

And I think she was right.

Every instrument in my room hung on a hook, and on the wall behind each piece I had drawn and labeled the outline of the apparatus, like an echo of the real thing, so I always knew when something was missing and where it must be returned to.



a. A.

Still, even with such a system in place, things fell and things broke, piles formed and my methods of orientation always seemed to unravel. I was only twelve, but through the slow, inevitable burn of a thousand sunrises and sunsets, a thousand maps traced and retraced, I had already absorbed the valuable precept that everything crumbled into itself eventually, and to cultivate a crankiness about this was just a waste of time.



My room was no exception. It was not uncommon for me to wake up in the middle of the night with my bed full of mapping mechanisms, as if the nocturnal spirits were trying to chart my dreams.

I had once tried lining maps on the south wall of my room, but in my excitement to organize, I briefly forgot that this was where the entrance to my room was located, and when Dr. Clair opened the door to announce that dinner was ready, the bookshelf fell on my head.

I sat on my Lewis and Clark carpet, covered in notebooks and shelving. "Am I dead?" I asked, knowing that she would not tell me, even if I was.

"Never let your work trap you," Dr. Clair said through the door.

~ START HERE ~

Our ranch house was located just north of Divide, Montana, a tiny town you could miss from the highway if you happened to adjust your radio at the wrong moment. Surrounded by the Pioneer Mountains, Divide was nestled in a flat-backed valley sprinkled with sagebrush and half-burnt two-by-fours, a reminder of when people actually used to live here. The railroad came in from the north, the Big Hole River came in from the west, and both left heading south, searching for brighter pastures. Each had its own way of moving through the land and each had its own odor of passage: the railway tracks cut straight ahead, asking no questions of the bedrock through which it sliced, the wrought-iron rails smelling of axle grease and the wooden slats of rancid, licorice-scented shellac. In contrast, the Big Hole River talked with the land as it wound its way through the valley, collecting creeks as it went, quietly taking the path of least resistance. The Big Hole smelled of moss and mud and sage and occasionally huckleberries—if it was the right time of year, though it had not been the right time of year for many years now.

These days the railway did not stop in Divide, and only Union Pacific freight came rumbling through the valley at 6.44 A.M., 11.53 A.M.,

and 5.15 P.M., give or take a couple minutes, depending on the weather conditions. The boom era of Montana mining towns was long gone; there was no reason for the trains to stop anymore.

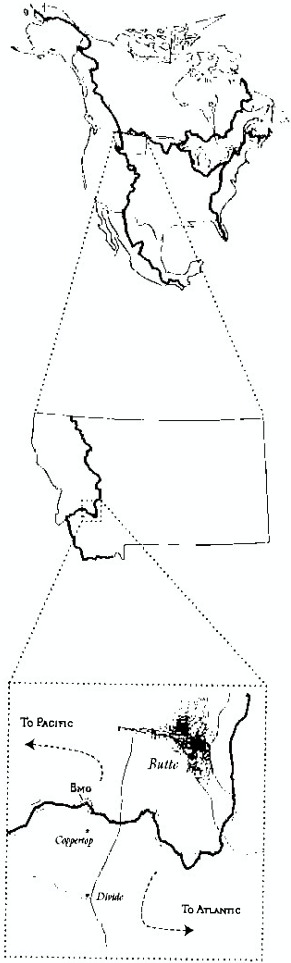
Divide once had a saloon.

"The Blue Moon Saloon," my brother Layton and I used to say while we floated in the creek, our noses pointed pompously upward, as if only gentry frequented the establishment, though in retrospect the opposite was more probable: these days, Divide was a town of holdout ranchers, fanatical fishermen, and the occasional Unabomber, not dandy fops with a mind for parlor games.

Layton and I had never been to the Blue Moon, but the idea of what and who might be inside became the basis of many of our fantasies as we floated on our backs. Soon after Layton died, the Blue Moon burned down, but by then, even up in flames, the place was no longer a vesicle of the imagination; it had become just another building burning, and now burnt, in the valley.

If you stood where the old railroad platform used to be, next to the white rusted sign that, when you squinted your eyes in just the right way, still read **D I V I D E**—from this spot, if you pointed yourself due north, using compass, sun, stars, or intuition, and then walked 4.73 miles, whacking your way through the scrub brush above the river basin and then up into the Douglas fir-covered hills, you would collide with the front gate of our little ranch, the Coppertop, nestled on an isolated plateau at 5,343 feet, a stone's throw south of the continental divide, from which the town had gleaned its name.

The divide, oh, the divide: I had grown up with this great border at my back, and its quiet, unerring existence had penetrated deep into my bones and brain. The divide was a massive, sprawling boundary not



Continental Divide as Fractal
from Notebook B58

determined by politics, religion, or war but by tectonics, granite, and gravity. How remarkable that no U.S. president had signed this border into law, and yet its delineation had affected the expansion and formation of America's frontier in a million untold ways. This jagged sentinel sliced the nation's watersheds into east and west, the Atlantic and the Pacific—and out west, water was gold, and where the water went, people followed. The raindrops blown a couple of miles west of our ranch would land in creeks that percolated through the Columbia River system into the Pacific, whereas the water in Feely Creek, our creek, was blessed with the task of traveling a thousand miles more, all the way down to the bayous of Louisiana before spilling through the loamy delta into the Gulf of Mexico.

Layton and I used to climb Bald Man's Gap, the exact apex of the divide—he taking care not to spill the glass of water clutched in between his hands, while I minded a rudimentary pinhole camera that I had fashioned from a shoe box. I would take pictures of him pouring water on either side of the hill, running back and forth, yelling "Hello Portland!" alternately with "Hello N'Awlins!" in his best Creole accent. As much as I worked the dials on the side of the box, the pictures never quite captured the heroism of Layton in that moment.

Layton once said at the dinner table after one of our expeditions, "We can learn a lot from a river, can't we, Dad?" And though Father didn't say anything at the time, you could see in the way he ate the rest of his mash that he appreciated that kind of thinking in his son. Father loved Layton as much as anything in this life.

Out on the **= STOP NOW =** ed. The tickers and
 clickers spattered **▽▽▽** oning orchestration,
 and August swam all around... remarkable. Montana

the fields, I had figured these maps might be more useful given my strong mind and weak hands. Layton had always been the one in the waders with the shovel, unclogging the ditches, unraveling the tarps, pulling out the boulders suctioned deep within the mud. Layton was so young and small and entirely elegant up there on his grey, almost bluish quarterhorse, Teddy Roo, and as they rode side by side, Father and he would talk endlessly in a language that I could understand but not speak:

- 1 LAYTON: When you bringin' 'em down?
FATHER: Land's open....Three weeks maybe, we'll cut, load, sell about a quarter...size it up when she comes. You itchin' to push?
LAYTON: Just about winter, sir. When we were punching last week...dem critters scrawny as hell....Ferdie said—he says public's a bust this year.
5 FATHER: No different any other. Ferdie's a wetback in a china shop, you ask me.

And I would ride up to join them on my horse, Sparrow (named for me and sharing many more characteristics with the bird than was healthy for a horse), who shivered and raked his head against his shanks instead of naturally falling in line with the two other horses like they did in the movies.

“What y'all talking about?” I would say. “Winter coming early?”

LAYTON: —Silence—
FATHER: —Silence—

With Layton gone, I found myself wondering how Father would manage balancing the water on his own. I could not simply trot up to him on my horse and replace what could not be replaced, so I did my research and drew out my water table series and entered the Sett'ng Room on that evening in April.

Father was sipping his whiskey, absorbed by the movie *Monte Walsh* on the television. His hat was on the couch next to him, as though saving the spot. He licked his fingers.

On the screen, horsemen jostled about, the hooves of their animals scratching up the land, kicking up a cloud of dust that pillowed and swirled back into itself. I watched with my father for a while. There was something intensely beautiful about the nature of obstruction in the scene, for you could barely see the riders as they danced and moved among the weary cattle, but even when they had disappeared in this sea of dust, you knew that the cowboys were in there somewhere, doing what they were born to do. My father quietly bobbed his head to this performance of horse and earth and man, as if he were watching an old 8mm home movie of his family.

Outside it was raining, the drops slapping against the porch in heavy waves. To me this was a good sign, a sign of what was to come and why these water maps might prove useful. Without saying anything, I began laying them out on the wooden floor. I used two of my father's cowgirl paperweights to keep them flat. Above me, on the screen, I could hear one of the horses blow and a man yell something indecipherable over the rumble of hooves.

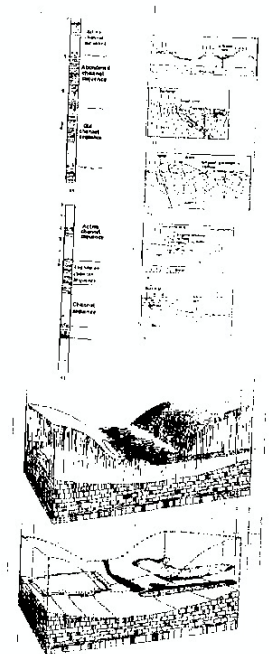
At some point, Verywell came into the room, soaked. Without turning from the television screen, Father yelled, “Git!” and Verywell got, before he had a chance to soak us with his doggy-shake routine.

I finished arranging my maps and waited for a moment of quiet in the movie.

“You want to give her a look?” I asked.

Father wiped his nose and put down his whiskey. With a long sigh he eased himself off the couch and slowly came over. I watched him as

→ Father had a habit of periodically licking his fingers as if he were about to perform some kind task for which he needed the extra traction and dexterity. Often no task followed, simply the habitual lick and the promise of the endless chores to come, as though my father could never quite shake that tic of physical labor. Even stretched out in his favorite spot in front of the television with whiskey in hand, my father was never quite relaxed.



→ The Water Table Series
from Notebook G56

he glanced at the maps on the floor, stooping down once or twice to get a closer look. It was more credence than he normally gave to any of my projects, and my pulse started to pound in my neck as he shifted from one foot to the other, rubbing the back of his hand against his cheek, looking.

"What'd ya think?" I said. "Because I'm thinking we shouldn't lean so heavily on Feely. I think we actually go across the road and build a culvert to Crazy Swede and—"

"Bullshit," he said.

I suddenly remembered that I had hidden Layton's name in the borders of each one of the maps, as I had been doing with all my work since my brother died. Had my father discovered this in the dim light of the Sett'ng Room? Had I broken the Cowboy Code? Transgressed some line of silence drawn in the sand?

"What?" I said. The tips of my fingers had gone numb.

"Bullshit," he said again. "You could draw a picture showin' me how to git water from Three Forks clear across the mountains and you could make it look real purty, but that's piss in a tin can, far as I see. This kinda thing's just fancy-pants numbers and bullshit. Open your eyes a little bit and you'd see that."

Normally I would be the first to dispute this. Numbers on a page, yes, but since Neolithic times we had been marking down representations on cave walls, in the dirt, on parchment, trees, lunch plates, napkins, even on our own skin—all so that we could remember where we have been, where we want to be going, where we *should* be going. There was a deep impulse ingrained in us to take these directions, coordinates, declarations out of the mush of our heads and actualize them in the real world. Since making my first maps of how to shake hands with God, I had learned that the representation was not the real thing, but in a way this dissonance was

what made it so good: the distance between the map and the territory allowed us breathing room to figure out where we stood.

Standing in the Sett'ng Room, with the rain pouring onto our pine ranch house, the drops seeping into cracks and corners, expanding the wood, running down panes of glass through the porch into the thirsty mouths of beetles and mice and sparrows huddling in convention beneath us—I wondered how I might convey to my father that I did have my eyes open, that mapping was not an act of forgery but of translation and transcendence. But before I could even begin to sculpt my thoughts in reply, my father was already returning to the couch and the springs were creaking. The whiskey was in his hands, his attention back on the television.

I began to cry. I hated crying, especially in front of my father. I gripped my left pinky behind my back, as was my wont in times such as these, and said, "Okay, sir," and then left the room.

"Your drawins!" Father yelled when I was halfway up the stairs. I went back and collected them, one by one. On the television, the cowboys had gathered in conference on a hillock. The cattle grazed lazily in the flats, showing no lingering awareness of the struggle that had just transpired.

At one point, my father rubbed his thumb around the rim of his whiskey glass, producing the tiniest high-pitch sliver of sound. We both looked at each other for an instant, surprised at its creation. Then he licked his thumb and I left the Sett'ng Room with my arms full of the useless maps.

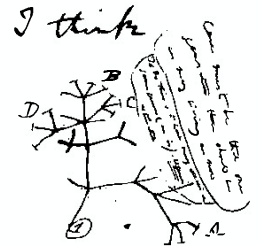
Father hit the brakes hard. Dirt popped and pestled beneath our tires. Startled, I looked up at him.

"Them ignor'nt goats," he said, staring out the window.

I turned and saw Stinky—the most notorious goat on the whole Coptertop for getting himself stuck in the fence—and there he was, stuck in the

→ I remember the first time I saw Charles Darwin's notebooks. I pored over all his sketches, the notations in the margins, the digressions, all in search of the breakthrough moment, the flash in the pan that had led to his discovery of natural selection. Of course, I did not find a single moment as such, and I am not sure this is how the great discoveries were ever made, that they actually were a long series of trials and errors, corrections and redirections, where even the declarations of "ah ha!" were later revised and refuted.

There was one page in his notebooks that caught my eye, though: the first known illustration of an evolutionary tree, a few bisecting lines on the page, branching outward, nothing more, an infantile form of the image that is so familiar to us today. The image was not what stopped me, however. Above the tree, Darwin had written the line:



fence. Stinky's other defining characteristic was his color: he was the only goat we owned out of about four hundred that was all black, with tiny white flecks of hair all up and down his back.

Hearing our pickup come over the hill, Stinky started spasming about all pell-mell.

"The black eye of our ranch" Father called him. I called him Black Stinky Pie, or just Stinky, because he always pooped a lot when he was caught in the fence. By the look of things, this afternoon was no exception.

Father sighed loudly and cut the engine. He made a move for the door handle. Without thinking about it, I said: "I got 'im."

"Yeah?" he said. He leaned back into his seat. "All right. I'd probably kill that critter anyways. He dumber than a grasshopper and I'm sick of punching his fat head from that wire. Sonfabitch deserve to be ca-yote chow."

I got out of the cab and found myself whispering "dumb-er than a grass-popper" over and over in a singsong kind of way.

As I approached, Stinky suddenly became very still. I could see the grooves of his rib cage heaving as he breathed. His neck was cut up something terrible from where the barb had rubbed open the skin—the blood was beading and dripping off the wire. I hadn't seen it this bad before. I wondered how long he'd been there.

"It's bad," I said, looking over my shoulder.

But the truck was empty. My father had a way of disappearing for a stretch, leaving without you ever noticing, tending to something, then returning just as silently as he had left.

I cautiously stepped forward.

"S'all right, Stinky," I said. "Not gonna hurt you, just trying to let you loose."

Stinky was breathing hard; one of his front legs was poised an inch off the ground, as if to kick out. I could hear the short, quick breaths slipping through the animal's wet nostrils, see the line of unchecked spittle running down into his little black beard. His fur was thick with blood. The wound on his neck opened and closed with each breath.

I looked into Stinky's eye for permission to touch his neck.

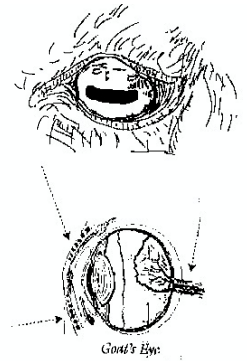
"S'all right," I said. "S'all right." His eye was a magical thing. The pupil was nearly a perfect rectangle. While I could recognize it as an eye like mine, there was something extraordinarily foreign in its bulgy unblinkingness, in the total absence of love and loss in that quivering black rectangle of sight.

I got down on my elbows and slowly pulled down the barbed wire from below. Normally, you were supposed to just give a good fierce kick to the goat's forehead, and this was enough to pop 'im back through the fence, but I was afraid of kicking Stinky. The animal was already in bad shape, traumatized into stillness, and a kick might just cause the barb to catch the skin and slice his neck all the way up to his mouth, killing the creature.

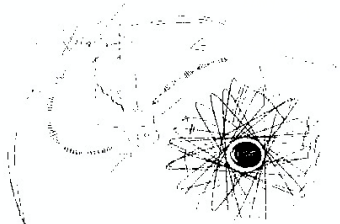
"S'all right, s'all right," I said.

Then I noticed that Stinky was not actually looking at me. I heard a clicking noise to my left—like mancala pieces being shaken in their wooden receptacle. I looked over, and there, not more than a foot and a half from my head, was the biggest rattler I had ever seen in my entire life. As thick as a baseball bat, its head up and off the ground swaying, swaying with a heavy preoccupation, not like anything that swayed in the breeze. I did not know much at that moment, but I did know this: a rattlesnake could kill you if it bit you on the face, which was right where this one was aiming.

I saw the three of us creatures locked into a kind of strange survivalist dance—that somehow the crosshairs of fate had brought us here together in



→ The Black Rectangle
from Notebook G57



$$\Delta^n = \{(t_1, \dots, t_n) \in \mathbb{R}^{n+1} \mid \sum_i t_i = 1 \text{ and } t_i \geq 0 \text{ for all } i\}$$

Triangulating Stinky and the Poisonrope
from Notebook B77

this instant of triangulation. How was each of us experiencing this moment? Was there an acknowledgment—beneath the assigned roles of fear, predation, territoriality—of our shared sentence? A part of me wanted to reach out to the rattlesnake and shake his invisible hand. I would say: “Though you know nothing more than how to be a rattler, you are not a Stenpock, and for this I shake your invisible hand.”

And then the rattlesnake moved toward me, its eyes unrecognizable in their unwavering purposefulness, and I closed my own eyes thinking that this was how it was to be, that dying on a ranch from a snakebite to the face was even more fitting than a self-inflicted gunshot wound to the head by an old antique rifle in the cold barn.

I heard two shots:



Somehow the second shot brought me back to the world of the ranch and I opened my eyes and saw that the rattlesnake’s head was off, on the ground, and blood was pouring from its thick neck. The headless body was pulsing, as if it were intent on coughing up something important. The snake coiled, clenched back into itself, uncoiled again, and then was still for good.

I could feel my heart pounding and pounding and pounding and for a moment I thought that it had pounded its way to the other side of my chest and that my organs had all rearranged (*situs inversus!*) and that I would be a scientific oddity and die young in a rocking chair.

“You fixin’ to kiss that poisonrope?”

I looked up. Father was holding the rifle, walking over to me, yanking me up.

“Well?” His voice was steady, but his eyes were white and moist.

I couldn’t speak. My mouth was drier than a mummy’s pocket.

“You stupid?” My father hit me on the back, hard, though I couldn’t tell if it was to brush me off, to reprimand me, or to substitute for a hug.

“No, I was—”

“Thing’ll punch you out quicker than you say Jim-Nay Christmas, and I ain’t gonna be there to shoot et next time. You lucky. That’s how Old Nance got on the right haunch.”

“Yessir,” I said.

He toed the rattlesnake carcass. “Sho. She’s a big one. Maybe we’ll bring that rope back to the house. Show your mudder.”

“Let’s leave him,” I said.

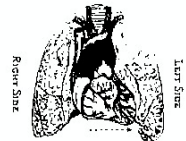
“Yeah?” he said. He took another poke at the snake and then looked at Stinky, who had still not moved.

“You saw it all, huh, you sonfabitch?” he said. And then he kicked Stinky so hard in the head the animal tumbled back at least fifteen feet. I winced. Stinky sat there for a second, dazed, his tongue working the lips of his mouth with an air of lunacy.

I watched Stinky, perhaps fearful that he might keel over and die from the shock of the whole thing, but animals have a rare quality that some people—like my father—would label ignorance, but that I thought was more akin to forgiveness. As he sat there licking his lips, it was almost like I could see the tension of the previous moment’s events slipping out of his body. Then he leapt to his feet and without a look backward ran up the hill, away from the madness.



SITUS INVERSUS



SITUS SOLIVUS
(NORMAL)

➔ *You Are One of Us
But You Are Not Like Us*
from Notebook G77

➔ This action seemed to violate rule #4 of Gene Autry’s *Cowboy Code*, but then Father seemed a selective follower of both cowboy ethics and the Bible; he referenced each only when it was convenient to his actions.



1. THE COWBOY MUST NEVER SHOOT FIRST, HIT A SMALLER MAN, OR TAKE UNFAIR ADVANTAGE.
2. HE MUST NEVER GO BACK ON HIS WORD, OR A TRUST CONFIDED IN HIM.
3. HE MUST ALWAYS TELL THE TRUTH.
4. HE MUST BE GENTLE WITH CHILDREN, THE ELDERLY, AND ANIMALS.
5. HE MUST NOT ADVOCATE OR POSSESS RACIALLY OR RELIGIOUSLY INTOLERANT IDEAS.
6. HE MUST HELP PEOPLE IN DISTRESS.
7. HE MUST BE A GOOD WORKER.
8. HE MUST KEEP HIMSELF CLEAN IN THOUGHT, SPEECH, ACTION, AND PERSONAL HABITS.
9. HE MUST RESPECT WOMEN, PARENTS, AND HIS NATION’S LAWS.
10. THE COWBOY IS A PATRIOT.

"Damn ignor'nt goats," Father said, and emptied the rifle cartridges onto the ground. *Clat ta chink, clat ta chink.* "Come on now, we got our business—day's leavin'."

I followed my father to the pickup. As he coaxed that old sucker engine back to life, I was filled with a warm, burning sensation. The tips of my fingers smoldered as if thawing from an intense cold. I couldn't forget how my father had toed that snake, how he had considered it completely in that moment and then utterly forgotten it in the next. As soon as the crisis was averted, his attention had simply swung back to the task of irrigating the ditches; the assuredness of his movement essentially said: *There are no miracles in this life.*

I did not belong here. I had known this a long time, I suppose, but the tunnel vision embodied in my father's gesture crystallized this truth. I was not a creature of the high country.

I would go to Washington. I was a cartographer, a scientist, and they needed me there. Dr. Clair was a scientist too—but somehow she fit out here as much as he did. These two belonged here together, circling each other along the endless inclines of the divide.

Through the palm-smudged window of the pickup, I stared up at the soft palette of dusk. Tiny dark bodies flickered on and off across the grey, depthless sky—the yuma bats (*M. yumanensis*) had begun their frenetic dance of echolocation. The air around the pickup must have been filled with a million of their tiny radar signals. Though I flexed my ears, I could not quite comprehend the dense latticework of their labors.

We pounded along, my father's hand on top of the wheel, his weak pinky cocked slightly upward. I watched the bats crackle and plunge against the sky. Such light things. Theirs was a world of reflection and deflection, of constant conversation with surface and solid.

It was a life I could not endure: they never knew *here*; they only knew the echo of *there*.

Buids. Standing on the polyester rug, taking in my surroundings, I was struck with a sense of the uncanny: there was something familiar and safe about the room, yet something also incredibly foreign and constructed. It felt like stepping into the kitschy doiled living room of a strange relative I had heard about but never met before.

"Well, Valero, this is home. Nice place." I tried to be sincere. I didn't want to offend.

Valero did not answer me.

The train pushed onward. After a while, the mountains narrowed into a steep-cliffed canyon and the railroad tracks climbed the tight slot next to the Beaverhead River. Our pace slowed and the grinding noises got louder as the grade increased. I looked out the windows of the Winnebago, trying to see the top of the mountains on either side.

And still we pushed up and up. A red-tailed hawk swooped down into the rippling rapids of the river. It was gone for a full two seconds, completely submerged in the cold mountain water. I wondered how it felt beneath the surface, a creature trained for the air but now surrounded by liquid. Did he feel like a clumsy visitor as I did when I was underwater, staring at the minnows that lurked like flecks of light on our pond's bottom? And then the hawk was already tearing back up into the air, droplets exploding off its pumping wings. There was a tiny silver fish in its beak. A perfect slip of a thing. The bird circled once and I strained to watch it move against the cliffs of the canyon, but it was already gone.

Without knowing why, I began to cry. I sat on the canary-colored couch in the sterile Winnebago propelled by a freight train and sniffled away. There was no sobbing, nothing girly like that, just this slow release of something small and sad lying at the bottom of my rib cage, caught between my squishy organs. I sat there and it came out. It was as if I were

SOME TIME PASSES
AND TS HOPS A TRAIN
TO GET TO DC.
ON THE TRAIN IS AN
PY HE NAMES VALERO
AND KIND OF LIVES IN
WHILE HE RIDES THE
TRAIN.

letting out the stuffy air from a room that had been kept locked shut for a long time.

Eventually, the grade outside leveled out. The view opened up to the vast, undulatory expanse of the Bitterroots—such old, contrary mountains, like a gathering of ornery uncles who smoked cigars and recounted quasi-believable stories of rickets and wartime rationing over long, drawn-out games of poker. The Bitterroots were stubborn, but they were oh so sublime in their stubbornness, and they flowed past the window like the backs of whales in slow motion. I really wished the Shoshone had known about whales. They would have named everything after them: Whale Mountain #1, Small Whale Hill, the Whale Saddle.

We crested the pass, and I felt as if I were on the top of a giant roller coaster waiting for the great pitch downward.

I tentatively stuck my head out the door of the Winnebago. Again I was greeted by the terrific clatter of the train. Inside it was muffled, but out here I was confronted with the clanking gears and the moving and jolting of all those little mechanical parts that pushed the train onward. Always the moaning and screeching of the metal, whining, *must we? must we? must we?* like a thousand tiny birds racked by insufferable pain.

The air that rushed across my forehead was cold and thin. I could smell the clean, clear scent of the Douglas fir forests that swept upward from the tracks. This was the high country. Open country.

The significance of our cresting dawned on me as the train seemed to gather its breath at the top of the pass.

“Valero!” I said. “It’s the divide! We’re passing over the divide!”

This divide was much more dramatic than the kinder, gentler slopes near the Coppertop. This was Monida Pass; this was the kind of place that had seen a lot of hot action, at least geologically speaking. Great batho-



Drainage Patterns in the Stubborn Bitterroots from Notebook G12

Every mountain range I have ever met has had its own mood and demeanor.

lithic slabs rising up and splitting apart over millions and millions of years, continental plates heaving and hoeing, beds of indignant magma bubbling beneath the bedrock, molding the stunning topography of western Montana. *Thank you, magma*, I thought.

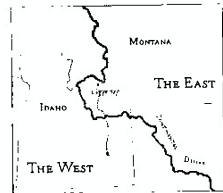
I breathed in the air and almost missed a sign as the train chugged past.

I smiled. If the continental divide was the ultimate boundary between the West and the East, perhaps only now was I officially entering the West. Our ranch was just south of where the continental divide looped back west to include the great thumbprint of the Big Hole Basin in its Atlantic drainage. This meant the Coppertop was actually located just east of that symbolic dividing line. Which meant....

Father, we are Easterners! I wanted to shout out. *Pass over some of that New England clam chowder! Did you hear that, Layton? You would’ve been an Eastern cowboy! Our ancestors never actually made it to the true West!*

But at least here, at the jack-pined apex of this pass, the Rockies wide open all around us, two boundaries—one physical, one political—merged into one. And for me, the continental divide had always had a quiet significance of division that could not be argued with. Perhaps it did separate the true *Far West* from simply *the West*. It seemed symbolically appropriate: before I could go East, I needed to pass through the Far West.

I tried to take my camera out of my bag and snap a picture of the continental divide sign for my scrapbook, but, as with most pictures, the image was gone before I could get ready for it. I feared that my scrapbook would only be populated by shots taken just after the fact. How many snapshots in the world were actually just-after shots, the moment that elicited the shooter to press the button never captured; instead, the detritus just following, the laughter, the reaction, the ripples. And because the



Coppertop as Eastern Ranch? from Notebook G101

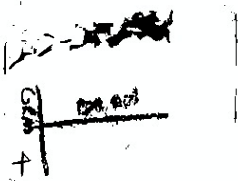
I was reminded of a line from the classic Arthur Chapman poem:

*Out where the world is
In the making,
Where fewer hearts
In despair are aching,
That’s where the West begins.*

These few criteria might have been all well and good for a poet, but what about for an empiricist like me? Where, really, was that magical line where the promise of the West began and the smugness of the East ended?

→ This phrase was said out loud by Father to Layton and me as we passed Johnny Johnson carrying his fishing rods on the Frontage Road. Johnny owned a little ramshackle house down valley. I suppose he represented the worst of what rural life can do to a man: he was racist, uneducated, and badly in need of dental work. In that moment of passing on the Frontage Road, I wondered how close the cosmology had come to making me his son. What if the proverbial stork had dropped me off a half-mile too early into the backward arms of the Johnsons? What if...

Then, completely out of the blue, Johnny showed up to Layton's funeral with his wife and sister. It was such a simple neighborly gesture that was also just profoundly nice of him to do. Of course, every time I saw him after that, I felt guilty for judging him. In retrospect, I guess I shouldn't be surprised: over the course of my short life I have learned that more often than not, people turn out to be different from who you originally thought they were.



A Map to the Church of the Big Hole by Johnny Johnson, apparently for his sister, retrieved from her pew after Layton's funeral from Shoebox 4

Perhaps my lingering depression was due to the fact that (a) I had been traveling on a freight train for the past twenty-four hours, and (b) aside from the cheeseburger, I had really not been eating properly.

Or perhaps my condition was subtly influenced by the fact that the Winnebago was actually pointed *west*, in the opposite direction that the train was headed, and so despite the vast tracts of territory that I was obviously covering, I could not help but feel that I was really traveling in reverse.

One should never drive in reverse for long periods of time. All of our cultural language around progress was concerned with traveling forward: "moving on up!" "full speed ahead!" and "onward and upward!" Likewise, "reverse" carried an idiomatically negative connotation: "he backpedaled helplessly," "it was a complete reversal of fortune," and "Johnny Johnson was about as backwards as they come."

My body had grown so used to traveling in reverse that whenever we stopped, I found that my whole field of vision swam at me. I had first noticed this when I was hiding in the bathroom of the Cowboy Condo during one of our numerous station stops. I had become increasingly convinced that the railroad knew my exact location and it was only a matter of time before they sent one of their bulls to come and kill me. As I sat on the toilet in the confines of the tiny bathroom, I suddenly was overcome with the sensation of running into the wall in front of me. It was nauseating to find that your reflection in the bathroom mirror was moving toward you when you were in fact standing still, as though it had managed to break free from the normal laws of refraction and optics. Gradually, through the steady influence of backward motion vectors, my confidence was taking a beating.

And so where did I find solace from this herky-jerky quagmire of momentum?

I knew there was a reason I had packed my studies of Sir Isaac Newton. I searched through my suitcase and grasped the notebook as one grasped an old childhood teddy bear in times of distress.

I had first studied Newton's *Philosophiæ Naturalis Principia Mathematica* when I was charting the flight paths of Canada Geese above our ranch, as I wanted a better understanding of the conservation of forces during the act of flying. Later I returned to Newton's work with a more philosophical (and probably inappropriate) approach as I began to conceive of the conservation of migratory behavior. As in: *what goes south will eventually return north*, and vice versa. I had thought about expanding my notebook into a paper on "Theories of Conservation in Migratory Behavior of Canada Geese," but I couldn't ever quite manage to squeeze it (even in an extremely extraneous fashion) into an eighth grade science report on, say, "The Salinity of Coca-Cola."

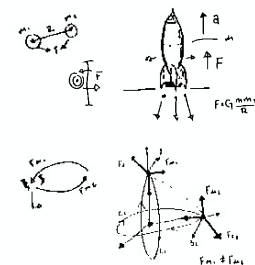
I opened my notebook on Newton. On the first page, I had written Newton's three laws of motion:

FIRST LAW: AN OBJECT AT REST OR TRAVELING IN UNIFORM MOTION WILL REMAIN AT REST OR TRAVELING IN UNIFORM MOTION UNLESS ACTED UPON BY A NET FORCE.

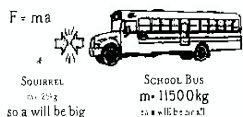
SECOND LAW: THE RATE OF CHANGE OF MOMENTUM OF A BODY IS EQUAL TO THE RESULTANT FORCE ACTING ON THE BODY AND IS IN THE SAME DIRECTION.

THIRD LAW: ALL FORCES OCCUR IN PAIRS, AND THESE TWO FORCES ARE EQUAL IN MAGNITUDE AND OPPOSITE IN DIRECTION.

Ah! Here were some laws to help unravel the momentum of my travels. According to Newton, the train was exacting the same force on



When Father hit me with the palm of his hand a little too hard in order to say hello, I stepped back a foot, because the differences in our masses (my father was a steady 190 lbs. and I topped out at 73 lbs.) transferred into a more powerful momentum change in my direction. On contact with that slap, I was exerting a change in momentum on him too, just not that much. Similarly, when a school bus hit a squirrel, the squirrel and the bus exerted equal forces on each other, but the vast differences in their masses caused the squirrel to gather a deadly amount of acceleration postcollision.



Equal and Opposite Forces
from Notebook G29

Even if you jumped up and down on the earth, you were knocking it off course a teensy-weensy bit. Mostly it was pushing back at your feet, but your little hop had the smallest effect, like the erosive effect of a wasp's feet on a pane of glass.

the Winnebago as the Winnebago exacted on it, but because of the train's much larger mass (and therefore its much larger momentum), and particularly because of the wonderful properties of friction, the Winnebago kindly acquiesced to the train's request to come along for the ride. I, in turn, was equaling the Winnebago's force on me, but also succumbed to its directional inclination due to my slender frame, gravity, and the stickiness of my sneakers.

Newton's laws of conservation also extended to forces acting upon one another: for every collision or movement there needed to be an equal and opposite counterforce.

But could this philosophy of conservation also be extended to the movement of people? To the tidal shifts of generations across space and time?

I found myself thinking of my great-great-grandfather Tecumseh Tearho and his long migration out west from the cold morainic slopes of Finland. His route to the mines in Butte was not a direct one: first that stop in Ohio at the Whistling Cricket, where he adopted a new name (and perhaps a new history), and then, when his train broke down at a small refilling station in the middle of the Wyoming desert, he would end up staying there for two years as a Union Pacific signalman.

The tracks that my train now followed would pass within twenty feet of where he had once sweated, filling up the great tanks of those locomotives. He must have wondered what kind of country he had come to. The desert was endless, the heat unbearable. And yet, had he come to the right place? Sometime in 1870, amongst all of that red sand and corrugated rimland, between the howl of the steam valves and the rickety call of the turkey vultures that circled the small cluster of buildings, *she* had arrived, surrounded by the twenty men of the surveying party. Perhaps the expedition

This is when TS first
arrives in the city, by
the way~

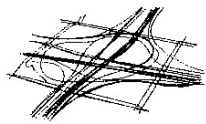
shook with each beat, the plastic bananas shivering in their little bowl. Oh joy of joys! Thermodynamics was back! Cause and effect had returned! *Welcome, boys, welcome!*

At the window, I parted the blinds with thumb and index finger and then made a single, brief groan of amazement.

A panorama of overpasses.

Okay, okay, I had seen pictures of overpasses before—I had even seen a movie where some guy jumps a bus from one overpass to another—but for a ranch boy like me, this confluence of floating roadways was almost too overwhelming. Part of my mental paralysis no doubt stemmed from the several days I had spent stuck inside the utter sensory deprivation of a Middle Western wormhole or whatever one called a quantum irregularity like that. Emerging from that experience into *any* sort of tactile reality would have caused a kind of synaptic whiplash—but to emerge into *this reality!* Here was the serpentine geography of civilization: a labyrinth of six overpasses, three layers high, beautiful and beguiling in their complexity and yet highly constructed and practical in their utility, a constant stream of cars weaving above and below one another, their operators seemingly unaware of the synthesis of concrete and theoretical physics that supported them in their turning.

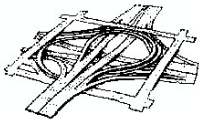
And beyond the overpasses, as far as the eye could see, there were tall buildings and fire escapes and water towers and huge streets that kept fleeing into the distance—a distance apparently composed of more tall buildings and fire escapes and water towers. The depth of field, the number of overlapping lines and materials on display all pushed me to the first stages of hyperventilation. At some point in history, every single one of these tall buildings, every metal railing, every cornice and brick and welcome mat—every one of them had been placed there by someone with his own



VEHICULAR TRAFFIC (30 SEC)



DIRECTION OF TRAVEL



The Miracle of Concrete
from Notebook G101

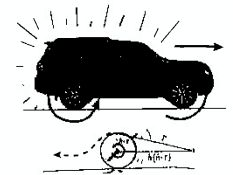
two hands. The landscape before me was an unimaginable act of human creation. Though the mountain ranges that cradled the Coppertop Ranch were mightier in stature than the sprawl of these buildings, I had always viewed their creation as inevitable, an expected by-product of erosion and plate tectonics. These buildings, however, did not have that easy sense of preordination. Everywhere—in the gridwork of the streets, the telephone wires, the shape of windows, the clusters of chimneys and carefully arranged TV dishes—everywhere there was evidence of a collective obsession with the comforting logic of right angles.

In all directions, the tall buildings cut off the view to the horizon: it felt as if the structures were giant theatrical flats placed strategically to block my line of sight, so that I might forget what the rest of the world looked like.

This is all there is, the buildings called out to me. All that is important is right here. Where you came from no longer matters. Forget it. I nodded my head. Yes—in a city like this, Montana did not seem to matter much at all.

In the foreground, a large black SUV idled on a road next to the tracks, and I realized that this was the source of the thumping bass notes. It was producing the strangest music I had ever heard—some hyped-up, masculine version of Gracie's Girl Pop that caused the whole SUV to quiver as if it were composed of firm pudding. The vehicle's windows were also black, so I could not see who was driving. Just as I was wondering how the driver could see where he was going, the traffic light changed and the SUV quickly peeled away. Much to my amazement, I noticed that as it moved forward, its big silver rims were actually spinning *backward*.

The train slowly pushed through this overcrowded sensory landscape. I opened the door to the Winnebago halfway, ventilating the stuffy



► The Car with Black Windows
That Drove Backward
While Traveling Forward
from Notebook G101

The paradoxical sum of these vectors made my head spin. I wondered briefly whether the laws of thermodynamics were suspended in a city such as this. Were all bets off? Could urban dwellers simply choose the direction their wheels spun by pressing an Anti-Newton button on their dashboards? Were all cars driven by autopilot so you didn't even have to see where you were going?

cabin. The sun shone against my face—I could tell that it was fairly early in the morning, but already the heat was building up; it was a thick, sticky heat that I had never felt before. It seemed as if little bits of concrete and rubber-coated wires and even some shish-kebab particles had all vaporized into the air, glomming on to the weary urban oxygen molecules.

A clattering of construction rose up nearby. The smells of exhaust and fermenting trash wafted into my nostrils and then were gone. Everything was transitory; nothing lasted more than a few seconds. And the people who moved through this landscape seemed to know this: they moved with a quickness of pace, their arms swung easily by their sides without expectation, as if all that mattered was their destination. There were more people visible at any given moment than I think I had ever met in my whole life. They were everywhere: walking on the sidewalks, crawling on cars, waving their arms, playing jump rope, selling magazines, newspapers, tube socks. More thumping bass came from another passing black SUV (this time, no backward wheels) and then this too was gone, leaving only an echo of *its* echo of the first car, and the two bass-pumping SUVs merged inside my mind to become a single car with both forward- and backward-moving wheels that straddled the space-time continuum. Man, this city was confusing.

Somewhere, a dog started barking—five short barks, followed by a man yelling in what sounded like Arabic. Three black boys on little bikes came whizzing around a corner, all hopping the curb, laughing as the last boy almost crashed before he recovered and joined his two compatriots. Their bikes were so small they had to part their legs in exaggerated V's to keep their knees from hitting their elbows.

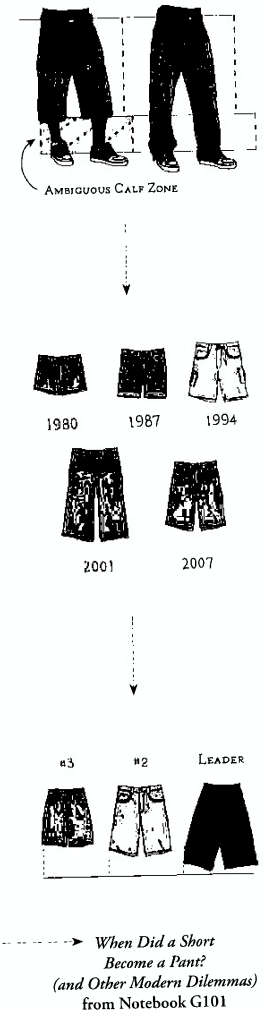
In the way you recognize that you have been using a word your entire life without actually knowing its proper meaning, I realized I had never

actually been to a real city before. A hundred years ago, Butte might have been a real city too, buzzing with the slap of daily newspapers, the jingle of a thousand transactions, the constant sigh of wool brushing against wool on crowded sidewalks—but no longer. *Here* was a real city. *Here*—as a large blue *Tribune* billboard announced—here was “Chicagoland.”

As I watched, I fell under the city's spell of multiplicity and transience. One could not possibly process an urban landscape like this through the sum of its details. All of my usual abilities of observation, measurement, and visual synthesis began to shut down one after another. Fighting a rising panic, I tried to retreat to the familiar territory of pattern recognition, but with thousands of minute observations to choose from, there were either too many patterns or none at all.

Out west, one could concentrate for days on the particulars of north-south geese migration, but here even just the peculiarly long cut of those three bicycle riders' jean shorts inspired a dizzying array of questions: how close were these shorts to being pants and what was the official length before something became a pant, anyway? How many years had it taken for these long shorts to be culturally acceptable? And what did the variation in length across the three boys suggest? Did the lead boy always have the longest shorts?

I saw a thousand maps rising into the air like ghostly echoes of the twisting city beneath: the ratio of cars to people on each block; the variation of tree species as you moved north through the city; the average number of words exchanged between strangers from neighborhood to neighborhood. I was having trouble breathing. I could not possibly make all these maps. The ghosts evaporated into the air just as fast as the city could produce them. All of these maps wasted, never realized.



Without knowing what else to do, I took out my Leica M1, licked my fingers, and removed the lens cap. I began taking pictures of everything the freight train passed: a public mural of a blues guitarist wearing large sunglasses; an apartment building with ten Puerto Rican flags flapping from the fire escape; a bald woman walking a cat on a leash. I took a series of water-tower pictures, trying to capture the varying styles of their conical roofs.

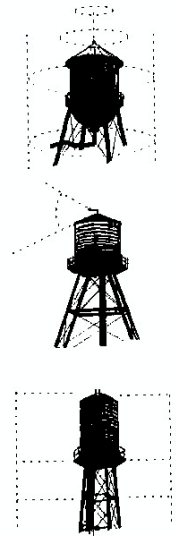
The certainty and framing of these exposures calmed me somewhat, but in a matter of five minutes I was out of film. Perhaps I shouldn't have gotten so hung up on those water towers. I couldn't just take pictures willy-nilly—I had to be much more selective in what I thought was interesting.

"Okay, brain," I said. "Start filtering."

So I opened my notebook. Out of a thousand possible maps, I chose one, which I labeled "The Map of Accompaniment; or, *Loneliness in Transit*."

Over the course of seven minutes, I recorded how many people were walking or driving down the street alone, how many were traveling in pairs, and how many were in groups of three, four, or five or more. Each time I marked down individual people, there was a brief moment when their world opened up to me and I could feel the urgency of their travels, their feet already anticipating the textured carpets and measured stairwells of their destination. And then they disappeared into the grid and became just another plot on my graph.

Gradually, however, a larger narrative emerged: of 93 people observed, 51 were walking or driving alone. And of these, 64 percent were listening to earphones or talking on cellular telephones, perhaps to distract themselves from the fact that they were traveling alone.



T. S. Spivet
Water Tower #1, #7, #12
 2007 (pen and ink)
 Exhibited at the
 Smithsonian Museum
 December 2007

After thinking for a moment, I erased the number 51 and wrote 52, brushing the tiny pink eraser worms off the page with my thumb. I was now one of them.

Our train pushed me into a grouping of huge cement factories. People had made little houses out of cardboard. I saw a blue-sock-covered foot peeking out from one of these little cardboard tents. One man had made a small compound in an abandoned, weed-lined lot—he had circled six shopping carts around a tarp and decorated his living quarters with a dozen plastic flamingos. The flamingos looked sad but alert surrounded by all of that concrete, as though they were putting in their hours before they could fly back to Florida and retire to a life of grumbling and complaining about their time roosting amidst this industrial wretchedness. Beneath the distant safety of the palm tree, however, they would eventually become bored, and would secretly long for the immediacy and rawness of their former lives in the dirty lot.

The more I looked around, the more trash I noticed on the ground. It came in every imaginable form: bottles, potato chip bags, car tires, wheelless shopping carts, plastic bags, empty Slim Jim wrappers. All of these items had been produced by factories, probably in China, shipped to the United States on a cargo ship piloted by a sniffing Russian man, handled and discarded by a Chicagoan, and now they lay across the landscape, fluttering in the light breeze (except the tires, which did not flutter). What if you mapped a city only by its litter? What places would be most densely populated?

