequent and violent natural disasters, is the womb the last functioning ecosystem we have left?

One could argue that the Supreme Court, grounded in the morals of the religious right, believes so. I became pregnant a month after the *Dobbs v. Jackson* decision overturned the constitutional right to abortion. In studying the decision, I came to understand certain nuances that had alluded me during a lifetime of blithely enjoying the idea that, should I need one, I could seek and legally obtain an abortion. But it was not abortion itself that *Roe v. Wade* protected, but rather privacy; and it was not to *women* that *Roe* granted the right to decide to abort a pregnancy, but rather, it gave that right to physicians. The majority opinion, written by Justice Harry Blackmun, calls abortion "inherently, and primarily, a medical decision." A woman's right to abortion was not absolute – *that* idea, that women might actually be able to choose for themselves, was deemed "unpersuasive" and rejected outright in *Roe*. Women have never had the right to determine their own reproductive lives, at least not since pregnancy became medically understood and politically mediated.

So even as I celebrated my pregnancy, I found myself angry. While I spent weeks feeling like my body was under attack in the throes of early pregnancy, my outrage at the *Dobbs* decision grew claws and teeth it didn't have before. In becoming pregnant, I transformed from a singular being into an ecosystem in service of a *not-yet*. My role as a biological host rendered

me a resource; the developing fetus within me the object of potential extraction. Had the choice to become a mother not been mine, I very well may have imploded.

How did we get here? Legal scholars and historians can plot the course of judicial progression more accurately and succinctly than I ever could. All I can offer is my own felt experiences, and the findings borne out of my own curiosity. I discovered that women did not always wait for medicine to guide their pregnancy journeys, as I did. The image of the fetus did not always command such attention; indeed, for much of human history, we were blind to it. And, maybe, if we can shed the word *life* from such imagery, we as pregnant women stand a shot at regaining the humanity we sacrifice in service of bringing new life into the world.

A Forgotten Sense of the Body

The kind voice on the other end of the line in the doctor's office scheduled me for my first office visit and viability ultrasound in the middle of my eighth week of pregnancy. In the meantime, I was prepared to believe I was pregnant, to place faith in the test result, even to hope for viability, but I would not consider it a fact – not truly – until a medical professional told me it was so. Soon, it became obvious to me that *something* had most certainly changed. The asymptomatic portion of my pregnancy did not last for long, as most women's do not. I found that growing a child turned me into one. I whined at night when cramps gripped my entire abdomen and twisted it like mean hands wringing a wet towel. I became a hopelessly picky eater. Even when I managed full meals, I had to make sure each food item was carefully separated from the others, like a toddler who will threaten a tantrum if her peas and potatoes venture too close together. I demanded at least one nap every day and became irritable if I

missed it. My body fatigued so quickly it was like a three-year-old's muscles were trying to haul around my 30-year-old frame.

I took comfort in the data from pregnancy websites that told me such symptoms are a good sign; they indicate the hormones are firing at full capacity and the embryo's development, likely, is proceeding normally. What pregnancy websites don't tell you is how violently this process plays out in the woman's body. Early embryonic development, on a gene level, looks nearly identical to the proliferation of cancer cells. They are ravenous. The evolutionary biologist Suzanna Sadedin writes of what happened when scientists tried to gestate mice outside the womb, curious if the embryos would survive in the brain, testis, or eye. What they observed was described as a rampage: the placental cells tore through surrounding tissues and consumed every nutrient in their path, heedless of their host. "Pregnancy," Sadedin writes, "is a lot more like war than we care to admit."^{iv} And *human* pregnancy is the most vicious of all.

Unlike most mammals, a woman's blood supply is not separated from the fetus during gestation. Instead, placental cells invade the body of the mother, puncture her arteries, paralyze the vessels, and pump them up to ten times their size so they can capture and deliver large amounts of maternal blood, rich with oxygen and nutrients, to the fetus. The fetus uses hormones as ammunition, slinging out cortisol like grenades. The cortisol suppresses the mother's immune system and increases her blood pressure, simultaneously ensuring the mother's system can't attack the fetus and pumping even more nutrient-rich blood away from the mother and to the placenta.

The fetus has direct access to maternal nutrients, but the mother's body cannot access fetal circulation. She can only defensively attempt to regulate her own hormones in response to

the fetus's assault. The pregnant body knows to pre-emptively reduce its blood sugar levels in anticipation of the hormonal onslaught. In response, the fetus doubles down on hormone production, trying to raise blood sugar levels well above normal. The result is a hormonal arms race: the fetus pumps out chemical signals and the mother matches them in an effort to keep her adversary in check. For most pregnancies, the battle ends in a productive stalemate: the fetus grows into a healthy, deliverable child, and the mother doesn't die in the process. But the war also claims its casualties: about 15% of women suffer life-threatening complications during pregnancy, and about 810 women worldwide die from pregnancy-related causes every day.^v Even for healthy pregnancies, the mother's experience is brutal: months of nausea, intense fatigue, headaches, bloating – and that's all well before the dangers of labor and delivery present themselves.

It was in these weeks that I first realized I had no language to capture the upheaval roiling under my skin – at least, none that felt sufficient. I was unrehearsed, not only at pausing for long enough to feel the sensations of my own body, but also at putting those sensations into words. I practiced. In the mornings, I would lie in bed and try to experience my flesh in a slow, curious way. I rounded, hardly perceptibly in the mirror, but I felt it within: an insistent curving. The sensations of my stomach – full, unsettled, wavery – were a constant companion. The space between my eyes pulsed red and hot most nights. My calves tingled, restless. When I felt grey and heavy, I noticed. When lightness emerged and strength reinvigorated my limbs, even momentarily, I noticed. It felt like groping through the dark, trying to name the somatic changes, to put words to the sensations that billowed beyond my sight.

For centuries, in the absence of the tools that would allow us to look inside our own skin, it was women's own accounts of their bodily experience that formed the corpus of knowledge surrounding gestation. Women were acutely tuned into the corporal sensations of what was happening to them during pregnancy. When they went to the doctor, he (for it was always a man) would listen as she described her condition, using words like "ebbing," "flowing," "curdling," and "hardening" – terms that have lost all modern meaning as we've separated ourselves from *felt* senses and embraced the almighty doctrine of seeing as believing.^{vi} As imagery came to dominate our culture, not only in perinatal medicine, but in entertainment, communication, and politics, perhaps our other senses atrophied. Our imaginations are malnourished, feeding only on that which we can see. When I close my eyes and try to imagine the life-altering changes happening inside my body, the only images I conjure up are the ones that have been given to me: the diagram of a uterus in my doctor's office, the floating digitized fetus that grows every week on the app on my phone, and the fruits that the app uses to spoon-feed my brain a sense of its size.

It seems benign, this fount of images, even helpful and fun (*your baby is the size of an avocado!*). But in the wake of the Dobbs decision, it's clear such imagery has also served another purpose. What unveiling the womb brought to light was a mascot in miniature, ready-made to symbolize the pro-life movement's efforts to do away with women's bodily autonomy. Where once our bodies were allied with the life they're capable of creating – indistinguishable, integrated, semantically unified – fetal imagery co-opted by our current culture has rendered us subservient to the contents of our wombs, hostages to our own biology.

Unveiling the Womb

For most of human history, the womb was a black box. Thinkers ascribed an imaginative set of metaphors to understand what goes on in there. Parts of the Hippocrates Corpus, written in Ancient Greece, address gynecological issues, comparing the womb to an oven. Male and female seeds mix and result in a dough, which grows warm and “first creates a skin, then a crust.” Later, in the fourth century and what has been called the historical beginnings of Western medicine, Aristotle came up with the “cheese analogy;” the womb was imagined as a two-handed vessel in which menstrual blood would curdle when mixed with a male’s “rennet like” seed, providing “vital heat” for “the more solid parts to come together” and “the liquid to be separated off from it.”^{vii} Leonardo da Vinci is widely credited with generating the first accurate depiction of a fetus inside a womb, guided by his study of plant seeds, animal uteri, and the dissection of a human womb. In 16th century drawings, he captures the umbilical cord, vasculature, and the placenta (though, to be fair, the placenta was based on a cow dissection).^{viii} He draws a fetus inside the uterus, correctly rendered as one chamber instead of two (for this is how theorists at the time imagined twins would be carried). The fetus is positioned accurately, but the form itself is merely a fully developed child stuck inside a womb; in fact, all early renderings of fetuses are just progressively miniaturized fully-formed babies. The stages of development, especially the early phases, remained mysterious.

Fast forward to the 20th century when my grandmother, who is in her 80s now, was x-rayed during her pregnancies, and my mother, in her 60s, was part of the first generation of women for whom ultrasounds during pregnancy became routine. Swedish photographer Lennart Nilsson used early ultrasound technology to capture the first widely circulated images

of a fetus.^{ix} The partially formed child, “Fetus at 18 weeks,” landed on the front cover of Life Magazine in April 1965, floating in a translucent sac, eyes closed, hands clutched to its chest. The issue sold out faster than any other in the history of Life Magazine. None of the photo’s captions acknowledged that, with the exception of one image, every fetus was photographed outside of the uterus, after a miscarriage or a terminated pregnancy. Nilsson had not really captured *life*, but a cessation in its development.

Since then, scientific progress has fully peeled back the skin and each and every stage of embryonic and fetal development has its attendant images. Now, in the halls of modern medicine, I find myself on the day of my first ultrasound appointment reclining in a hospital chair, draped in a sheet from the waist down, explaining to the doctor how I feel in words that seem altogether insufficient: *nauseous, off, tired*. My words, as long as they don’t point toward some alarming pain, are mostly useless fluff. The doctor, ultrasound wand in hand, is about to reveal to me the reality of my condition and my own inadequate descriptors won’t be needed. We will have measurements, charts by which to compare my progression to the norm, and the all-important visual to guide the diagnosis of my pregnancy journey.

With wand in one hand, she tilts the screen of the ultrasound machine towards me, so I can see what forms it picks up. The images on the screen shift between black and grey as she maneuvers the wand, soon alighting on her target. It looks like a malformed bean, bulbous on one end and tapering off towards the bottom. “There’s your baby!” she announces, and I nod and smile and try not to think about how many similar images I’ve seen slapped on highway billboards and painted across pro-life pamphlets. To invest emotional energy into this image, suddenly, feels like a betrayal to my fellow woman, the one who sits in this chair terrified of

what changes her body will be forced to undergo in service of preserving “life.” The doctor prints off a half dozen images of the bean on a long, glossy sheathe of paper, and I, the dutiful patient, fold it into a neat booklet and take it home with me.

The Death of Woman

As Duden recounts in her book *Disembodying Women*, the conflation of the word “fetus” with the word “life” is a new phenomenon in the context of human history – and a manipulative one. It grew, in part, out of advances in medical imaging. Where once there existed a horizon line between mother and child-to-be, technology like the ultrasound ripped it away, revealing women’s insides to the public and erasing any sense of physical reality that cannot be perceived by the eye. *There’s your baby!*

Clever linguistic manipulation has enabled the anti-abortion movement to equate the word *fetus*, a scientific term with an exact meaning, to the word *life*, which does not exist as an agreed-upon technical term in scientific discourse. As Duden points out, scientific terms are precise, “they exclude sensory experience or metaphysical belief.” Life does not fall in that category: “Unlike zygote and fetus, it doesn’t stem from a disciplinary thought collective. For experts and scientists to use the term as though they have special competence in understanding its meaning is a semantic trap.”

My point is this: peering within the female body, enabling the transformation of a private felt experience into a public and visual one, created the grounds for the linguistic acrobatics and the political tools that would render women subservient to the fetuses they carry. We can no longer seek, without question, a cure to unstick a “stoppage of blood,” as

women did for much of history. We lost any concept of “the quickening,” a woman’s self-determined announcement of pregnancy. In important ways, scientific progress did not serve women, but subjugate them.

What scientific tools can lay bare, man can manipulate and control. In her famous work, *The Death of Nature*, Carolyn Merchant argues that nature started to die when the concept of the word itself collapsed. Once understood as a complex, balanced system, Nature became an economic resource once man could peer within its treasures, measure, and monetize them. As nature transitioned to an object of extraction, we as a society lost sight of its core values: beauty, sacredness, renewal. It became, primarily, a good to be controlled in service of mankind. The concept of Woman is likewise threatening to disintegrate as control of our bodies is seized by the state in service of someone else’s political, religious, and/or moral aims. Perhaps it’s time we re-erect the border between the womb and the world’s gaze, and close off the final frontier before it’s utterly destroyed.

Inversions: On Contradictions

I cannot wait to meet you (and all 58 excess tons of carbon you promise to tack onto my life's carbon footprint).ⁱ

You will be born in the spring, what we Montanans call late winter (for now),
when the tree boughs sometimes hang heavy with late season dumps and the mountain soils
drink deep (while there's still such a thing as snowpack).

If I squeeze my eyes shut tight (against the latest climate projections) I can imagine you at
twelve years old, rosy-cheeked and puffed with jackets, strapping on ski boots we will take into
the mountains (and inadvertently frighten endangered wolverines from their winter homesⁱⁱ).

When winter snows give way to spring runoff, I will pull a spray skirt over your hips and strap
you into the seat of my old kayak where you will first experience the joy of rollicking in
whitewater (while microplastics slough from your boat and settle into the bellies of cutthroatⁱⁱⁱ).

In the summertime, when the trails cake over, I will show you how to turn through thick pines
on a mountain bike (where we will likely spook calf elk from their hiding places and sentence
them to early starvation as their resource-scarce bodies flee from our reverie^{iv}).

I will teach you to love this land (which is not the same as fighting to protect it),

to revel in its wonders (which is not the same as fighting to protect it),
and to recreate in its playgrounds (which is not the same as fighting to protect it).

And you, I hope, will grow up to be (that most contradictory of people:) an outdoor enthusiast,
eager to bask beneath the big sky and burrow into the nooks of mountain passes (and hopefully
in love with nature enough to know when to leave it the hell alone).

Rivers: On the Nature of Disaster

Disasters Visible

The Yellowstone River flows freely for almost 700 miles across parts of Wyoming, Montana, and North Dakota, making it the last major undammed river in the Lower 48. But that doesn't mean it's untouched. Rip-rap peppers its curves and irrigation wells pull from its tributaries, boats deposit invasive zebra mussels and Asian carp, and microplastics shed off anglers' sun shirts. Each spring, as it has done for millennia, the river swells with run-off, lapping up to high water marks and running muddy brown, whole tree trunks bobbing at its silty surface. As the summer wears on, the river levels drop and whitewater rapids give way to holes and eddy lines, then drop even further to reveal boulders. As fall turns to winter, recreationists retreat indoors or don skis, and ice tendrils begin to link the stones and pebbles along the river's shallow banks.

In the summer of 2021, Montana experienced the worst drought it had seen in at least 20 years. So when the spring of 2022 brought prolonged cool weather and higher-than-average rainfall, ranchers and boaters alike cheered. After a summer of intense heat and wildfire smoke, we felt owed this sweet reprieve. I checked the flow gauges every morning, watching as the river levels rose and the water picked up speed, the gauge's cubic feet per second (CFS) readings ebbing and flowing ever upwards. The first runs of spring are heady things for a seasonal boater: the water is frigid, high, and raucous, and your boat feels foreign, your skills rusty. On my first trip of the year down the Yellowstone's Yankee Jim Canyon, the class III-IV stretch of whitewater that is just five miles upstream of my childhood home, I flipped in the

swirly eddy lines of the last rapid and carped three rolls before giving up and tapping the bottom of my boat for a T-rescue.

On the evening of June 12th, the water flew through Yankee Jim at 20,300 CFS, nearing the peak flow levels that I'd witnessed during high-water years during my childhood. When I checked again at 6:15 the next morning, I immediately texted a screenshot to my brother. The flow rate had more than doubled: 41,000 CFS. *This must be broken*, I wrote. *Right???* Over the next few hours, the river would rise even further, peaking at 52,000 CFS.

An hour south of me, my dad had been awake since 5:30 am, coffee cup in hand, watching the western tanagers peck at oranges he'd nailed to the backyard trees that line a steep bank about 30 feet above the Yellowstone River. For the first time in all the years he'd lived on that bank, he could see the edge of the river from the back porch as it threatened to breach the curved slope of the backyard. Around 6:30 am, he woke my mom and they drove with a cadre of neighbors to the county bridge, a wood and steel structure that connects the basin's residents to the state highway. The noise was deafening. The water had already risen to the base of the bridge and was splashing over its surface. Massive trees crashed into the bridge's steel beams and then piled on top of one another, splintering and popping, all while the water roared and rushed – over and underneath – demanding and violent.

This can't hold, my dad thought, and pulled out his cell phone. I watched the video he sent me and my siblings: the bridge splintered at one edge with a massive groan and then broke free. Its near end tilted downstream, almost gracefully, and its steel trusses bowed under the enormous pressure of water and debris. Quickly, impossibly so, it was swallowed by the muddy water and disappeared below the roiling surface. "There goes the bridge," he narrated, almost

casually. Their only route to the other side of the river was now a little-used dirt road that wound an extra 20 minutes downstream and joined the highway on their side of the river.

Over the course of the next few days, more videos surfaced: entire roadways swept away, pieces of furniture and decks crashing downstream, the slow creep of an entire house that slipped down the bank and floated underneath a concrete bridge, its shingles popping off in a splintery fireworks display. As the water receded, it unveiled yards and homes caked in inches of mud.

Yellowstone Park may have weathered the worst of it. The Gardner River, a tributary of the Yellowstone River, swelled with such force that it washed away entire sections of the paved road connecting the Park's town of Mammoth with the north gate town of Gardiner. Even where the contours of the road remained, the soil beneath it was gutted, carved out until only the pavement was left floating tenuously in air above the river.

The towns of Silvergate and Cooke City, which border the northeast side of the Park, were inundated by flood waters from the Soda Butte Creek. Yellowstone Park shut down all of its entrances, effectively stranding Cooke City residents, and evacuated more than 10,000 tourists to neighboring gate towns. In Gardiner, my closest home town whose year-round residents number less than 900, every hotel bed and campsite were full, as were the floors of the community's churches. The shelves of the only grocery store in town were picked clean.

Over the next few days, roadways re-opened and tourists evacuated en masse. They wouldn't return all summer, rendering the natural disaster Gardiner faced an economic one. The town survives on seasonal tourism; nearly three-quarters of a million visitors enter Yellowstone through the north gate each year, buying ice cream cones, t-shirts, and sandwiches

along the way, and stopping to partake in whitewater rafting and trail-riding adventures. Prior to the flood, Gardiner residents had high hopes for the 2022 season. The town was still recovering from low tourist seasons during the pandemic in addition to a mysterious structural fire in July of 2020 that consumed parts of two bars, three restaurants, and a portion of employee housing. The summer of 2022 was supposed to be a rebound year. Instead, it became the first year of what park officials warn could be several years of recovery as they work to build a new road connecting Gardiner to Mammoth. A dirt road, built when the Park was established, was quickly re-opened to allow Mammoth residents and Park employees safe access between the towns, but it's not a long-term solution; the road was built on alluvial soils that would quickly wash away if they were asked to sustain the kind of traffic Yellowstone receives.

In the aftermath, we all wondered why no one saw this coming. A summer's worth of precipitation fell in just three days, some of it landing in the mountains where it hastened snowmelt, the combination of which brought down record levels of run-off: a once-in-500-years flood. Small communities throughout the region sopped up their lives as the rest of us drove in supplies and offered helping hands. And yet, the disaster felt contained, personal, as perhaps all disasters must feel for those most intimately impacted.

As soon as roadways and forest service regulations allowed, two friends and I loaded our boats onto the roof of my car and drove to my parents' house. There would be time for sopping up wreckage and cleaning up the river banks, but in those early days, we were eager just to see it. Sections of the road were still closed, and the usual put-in for Yankee Jim Canyon was buried in several feet of sand and roped off, so we decided to access the river from its

opposite side. From my parents' driveway, we drove the old rail line road as far as it would allow us, about a mile and a half, and then shouldered our boats and hiked the remaining two miles, high above the river's steep bank. We put in on what used to be a grassy slope, but was now a new sandy beach. The putrid scent of a rotting animal hung in the air – the remains of a deer that I found tangled in a jack fence, both animal and wood mangled together high up on the bank where the river had deposited them.

We zipped on dry suits, pulled our paddle skirts across our boats, and pushed off. I have always been amazed at how different a river looks from its center compared to its shore. From my kayak's perspective, I could see exactly how far up the canyon walls the river had risen, nearly cresting the old railroad tracks on one side and stopping just below the highway on the other side, gouging out large chunks of dirt and rock where it receded. Massive trees with intact roots lay on their sides partway up the bank and formed the base of driftwood and debris piles ten feet deep. Where large trees were still standing, they were wrapped in wreckage. I could barely make out the green contours of a canoe that had bowed around a pine tree, but a white cooler wedged behind it stood out like an ermine on asphalt in winter. There was clothing strung about on rocks and tree branches: what looked to be a pair of jeans, a bright pink shirt, grey leggings, or maybe a sweatshirt. We argued about whether the rapids had changed, wondering if the force of the floodwater had deposited new boulders or shifted old ones. It was hard to tell. Even the difference of couple thousand CFS makes this run feel entirely different.

As we neared my parents' house and the takeout we'd cut into the willows along the river's edge, a Forest Service helicopter jutted into view and beat down low over us. It passed

overhead and then made an about-face, passing again over our heads, so close I could feel the wind from its blades. We waved and wondered if we were allowed to be out there.

National attention lasted but a news cycle. Destroyed roads, buildings, and bridges will be rebuilt as quickly as time and resources allow. My parents' community, for one, will receive a new bridge sometime in 2024. In the meantime, they can drive an old truck route to access the other side of the river, a longer and bumpier road, but a minor inconvenience compared to the scope of weather-related damage and tragedy that climate change has precipitated in 2022. In this year alone, a record monsoon season plunged a third of Pakistan's land area below water; Mississippi suffered flooding and spent months living under a boil-water notice; heat domes in Europe, Asia, and Africa resulted in triple-digit weather that persisted for months, causing drought, wildfires, and heat-related death and illness; parts of the Yangtze River dried up in China; Hurricane Fiona dropped nearly 30 inches of rain on Puerto Rico in the same weekend that the western coast of Alaska was flooded with the aftermath of a typhoon; five tornadoes touched down in the Twin Cities in one night; California and Oregon and Idaho and Washington and elsewhere burn. The list goes on. The journalists write their articles. The correspondents wade through the aftermath. The world glances and we all move on.

Disasters Invisible

It's the year before the flood, early November 2021, snow salts the mountains, but the fields in front of my parents' house are dry, the long stalks of grass turned straw-yellow but not yet lit by the morning sun. From the kitchen window, I can see the first wave of elk as they crest the hill by the neighbor's place and start to pour over the county road. They hop the fence and

make their way into the field, pooling wide and seeping at the edges, then stringing out into a sort of tributary headed towards the Yellowstone River, gaining momentum as they flow downhill.

My dad and I slip out the backdoor and pick our way down the steep bank to the river's edge. The shore has grown wide and rocky as the river levels dropped, giving us a good downstream view. Soon, the first few elk emerge from the trees on the river's bank and start to pick their way across the stony shore. The first cow elk to reach the water's edge hesitates. The herd swells behind her. Tension builds, pauses, and then braver cows crash past the leader, holding their heads high as they stomp across the river. Their flow becomes a thick surge, then a stream, then a trickle as the herd makes its way across. Soon, it's mostly young calves left on the wrong bank, beating the shoreline in frantic paces. Desperation feeds courage and the calves leap, disappearing in sparks of water that flash in the early morning light as the sun peaks over the mountains. The calves quickly resurface, find their footing, and heave across the river in water-logged lunges. On the opposite bank, their hooves bite into the hillside of sage as they pump their legs to a large, flat clearing, their hides sleek and dripping, steam erupting from black noses. The group re-pools in the clearing. Some turn their heads to glance back, as though admiring the route they took, or perhaps saying goodbye – for now – to summer pastures in high, cool meadows.

The herd was headed for the low pastures of Dome Mountain, a private ranch and wildlife preserve recently bought by Home Depot co-founder and Atlanta Falcons owner Arthur Blank. Sections of Dome Mountain's fields border both sides of a straight stretch of Highway 89 just north of my childhood home. For as long as I can remember, hundreds of elk have wintered

there, feeding on the remnants of its irrigated fields and finding protection from the worst of the winter snowstorms. Driving that section of highway during night in the winter can feel like groping your way through a minefield of 600-lb animals on a skating rink. They know, by way of some mysterious inter-herd and intergenerational knowledge, that most hunters' bullets can't touch them when they're within the confines of the ranch. Only hunters who have paid for a guided elk hunt are permitted to take a shot at an animal on its property. I've seen a string of elk walk the property line with such precision that you might guess one of them just pulled out a smartphone and checked their OnX.

Scientists estimate that 80% of wildlife that leave public land in the summer spend all or part of their winters on private land where they tend to find better protection and more abundant food.ⁱ It's likely that this group of elk came from the northeast corner of Yellowstone, but perhaps they spent their summer in the high meadows of Tom Miner Basin, just outside the Park's boundaries. At least nine elk herds feed on summer range in the mountains of Yellowstone and beat their way out of the Park to spend their winters in lower, more hospitable range.

It's one of the most significant and special aspects of the 22-million-acre area of land covering parts of Wyoming, Montana, and Idaho: the Greater Yellowstone Ecosystem (GYE) is the last bioregion in the continental US where all of the large mammals that were present before Columbus set foot on the continent still exist at population levels. More importantly, it's the last place in the Lower 48 where those mammals can still *move*, tracing annual migration corridors that have been passed from mother to offspring for over 8,000 years. Biologists with the Wyoming Migration Initiative have discovered pathways for mule deer, pronghorn, and elk

in the GYE that rival the distances traveled by wildebeest on the Serengeti and caribou in the Artic.ⁱⁱ

Mule deer are perhaps the most impressive of migrators in the area. Every year, 500 or so mule deer travel from the Hoback River Basin to the Red Desert of Wyoming, a 300-mile roundtrip journey over mountains, across highways, and through rivers and reservoirs. In the world of migration research, mule deer doe #255 is a sort of celebrity and emblematic of the impressive migratory routes some of these animals tread. She was first collared in the early spring of 2016 near Superior, WY, in the herd's winter range. Over the next two months, she traveled 242 miles north, all the way to Island Park, ID, just a few miles west of Yellowstone. If she managed to make the return journey, she would set a record for the longest-documented land migration in the Lower 48. But in early August of that year, her collar stopped working. Number 255 effectively disappeared. Scientists had no way of knowing whether she embarked on the return journey, much less whether she survived it.

Then, in the spring of 2018, researchers from the University of Wyoming were netting mule deer from helicopters, fitting them with collars and taking biological samples so they could track their movement and health over the course of the spring migration. A researcher who happened to be part of the team that tracked #255's movements two years earlier chanced upon a doe with a broken collar whose identification frequency she had memorized. It was a match. Number 255 had made the round-trip journey, clinching the record. What's more: she was pregnant with twins.ⁱⁱⁱ

What scientists have discovered from tracking the movements of animals like #255 is that they take their time, spreading their journeys out over a couple of months on both ends so

that a full third of their yearly lives are spent in slow transit. Matthew Kauffman, director of the Wyoming Migration Initiatives, notes that the animals aren't making forward progress 90% of the time; they're lingering, foraging, and some of them are dying – all acts critical to sustaining the ecosystems through which they travel. The movement of bison, elk, mule deer, and pronghorn form the basis of the GYE's biological diversity. Their hoof movements regenerate soils and the grasses they eat along the way are transformed into mobile biomass, feeding apex predators like wolves, grizzly bears, and mountain lions, but also trickling down the food chain to ravens, eagles, and coyotes, eventually sustaining the beetles that help decompose their bodies into healthy soils that then grow grasses to feed the ungulates' offspring. Kauffman's colleague, biologist Arthur Middleton, compares the importance of migration corridors to the circulatory and pulmonary systems of the human body. The flow of migratory animals is as important to the health of ecosystems as the flow of blood and oxygen are to the health of the human body.^{iv}

Perhaps the wildest part of this research is that it didn't exist a single human generation ago. The fact that animals migrate has been known for hundreds of years – Native Americans understood that animals were likely to leave certain areas at specific times of year and arrive in other places in a predictable pattern – but the specific routes of migrators, their length, their consistency, and their ecological significance weren't understood until recently with the aid of GIS, radio collars, trail cams, and the like. Speaking on a video in 2013, Kauffman marvels at how one of the most significant features of life of some of the most-studied animals on the planet could have gone unnoticed for so long. “Here we have hundreds of animals migrating

150 miles across public and private lands right underneath our noses,” he says, “And we didn’t even know about it.”^v

To watch a herd of ungulates flow through a valley is to witness a mammalian river. Having just discovered these rivers exist – and only now starting to understand their importance – conservationists warn that they’re already in danger of drying up and disappearing, a slow-moving disaster. Energy development, sprawling suburbs, and roads all threaten to re-route or destroy migration corridors that have existed for thousands of years. That’s what happened in the rest of United States. Migration corridors used to exist across the entire Lower 48, but they vanished alongside the disappearance of wide-open spaces. It’s death by a thousand cuts: one more housing development, one more roadway, one more oil field, one more mountain biking trail, and soon the animals never return. The ecosystems they sustain collapse in their absence.

Knowledge of migration routes passes from one generation to the next matrilineally. Mothers teach their babies when and where to travel each spring and fall. Once routes disappear, there is no such thing as recovery; the animals will never relearn that pathway. Losing wildlife migration has been likened to losing a human language; once it’s gone, there’s no way to bring it back. Where migration corridors disappear, so too do the ecosystem services they provide. Soils degrade, predators die off, and only “weed” species persist – invasive plants, white-tailed deer, raccoons, starlings; the kind of species that can survive almost anywhere. Migrations are literal rivers of life. When they disappear, the lifeforms that depend upon them disappear, too.

Resilience

The human mind wasn't cut out to contemplate disaster, come it washing down in a deluge of floodwater or creeping in at the slow pace of ecosystem collapse. We are infinitely better at compartmentalizing, adapting, and carrying on, come what may. Research on the science of happiness suggests that humankind's most potent superpower may be our ability to, in essence, revert to the mean. When good things happen to us, we soon grow accustomed to the change and re-stabilize at our base levels of contentment; likewise, when disaster strikes, we rebound more quickly than we might expect, settling into our original mindsets. It's not our circumstances that define us, but our genes.

Perhaps that simple fact of human psychology is the reason I can fear for our species' ability to persist on the future of this Earth and *still* choose to carry a child into this world. I'm not crazy; I'm human.

Less than three months after the flood, I walk the banks of the Yellowstone and find it mostly unchanged. There's still evidence of erosion on the banks, and bunches of deadfall well above the usual highwater mark, occasionally accompanied by what looks to be a section of someone's porch or their home's siding. Roads and bridges are still being rebuilt and construction will continue for some years as the economies of the towns they serve struggle back to their feet. But from where I stand, the river looks and flows in much the same way as it always did. The elk are still grazing in high elevations while the weather is warm, but I trust they'll be back down here in a month or so, like I trust the Yellowstone River will keep flowing undammed, like I trust the snowpack this winter will replenish the aquifers, like I trust the one-

day-child I carry will witness a river of elk move in a pattern thousands of years old. I know this is hubristic thinking, grounded in hopes not supported by the latest climate change projections.

People who purport to love life more than I do would call my decision to bring a new child into the world an act of evil. Ecofascists draw on a Thanos-like metaphor, comparing our Earth to a capsized ship with only one life boat. The likes of me would overload the life boat and doom us all, but the true lover of life would chop off the extra hands clinging to the life boat's sides and save what humanity they could. Research from environmental scientists published in 2017 has put numbers to my decision: it's the absolute worst thing I could do if my sole goal in life was to reduce my annual personal carbon emissions and so do my personal part to reverse or slow the course of climate change-hastened extinction. Choosing *not* to have a child would reduce my annual carbon output by 25 times more than the next best thing I could do: live car-free.^{vi}

But as author Meehan Crist writes, the decision to procreate is not like the decision to drive less or adopt a plant-based diet. It's far more personal, humanistic, and sacrosanct than a consumer choice.^{vii} To equate the two not only absolves governments and fossil fuel corporations of their role in carbon emissions – casting carbon consumption as a personal choice in a market bereft of alternatives – it also forms the basis for eugenics arguments that have resulted in mass sterilizations and the steady restriction of women's reproductive freedoms. The simple right to *choose* forms the basis of reproductive justice; few women, whether by law or by custom, enjoy that right in the world today.

For me, choosing not to have a child for the sake of curbing my carbon output would be a drastic personal measure in response to a problem that cannot be solved on an individual

level. Cutting the global population requires deep understanding of the Earth's carrying capacity, a matter which scientists debate, and any effort at curbing the population would likely be too-little, too-late at this point. As Crist points out, if a program for global population control were to have a meaningful impact on the pace of climate change, it would need to happen *now* and dramatically, but there's no good way to wipe billions of people off the face of the Earth.

In the face of uncertainty and in the spiritual necessity of optimism, I join the likes of Crist in calling not for fewer births, but for the right to raise a carbon-neutral child. I hope, naïve as it may be, that my child might exist in a world where man is not diametrically opposed to nature, and where the market offers a means of existence that does not inevitably doom us all.

Balance

On the first day of October, four months after the Yellowstone floods, I stand in the middle of the road that passes under the Roosevelt Arch in Gardiner, Montana. The entry gate is a few hundred yards away, but it's closed, and sure to remain that way for some time. A mile beyond the entry gate, the road disappears where the Gardner River gouged it away from its foundation. A dirt road spurs off to the right from the entry gate and heads up a hill, currently the only passageway between Gardiner and Mammoth, but closed to tourist travel. So tourists enter the Park from one of its other entrances. Gardiner, which sits at the dead end of state Highway 89, has been abandoned by the visitor life-force that sustains it. T-shirt shops stayed closed all summer; coffee shops opened for limited hours; hotel rooms remained vacant; the raft guides twiddled their thumbs or gave up and went home to find other summer jobs.

Newspapers around the state wrote articles about whether Gardiner can survive the aftermath of the flood, particularly in the wake of a global pandemic.

I used to count myself among Gardiner's some 900 residents, though back then there were a couple hundred more of us. From my vantage point under the Arch, I can see a small park that leads to a dirt track rung around a football field in front of Gardiner's kindergarten through 12th grade school, the building where I learned everything from my ABCs to AP History. A small herd of cow elk laze in the football field, common for this time of year.

I'm a stranger here now. The community has turned over since I left. But as I stand under the arch, a certain nostalgia gnaws in my gut, like things might be better, more contained, more settled if only I could return to the time and the place I knew here as a child. It's considered a coping mechanism – nostalgia – a way of drawing solace from the past in an uncertain present. I think of the child I carry, and I wonder at what deficits in belongingness might exist for the unborn. Where is it that they will return to and find intact?

The final bell has rung at the school. I watch as students trickle out of the doors, boarding the bus or making their way toward their cars. Members of the football team and the cross-country team congregate at the edge of the field, stayed by the group of elk that haven't bothered to vacate the sunny circle of grass they occupy. Led by a coach-looking figure, the students move as a group toward the elk, flapping their arms and shouting and whooping. The elk regard them with bored looks, slowly get up, and move off the field, making their way to the small park nearby. Football practice gets underway. The cross-country team sets out on a warm-up jog around the field. The elk settle back down. For now, at least, we're all still here.

Seasons: On the Story We Don't Tell

Fall

My dad nudges me awake. Tom Miner Basin, a right turn off Highway 89 in Montana's Paradise Valley, is black, the lights of any early-rising neighbors too far away to see. I slip off the top bunk that I share with my sister and pull on the clothes I set out the night before. Dad waits for me in the kitchen, sipping coffee from a thermos. He holds up his orange vest, a question, and I pull mine out of the top zipper of my pack. He nods.

We step outside and the bays of a few hound dogs from the kennels behind the barn greet us. I hop in the passenger seat of the truck, my feet dangling above the floorboards. It's six hours from here to Ekalaka, a flat expanse of sagebrush scattered with limestone bluffs on the far eastern side of the state. Ekalaka is pronghorn heaven, though my dad and everyone I know calls them antelope.

We stop in Columbus and buy packaged bearclaws for breakfast, which would have ticked off my mom. I hold my breath past the refinery in Laurel and fall asleep somewhere near Crow Agency, waking again when we fuel up in Broadus. My dad's hunting clients – brothers from New Mexico – follow us in their own rig into Ekalaka. We run out daylight glassing for antelope from the trucks and then make our way to the bar on Ekalaka's main drag.

In a town as small as Ekalaka, even 10-year-olds are allowed to sit at the bar. Someone hands me a bag of peanuts and tells me I can throw the shells right on the floor. Dad doesn't drink, but the hunters have a few. We turn in early. The morning comes quick.

The hunting is mostly spot-and-stalk in these parts. I spend the day a footprint behind my dad, squinting through my binoculars as he spots buck after buck. Each time, the hunters set up their tripods, watch the animal for a while, wonder at its size, and speculate about what we haven't seen yet. They pass on every buck that morning – *let that boy grow up another few years*, they reason, and my dad approves. I know he likes this kind of hunter. They could watch a single antelope graze for an hour. If they take one home, it will be a story to tell their grandkids, not another tick on a Big Game of North America checklist.

I can tell when my dad spots one worth harvesting by the way his body snaps into a mode of practiced efficiency – he cases his binoculars, pulls down his cap, and motions urgently for the brother with a tag to grab his gun. *We found what we're looking for*, he says. The hunter gears up, no questions asked. I sit down behind some sagebrush, and the pair of them take off in a crouched hustle, then drop to their bellies once they're within about 150 yards of the buck and his does. I plug my ears and stare. A few beats pass before I feel the faint reverberations of a shot. The herd bolts. The buck jumps in place, pivots, takes one jolty step, and falls. A clean shot.

By the time the other brother and I catch up, dad is nearly finished field dressing the animal, laid on its back with a straight slice up its middle. He reaches into the animal's neck and makes a blind cut, severing the esophagus. Two shimmies of his knife along either side of the rib cage detach the connective tissue and diaphragm. He flicks his knife against the grass for a quick clean and snaps it shut. Then he straddles the buck and extracts the gut pile in one deft pull. My eyes are glued to his forearms that – somehow, every time – remain clean, even

though they've just been elbow-deep in a body cavity. He holds them up and grins at me, *pretty slick, huh?* I grin back.

He picks out the heart and hands it to me. I take it in both hands. The first time my dad handed me a heart, it jumped in my palms, and I screamed and dropped it. Dad made me pick it back up. The tiny vibrations, whether from the heart or my hands, I can't be sure, taught me the gravity of what we do out here. The hunter's eyes shine and his brother keeps clapping him on the back. Some hunters take one photo with their kill and move on, but the best hunters don't take this lightly. He sighs, shakes his head, lays his hand on the buck's neck. I deposit the heart into a game bag and tuck it into my pack for the short walk back to the truck.

At ten years old, I live for these weekends, a world I can't step into without holding my dad's hand. Here, a hunter is more than a killer. Here, the gun provides a year's worth of meat. Here, my dad tells men when to move, and they listen.

I don't remember any other hunts that fall. I do remember the game wardens' uniforms, though. The short sleeve grey shirts, the yellow patchwork, green vests with too many pockets, and cargo pants capped with brown belts where the radios *shrrrd* out static and faceless voices.

They started dropping by the house, unannounced. They'd want to see the truck beds and take a walk through the barn. I'd stand at the kitchen window and stare at the dust clouds from their government vehicles long after they faded from sight.

Wardens started trailing dad on his hunts, too. When he and his clients got back to the truck, they'd be there, waiting. They'd ask questions, check tags, check licenses. I found out years later that a string of them posed as clients. They would commit hunting violations and try

to get my dad to cover for them, the kind of tactic that walks a fine line between above-bar and entrapment. My parents caught on, but they couldn't turn away paying customers, and it was hard to flesh out which clients might be undercover agents ahead of time. *Small minded*, my mom calls them, which, if you know the woman, is a spit in the face.

Most hunts started early, so clients often stayed in our upstairs guest room rather than a hotel 30 minutes out of the way. That's likely how the wardens produced the detailed maps of our house they pulled out when they presented their search warrant. I have no memory of that day, so I always assumed my three siblings and I were at school when the house was raided. But when I ask my mom about it, she corrects me. She swears I was at the kitchen counter, eating cereal. It's strange to think I don't remember the raft of government vehicles she recounts descending on the front lawn, lights flashing and sirens blaring.

They took every scrap of paper in the house – dad's hunting records, journals packed full of his notes, his maps, his rolodex, and all of my parents' financial documents. Mom wondered how she would pay the bills without a checkbook. I wonder if I finished my cheerios.

Over the course of the next few months, it seemed like every other phone call was from one of dad's old clients. I'd hand over the landline and eavesdrop as dad explained, *no*, he didn't know what they were looking for, but, *sure*, answer their questions.

My dad says the government can't quit with egg on its face. Once they spent a nickel on a case against him, they were bound and determined to come out on top. In the end, they got him. The federal prosecutor brought four charges. The judge threw out three in the first five minutes of the hearing. But the fourth charge was sticky. It would have to be heard in a jury trial. Dad had four young kids. He had a wife. He had some 40 head of horses, six mules, two

dozen chickens, four pigs, two cats, and three hound dogs. Plus, by then, he – we – were broke. Like a doe with its leg stuck in barbed wire, at some point, you plain run out of fight. A plea deal offered the opportunity to stop kicking.

My dad was stripped of his guide license and his gun rights and sent to prison in Denver, two states and 11 hours from home.

Nearly 20 years later, Max and I were only a few miles from my childhood home before it occurred to me that I should fill him in on the fact that my dad has no gun rights. A sheet of fog lay over the Yellowstone River along Highway 89 and the top third of Emigrant Peak glowed a pale purple. Our stated goal was to sight in Max's rifle for elk season, but we were actually going so my parents could meet my new boyfriend.

Max knew my dad had been an outfitter for 30 years and, for once, I didn't feel the need to defend his old vocation. Although he wasn't raised in a hunting family, Max tagged along with his friends and their dads, kids who came up in the same tradition of conservation hunting as me, a lifestyle that is too enmeshed with animal murder and gun fanatics to make sense to the boys I dated at Yale. So I wasn't worried Max would think my childhood home was spooky when he walked through the front door and saw mounts of every big game species in North America – grizzly and black bear, caribou, moose, mountain lion, elk, bighorn sheep, mountain goat. He would assume the guns were locked in a safe in the basement. I pictured him pulling out his 6.5 Creedmoor. I knew my dad would look at it, probably nod his approval, but keep his hands in his pockets. He's gun shy these days.

The details of my dad's untimely retirement were not some secret I was trying to keep from Max. The truth is that it had slipped my mind. The year my dad spent in prison and how he wound up there is a story my family doesn't tell. I never learned the words and I was too young, then, to make them up myself. I don't know how they're supposed to sound. The few times I've tried, the story comes out blurred and flat, like I'm squinting at it through unfocused binoculars.

In the few minutes it takes to drive from the state highway to my parents' driveway, I fill Max in the best I can, racing to construct some semblance of a satisfactory narrative. Max is an attorney. He grasps for a motive, and – like me – I can tell he struggles to find one. I can't articulate why my dad landed in the crosshairs of Montana's Fish and Game. Maybe it was the legacy of bad blood between the agents sworn to protect wildlife and the men who make their livings killing it. Maybe dad was too good at his job, too successful, too lucky. Maybe those agents really were small-minded like my mom says, the bad cops of the rural west. Maybe – probably – dad bent the rules a few too many times.

I don't tell him my suspicion that it all started a decade before wardens started trailing my dad on his hunts, one year before my oldest sister was born: 1988. Dad had a permit to run an elk hunting camp up Hellroaring Creek, just outside the boundary of Yellowstone National Park. That summer, wildfires blazed across nearly 40% of the Park, collectively forming the largest fire in Yellowstone's recorded history. The source of one fire was traced back to a cigarette butt just outside my dad's hunting camp. Liability was never determined, but dad lost the permit for his hunting camp and fought about it in court for years, all of which whizzed over my young head. He drops breadcrumbs about that decade now and again, and they're so jarring and foreign that I wonder how we could have been living in the same house. The fact that my

most vivid memories of those years are riding a pony named Betsy and playing king-of-the-mountain on round haybales is likely the purest expression of love I'll ever know.

From what I gather, the feds – as my dad calls them – assumed he had stopped guiding hunts when he lost his camp permit, a consolation prize for their failure to pin the Yellowstone fires on an outfitter. But dad had just switched venues, cutting deals with private landowners instead of hunting public land. When he resurfaced on their radar, maybe he did so with a target on his back.

It doesn't seem worth it to introduce Max to the half-baked details, so I keep them to myself. I make him promise he won't ask for more explanation. He's part of our clan now, and the clan agrees that some words are better left in the dark. Besides, there's no point. My dad isn't a linear thinker. The few times I've asked him about those years, he sends me in loops and paints broad, unsatisfying strokes, introducing characters I can't keep track of and plot twists that make no sense. He resists the follow-up question. At times he starts to dig, but he always stops himself. He asks who's going to read this, and I understand the details do not belong to me.

We sit at the kitchen counter and Max tells my parents about his work, making it clear he's not *that* kind of attorney. He does civil work. My mom asks all the questions, as usual. After a second cup of coffee, I can tell my dad is impatient, ready to get to the chores on his list. He lines us out on where to shoot, a few hundred yards from the house, and heads in the opposite direction.

I stand a few yards behind Max while he sights in his rifle, both of us wearing soundproof ear muffs. The muted echoes of his shots bounce in my head. A familiar weight

settles into my gut, nagging. I was one year shy of eligibility for Hunter's Safety, the course every 12-year-old goes through to earn their hunting license, when dad went away. On all those childhood hunts, I was just the tag-along, the designated carrier-of-hearts. In the decade and a half since, I have never bothered to try to make up for lost time.

Winter

A string of months after my dad took the plea deal sit in a cold and drafty corner of my memory. Certain scenes stand out in vivid color, but most are gray and obscured, half-covered in dirty snow. I turned eleven that December, too young to be part of the serious conversations, but old enough to understand that we were all in for a rough patch.

Home that winter was too quiet. A few days before he left, my dad called up his friend Leroy and loaded the hound dogs into his truck. They would be too much work for my mom. Besides, mountain lion season started December 1st and somebody ought to use them. Ever since I can remember, their bays were the white noise that accompanied walking outside. My sister's first sound was a hound dog howl. She'd sit in her high-chair, bang her palms on the table, and join their chorus, pursing her lips and tilting her chin toward the sky.

Without them, my voice was too loud when I called the horses in every morning, shaking buckets of pellets, my breath lingering in the cold air. *Come boyyyys! Come boyyyys!* A short mustang name Danny was always the first one through the gate. The others would be right behind him, a mess of snorts and hoof beats. Most mornings, I'd have to march through crusty snow to the back corner of the field to push an old sorrel horse named Copper to the corral. The outlaw, we called him. Before school, I'd strip off my boots and pull tennis shoes on

over numb toes. I'd meet my friends on the playground before first bell. If they knew, they didn't say so.

I remember the smell of church carpet. On the weekends, it was dead serious important that we make it to church. We weren't a particularly religious family, but that wasn't the point. No matter how late we were, mom would lead my three siblings and me up the middle aisle to the second or third row. *Count 'em: one, two, three, four. We made it another week.*

The Sundays we missed church were the ones we spent driving back from Denver after visiting my dad. The land around the prison was as flat as Ekalaka, but the Colorado sky was bluer. Blue to the point of oppression. It turned dad's orange jumpsuit neon when we sat at the visiting yard's picnic tables. Where I'm from, parents don't wind up in these places. His skin was pale, and the callouses on his hands withered. He would introduce us to his friends and I'd count their tattoos and ask for the stories. Years after my dad got out, the house would still receive phone calls that started with that automated voice: *You are receiving a call from Federal Correctional Institution Englewood. Press 'one' to accept the call.*

In my memory, I don't hear my dad. I don't even see his face. He is not a man that I can connect with through conversation, idly sitting at a picnic table. If he is not in motion – glassing from a truck bed, stringing up mules, or picking through lion tracks on a snowy slope – he ceases to exist.

Spring

The first year they were married, my parents lived in a skinny, two-story cabin on Jackson Creek Road outside Bozeman, Montana. One morning in January, my mom woke to the

smell of smoke. My dad had long since left to look for lion tracks. Someone had emptied the ash bucket near the woodpile. Too near the woodpile, it turned out. A hidden ember gained a second life among fresh, dry fuel and soon lit the entire pile ablaze. The flames leapt to the house and were eating their way through the first floor when the smoke reached my mom. The fire was out of control by then, and the stairs were impassable. She threw on a coat, clutched my eldest sister to her chest, an infant then, and jumped off the second-floor balcony into a snow pile below. The cabin burned to the ground.

All to say: maybe she had been here before.

When I ask my mom about the year dad went away – the way we refer to prison – she says she doesn't know how she did it. We – my siblings and I – were nine, eleven, twelve, and fourteen. *I don't know who watched you*, she tells me, *No one, probably*.

But I watched her. Obsessively. She lived that year on the edge of composure. I watched her keep our animals alive, and count out precise change at the grocery store. When a string of cowboys – dad's old friends – came to stay for a few days or a few weeks at a time, I watched her keep a careful distance, grateful for the help, but wary of small-town gossip. Mostly, I watched her cry. She cried when an old gate broke for the third time and the horses scattered in the middle of the night. But she also cried at the dinner table for what felt like no reason, and we would sit quietly and pretend it wasn't happening.

I watched her bedroom door, the hollow wall that she sometimes hid behind too early in the afternoon. It's only now, years later, that I realize I never questioned whether she would reappear in the morning.

I won the fifth-grade spelling bee that spring. That meant I got to compete in the Park County spelling bee in the next town over, a dubious honor for a shy kid. My mom drove me 45 minutes to the multi-purpose room of Livingston High on a Saturday. I sat on the stage with a dozen other kids and silently dreaded the moment I'd have to walk up to the microphone. I could see my mom a few rows back. Even in the dim light, she looked tired.

My first word was "stallion," a gimme for a ranch kid. I blurted it out and speed-walked back to my metal chair. By the time my turn came around again, the contestants had thinned by at least a quarter.

This time: *Please spell felon. Felon.*

I'm not sure if I actually didn't know how to spell the word. I suspect, even if I did, my mind rejected the knowledge, like somehow speaking it out loud would reveal my intimate connection to it.

I spoke confidently: *Fellon. F-E-L-L-O-N. Fellon.*

The buzzer from the judge's table went off. *Wrong.* I looked to my mom. She was staring at her feet, a mess of blonde hair, and I could tell she was shaking. My breath caught in my throat. I could not do this to her. Not one more thing. But when she looked up again, I realized she was laughing – massive, stifled giggles, tears pouring down red cheeks.

I didn't need to be told to leave the stage. My mom was already out of her seat, heading for the double door exit, and I followed her. Once we got out into the hallway, we let loose. We laughed all the way to the car. We laughed on the drive home. At the dinner table that night, we told my siblings and they laughed, too. Of all the nerds in Park County, *this* one misspelled *felon*.

Summer

Of that summer, I remember nothing. Entire months are erased from my memory. I guess, if you sweep a thing under the rug hard enough, it stays there.

When I tell Max this, he finds it strange. His family is the type that rehashes everything. Their family lore is detailed and complete. Everyone knows the words and their tune. A catalog of stories, told to him from an early age, makes up his family history, the raw material that built the scaffolding of his existence.

Some six years after that morning spent sighting in his rifle at my parents' place, Max and I are expecting our first child. I wonder how I would tell a child this story – *if* I would tell this story. I turn the scenes over in my head, shake them together, rearrange them, erase them, start again. I worry the images are disintegrating faster than I can make them out. I worry the details might paint a smear across the legacy of a man I want my child to love and respect. I worry I don't know how to choose the right colors, place them in the correct light. How do you know what color to paint when they're all shades of grey?

Fall

I don't remember the day dad came home from prison, or the first holiday we spent together as a family again. A haze hangs over that season. I think it's because, in the ways that mattered, he wasn't really coming home, not without gun rights or an outfitter's license.

When my dad gave away his hounds, he gave away more than a few pets. As a guide, he devoted December 1st to April 15th to mountain lion season. Most mornings, he would be out

the door by 3am, flashlight in hand and hound dogs in tow. Mountain lions are nocturnal, doing most of their hunting at night. They roam solo unless they're courting a mate or traveling with kittens. During the night, they play between canyon walls, dipping down onto forest service roads before traveling up the other side, looking for food or a female, or both. That's the in: the tracks on the road. A good guide can recognize a lion track from 10 yards away, and pinpoint whether it's a female or tom, which direction it's headed, and how fast it's moving. The guide lets the hounds go and they follow the cat's scent where it clings to the tracks in the snow. A lion's lung capacity is a fraction of that of a dog, so it climbs a tree to evade them when it's chased. The dogs bay at the base and wait for the hunter to catch up. I don't say this lightly: my dad was a legend among houndsmen in our valley. Most seasons, his clients filled at least half the quota in his preferred districts.

For the true houndsman, a hunt is as much about the dog – what man and canine can accomplish together – as it is about how big the cat is or whether the client fills his tag. That's why every houndsman's eyes light up when he hears a baying hound. It means the track is fresh, and the dogs are excited. The chase is on.

So when Leroy showed up one day and handed over a puppy, my mom didn't protest, even though everyone knows you don't give a man a dog without clearing it with his wife first. That, and the fact that Leroy had already named it: Elroy.

Dad spent hours training Elroy. He would trap raccoons for practice chases. The critter would take off from the cage and, once it had a decent head start, dad would let the dog go, tracking its scent usually to the base of a tree the raccoon climbed to evade it. My dad would run with Elroy, urging him on, straightening him out when he lost the scent. *Get the cat!* He'd

say. And Elroy would tap into his most base instincts, what he was bred to do. When they got to the tree, Elroy would stand on his hind legs and sing to the sky. In that music, a piece of my dad's world was restored.

After a few years of parole and some careful research on its legality, dad started chasing cats again, no hunters or firearms in tow. He bought a camera to take pictures of the cats he caught with Elroy. Over the years, the cameras have become more expensive and the lenses much fancier. Nowadays, he mostly chases one drainage to the north of Tom Miner Basin, near the luxury dude ranch where he used to wrangle between hunting seasons and where I was born. It's a family affair, sometimes a community affair. Max and I and some combination of my siblings often join him on the weekends. Serious young hunters drive from hours away to meet us at 6 am and study my dad as he sorts through tracks. Little kids come, too – my mom's students from the elementary school in Gardiner. They take up the rear in brightly colored snow pants and march the path plowed by the adults.

These days, the trophies on the wall get short shrift. My dad would rather show off the trophies on his camera. After a chase last Christmas, we sat by the fire near the double door windows that look out over the Yellowstone River. My dad has set up a kingdom of birdfeeders ten steps out the back door. A *Birds of North America* handbook sits on the coffee table alongside a pair of binoculars. Dad keeps interrupting the conversation to announce the arrival of a new species – red polls, lazuli buntings, a downy woodpecker, goldfinches in their winter plumage.

Max wants to hear the story about when he shot an otter from 370 yards out in Alaska, but he's not interested in telling it. Instead, he picks up his camera and puts on his reading

glasses. *Check this out*, he says. He starts flicking through his picture library – a grizzly, head-on, eating at a carcass; a bull elk and his cows erupting from the bank of the river; a black bear, so close I can see the moisture on its nose. I almost tell him to pause so I can see the photos he’s swiping past, but I know we’d be here all day if I do. He stops on what he’s looking for: a picture of an ermine, white against white snow, eyes like two dots of coal, carrying a dead mouse in its mouth. *Pretty slick, huh?* he says.

If you ask him now, he doesn’t miss his outfitting days. He was tired of killing by then, and being gone all the time was a hard way to build a family. I never saw him angry or resentful. Maybe he hid it well, but I don’t think he felt those emotions. There was no point to them. Mostly, I think he was tired – tired of scraping by on a job that paid seasonally and tired of fighting the government to do it. He found steady work managing a ranch for a couple from California and put the four of us through college. Summary: it all turned out for the best. But some part of me can’t let go – the part that needs my one-day child to know this man like I did when I was eleven years, standing in his shadow, holding a heart only he could place in my hands.

The Way Back

A week after Max gifted it to me, I bring the bow to the shop to get it tuned and sighted. I fumble trying to clip on the trigger, and I can feel the college boy who is helping me roll his eyes. I want to tell him that this is the way back, the way I keep my dad’s legacy alive. Even ex-felons are allowed to bow hunt.

When the snow melts, I drive alone to a piece of public land just outside of town, a retired hayfield with a dirt road running through it. I pace off ten, twenty, and thirty yards. I clip

the trigger onto the knocking loop and rest the grip in the soft part of my palm. I draw back so my thumb hooks the base of my jaw. The tip of my nose grazes the string, same spot every time. I stand straight, and transfer the effort to my back muscles. *Breathe out.* Level. *Breathe in.* Aim. *Breathe out.* Squeeze.

After a half hour, my arms are toast, but I've started to pattern the target. I picture the Big Creek drainage and the climb to Cooper's Bench. I know my breathing will be heavy and I'll have to fight to keep my arms from shaking. I picture my dad, glassing patiently. I imagine the moment his eyes light up, he drops his binoculars, and tells me to gear up. *We found what we're looking for.*

I may tell the story we don't tell to my child one day. I know more words than I once did, and I can sit in companionable silence with the gaps. But I hope I won't need to. I hope my child learns this story when it catches up to its mom and its granddad, and she places a heart in its hands, still warm and – maybe, it'll wonder – still beating.

Frontiers: On Change

If you want to tie a believable fly, view it from below, like a fish would. If you want to find elk, think about where an elk would find sustenance and shelter, and go to those places. If you want to ride a horse without constantly fighting it, study how it moves and do not ask it to do what its body cannot.

Facing the reality of climate change is not too dissimilar from fishing, hunting, or riding – they all ask you to put yourself into the mindset of another creature. To respond to climate change, we must imagine ourselves in the bodies of future generations that will exist in a world we won't live to see. The choices we make today will dictate whether that world is a livable one.

Andrew Revkin, one of America's most respected environmental journalists, wrote an article for the New York Times in 2006 whose points feel as salient today as they did fifteen years ago. He lays out what we know: human-caused global warming is happening and without significant changes in emission rates, it is "likely to lead to substantial, and largely irreversible, transformations of climate, ecosystems and coastlines later this century." What we don't know: "the *pace* and *extent* of future warming and the impact on wildlife, agriculture, disease, local weather and the height of the world's oceans – in other words, all of the things that matter to people"ⁱ (italics mine).

Here's another thing we don't know: how to talk about climate change. One end of the spectrum calls for urgency and grabs headlines by, to take a recent example, throwing mashed potatoes on the most expensive Monet painting ever sold at auction. The activists seized the moment to turn attention towards looming climate catastrophes that are orders of magnitude

more important than works of art. A painting, one of the activists pointed out, will be worthless if we have to fight over food.ⁱⁱ

But urgency can be brushed off as alarmism, an over-reaction, or fits of passion. The other end of the spectrum calls for adaptation instead of radical change, asking leaders to institute policies that will enable humans to thrive on a warmer planet. But even common-sense ideas can be dismissed as paltry, a way of masking the true severity of the problem, propping up the status quo, or letting polluters off easy while failing to sufficiently rise to the occasion.

The difference in these camps illustrates the fact that responding to climate change is principally an intellectual endeavor. Most of us don't experience the kind of climate change that can be *felt* on a day-to-day basis. We cannot *see* the emissions that are causing the problem. We only experience the occasional (though increasingly frequent) natural disaster or warmer winter that gives us some pause and suggests that all may not be well in the world. Most of the time, we can carry on as usual, driving gasoline-powered cars and sanguinely recycling our plastic containers. Even if large-scale policy change were to take place – the kind that could significantly curb or halt emissions – the anticipated effects would be acts of intellect in themselves: an exercise in imagination. None of us would live long enough to witness their impact firsthand.

Choosing to have a child is an intellectual and emotional decision tied into one. As I contemplated the choice, I noticed certain themes recurring in the conversations I had with friends wrestling with the same decision. We all felt a sense of responsibility to make the *right* decision, both for the sake of the planet and for our would-be children. No one wants to make

the problem worse, and no one wants to doom their child to living on an Earth that can no longer sustain us.

There was also a sense of shame tied into the prospect of becoming a parent. My generation came of age in the midst of a climate narrative that paints humans as the undeniable villains. We overconsume. We pollute. We poison the soils. We poison the oceans. We pave over wetlands. We propagate human suffering and hasten species extinction. It's difficult not to think that the Earth would be better off without us. Maybe we don't belong here anymore. We are nostalgia incarnate; we suffer, as defined earlier, from a *deficit in belongingness*.

I obviously do not know how to fix the problem of climate change, nor can I say for certain whether the decision I made to have a child was morally defensible. But I do believe that living in a state of perpetual nostalgia is antithetical to the mindset that we the human race need to adopt to respond to climate change. I see it manifest in the Valley around me, as those who can afford to retreat to proverbial and literal climate refugia, buying homes where they can escape a sense of impending doom, mounting scarcity, and disease. And I see it in myself, as I long for my child to grow up the way I did, to experience the world in what felt like a gentler time – a time and a way of life that I cannot recreate.

Maybe we will run our course and succumb to extinction like every species has before us. But not yet. To abdicate to a sense of nostalgia would be a disservice to the child I carry and to future generations more broadly. It would be a retreat from an intellectual process that all of us are capable of: imagining and acting on a better future. The opposite of nostalgia is believing that one belongs here, and adopting the courage to do what one can to persist.

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