MOUNTAIN LIONS AT THE CITY’S EDGE

INSPIRATION FROM THE DESERT: AN ARTIST COMMUNITY IN KAYENTA

INTO THE DARK: PRESERVING UTAH’S NIGHT SKY

EVERETT RUSS’S DESERT-RAT ETHIC

INTERVIEW WITH TONY HILLERMAN; POETRY BY DAVID LEE
RENEE TILTED HER HEAD and looked down the barrel of the shotgun, her index finger resting on the trigger, not yet moving into position. The dim light coming from the truck's cab was barely enough to line up the site, let alone the rabbit 30 yards off.

"Relax now," she told herself. She only needed one more good shot. She steadied her elbows on the tailgate and wondered, not for the first time, what her husband, John, would say if he could see her now. Surely, if he thought of her at all on his trip, it was at home, on the couch, reading a book.

Standing on the ground next to her, Brad held the spotlight on the large, probably female, black-tailed jackrabbit. Brad was an undergraduate who worked in John's lab, but tonight, with John out of town, Renée had recruited his help. They'd spent the last three hours on the backside of the Oquirrh Mountains cruising slowly through the west desert, Brad panning the light left and right looking for glints of red or yellow, the nighttime shine of eyes.

*Lepus californicus,* the black-tailed jackrabbit was not really a rabbit, but a hare. A hare that could run and leap like few other animals its size, though right now this one sat perfectly still, its long, black-tipped ears erect and turned forward. The spotlight had surprised it while it was foraging on late summer grasses, interrupting what was otherwise a dark and safe, moonless night. Although momentarily paralyzed, Renée knew the rabbit's hind legs were tense, its muscles ready to leap.

Unlike cottontails, domesticated bunnies that could only bound and scrounge their way to safety, jackrabbits could run up to 35 miles per hour. Not quite racehorse speed, but remarkable for a little mammal, and often fast enough to lose a coyote. But that wasn't all. The jackrabbit had an additional evasive trick: the surprise leap. With its powerful hind limbs it could spring almost 20 feet in the air.

Only what went up, also came down, and it was this coming down that Renée was trying to figure out while her functional morphologist husband was away.

"Keep your eyes on it," she whispered. "See if I get it." Inhaling once more, she pulled on the trigger and then felt the muffled bang through her ear plugs.

"You got him!" Brad yelled.

Renée didn't bother to tell Brad that the rabbit, being large, was most likely not a "him" but a female. She flipped the safety on the gun and set it down.

Excited, Brad bobbed up and down next to the truck while he waited for her to get out. The spotlight shook wildly across the flat expanse of desert vegetation. Large, gnarly bushes of sage were interspersed with rocks and dry cheatgrass waiting for fire. The yellow flowers of rabbitbrush looked pale in the light. Brown on brown. Tough plants that knew how to make a living out of a stingy earth and sky.

"The question now is whether I missed in the right places," she said. She removed the ear plugs and dropped them into her jacket pocket. She stood and felt a sharp pain in her knees. Ten years ago she could go from a squat to standing without any problem. Ten years ago, she reminded herself, the doctor had advised her to give up running. She swung a leg over the back end of the truck and stepped to the ground.
“Did you see where it went down?”

“Yep,” he said. The light jiggled on the ground before them. He marched quickly in the direction of the rabbit. “Just to the right. There it is!”

She’d gotten the rabbit for sure. It was lying on its side, panting in quick mini-breaths, which meant that she’d missed the lungs. That was good.

“Give me some light,” she said.

She kneeled next to the stunned animal. From the small bag that hung at her waist, she pulled out a knife, flipped it open, and in one quick gesture, pushed the animal’s head back and slit its throat. Reaching back again, she grabbed a plastic bag, shook it open with one hand, and deposited the bloody rabbit inside. She stood again, this time grunting softly at the pain in her knees.

“Wow,” Brad said quietly.

“Let’s go,” she said, heading back to the truck.

She set the rabbit in the bed of the truck along with her bag of supplies. She removed the shotgun and slid it behind the seats in the cab. Grabbing the top bar, she pulled herself up into the driver’s seat and started the engine. The truck rocked as she maneuvered through the low brush. At the asphalt, she turned onto the road that led to the interstate. Once she had accelerated onto I-80, she pulled her seat belt across her shoulder and lap, fumbling until she found the buckle.

“Is your seat belt on?” she asked.

“Whoops,” Brad said. She heard the zip and click of his belt. “So it’s the lungs you want?”

“And the heart and aorta.”

“Why?”

She glanced over at him, thinking to prove my husband wrong. Instead she said, “Think about it. How can a seven-pound jackrabbit that has just jumped 20 feet into the air come down without scrambling its insides?”

Brad didn’t offer any comment.

“The G-force would be enormous. Why doesn’t the heart explode when it slams into the sternum? We all know what happens to humans without seat belts during car wrecks.”

She pulled on the shoulder strap of her seat belt, let it snap back and then tapped on the center of the driving wheel. “Ralph Nader, seat belts, and the invention of the airbag.”

“I don’t think I understand.”

“Airbags. I think the lungs, the left lobe to be specific, is like an airbag. I think it inflates and cushions the heart when the rabbit comes down.” When Brad didn’t respond, she looked over at him. “Thanks for the help.”

“I didn’t really do anything.”

“Can’t shoot what you can’t see,” she said. “And if you don’t tell John, then you’ve done a lot. This is a surprise.”

WEN'T YEARS EARLIER, as an undergraduate, Renée had noticed that the lungs of the domesticated rabbit, Oryctolagus cuniculus, she was dissecting didn’t look like those floating in a jar of formaldehyde at the back of the laboratory. She read the label of the floating animal: Lepus californicus. Not the same species. Her domesticated rabbit had equal-sized lobes, but in the jar, the rabbit’s left lobe was double the size of the right lobe. She’d finished her dissection, done a little research on the running and hopping patterns of rabbits, and turned in a paper suggesting that these enlarged lobes, which sat between the heart and sternum, might work like air bags for the heart in a running, leaping animal. Her professor, John, had been impressed enough to hand her some additional papers on lung morphology and invite her to dinner. She’d read the papers, gone to the brew pub.

“Doubtful,” he said of her hypothesis. “To support the heart, the lungs would have to be positively pressured, inflated upon impact.” He took a sip of beer. Some of the froth coated his mustache.

“And?” she said.

“And how are you going to test that?”

She didn’t have an answer. She ate her burger, drank her beer. They moved on to dessert, a movie.

“Besides,” he added, coming out of the theater, “what you have is an n of one. One bunny. One jackrabbit. Your sample size is too small for conclusions.”

At 28, from Scofield, Utah, Renée was just finishing her degree in biology. John, 34 and science savvy, was in his second year of a tenure-track job. A year later, they were married. When Renée voiced interest in going to graduate school, he was hesitant.

“No way you can do it here. There would be too much difficulty, conflict of interest, that sort of thing.”

“So I’ll apply somewhere else.”

“A long-distance relationship isn’t my idea of a good
marriage. Besides,” he said, “I don’t really see you happy doing science—not for the long term anyway.”

Just what did he see her doing, she’d asked? He couldn’t say, and before long she was pregnant with Samantha. During the months that her belly swelled, Renée told herself that she wasn’t sure she wanted to dedicate all her time to bones and muscles anyway, didn’t want to be a hermit in the basement of some biology building working out the details of running and evolution. Perhaps John was right, she really wouldn’t enjoy writing grant proposals and papers, or going to boring faculty meetings.

Only the question of rabbit lungs kept bugging her. Lying in bed one night late in the pregnancy, feeling the kicks from the baby and watching the waves move across her belly, she suggested that John take up the question of rabbit lungs.

He looked over from his reading. “Right, and lose all my future funding prospects,” he laughed. “I mean, the idea might seem plausible to you, but it doesn’t make any sense physiologically.”

Samantha was born and as time went on, John spoke less and less about his work. Whenever Renée asked after a project, he would say he was too tired to talk science and would quickly change the subject. She interpreted his evasion as a sort of guilt—her having chosen him and child over career. He was not an insensitive man; he wouldn’t want to rub it in.

One day she’d gone to the department website and looked at John’s webpage. He was staring out, his mustache prematurely gray in the shadow of the photo, his eyes bright blue. Glancing over the description of his work, she scrolled down the list of publications. Nothing on rabbits, or lungs. She glanced through the list of co-authors, noting that there wasn’t a single name she recognized. She scrolled up the screen again and looked at his picture once more, and this time she couldn’t help but see a tinge of sadness in his eyes, the face of a man who felt very alone.

A few days later, after dropping Samantha off at day care, she decided to visit the laboratory, surprise him working, and cheer him up. She imagined he would be as always—stationed at the X-ray machine, running a dog on the treadmill. Or he might be sitting at the large wooden table in the back room, gray bones scattered about as he worked on putting together variations of skeletons, trying to figure out why animals were built one way instead of another.

As she walked down the basement hallway toward his laboratory she laughed out loud at the memory that came to her. It had been in this smelly back room—strewn with bones and turtle shells, feathers and hoofs—that they’d first embraced and then kissed, and when she’d glanced away from his face the first thing she’d seen was the lower end of a giraffe’s carcass. Its soft, mottled fur had been removed and was drying like a towel on a rack; the bones, still covered with bits of tendon and dried flesh, were crawling with the sarcophagus beetles that would do the final cleaning.

Only today when she pulled open the laboratory door and entered, she found it changed, an entirely different place from the laboratory she’d left two years before. There was no faint formaldehyde smell. Gone were the piles of bones. Gone was the mess of wires connecting computers to electrodes to X-ray machines. What she found was a front room lined with three empty cubicles, counters wiped clean, supplies organized alphabetically. Hearing his voice, she crossed the lab and found him in the conference room, his feet propped up on the table, his audience a captivated, laughing group of undergraduates. When he turned and saw her standing in the doorway, she had the distinct feeling that not only had she been wrong—he wasn’t alone or lonely—but he also wasn’t pleased to see her.

Later that evening, as he cleared the table and she washed the dishes, she said, “I was thinking now that Sam is in daycare, I could work in the lab again,” she said.

“No way!” he said. “I don’t want any Carols in my life.”

Carol was the wife of a colleague who’d gotten her doctorate in the 1960s and had always worked in her husband’s laboratory. Although her name never appeared on any papers, rumor was that she was responsible for at least half the work the lab put out. Probably more. John wasn’t that kind of man. His success would never be had by exploiting his wife. And he didn’t need Renée’s help. Even if his funding was meager, his list of publications was multiplying.

“You’re not still thinking of rabbit lungs, are you?” he asked.

“It’s not like I have much else to think about.” She scraped the leftover food into the sink and turned on the disposal.

John went back to the dining room for the rest of the dirty dishes.

The truth was, John didn’t believe Renée could take it. A life in academia was male oriented. The constant jockeying
for position, the petty political maneuvers, the incessant rejection from funding agencies, papers eviscerated by fellow scientists, sometimes rightly so, but often their criticisms little more than jealousy veiled in obscure statistical objections. The competition was fierce. Some days he felt that it was all he could do to stay afloat. Renée was naturally sensitive. She cried easily. She wasn’t a competitive person. He had wanted to shield her from all that.

John’s science stayed in the lab and Renée took up running, obsessively so, John thought, ticking off the miles and milestones. A 10K, half-marathons and then marathons too, challenging herself to ever-quicker times. For a long time, she didn’t give rabbits much thought until the day—years later—that her neighbor knocked on her door.

“My daughter’s pet rabbit died.” The woman’s face scrunched in disgust. “I thought maybe your husband might help.”

Renée spent the rest of the morning with a dead rabbit on her kitchen table. Stroking its soft fur, she wondered where she might bury it and then the idea came to her, the old question of rabbit lungs. She glanced up at the kitchen clock. Four hours until Samantha would come home. Why not?

She spread old copies of newspaper on the table and set about slicing, peeling back fur and skin, carefully dissecting out the lungs, trachea, heart, and aorta with her best sewing scissors, eyebrow tweezers, and thick embroidery needles. At three o’clock when Samantha came in, the rabbit was gone, the table sterilized, and the rabbit parts were wrapped in wax paper hanging in a cheesecloth bag in the basement. When John came home that night, she created a spontaneous school meeting, took down his keys and went to the laboratory.

Once there, she gently blew air through the bronchi, into the sticky lung tissue until the alveoli inflated and dried. She held the light, inflated lungs in her hands, realizing that this was only the beginning. Specimen number one. She felt a rush of excitement. Ignorant as she supposedly was, she would follow this through, suddenly castigating herself for not having pursued graduate school. While John had spent the last years working his mind, all she’d achieved was a turning in, an obsession with running and races, body fat, cross-training, minutes per mile. And what did she have to show for it now? Bad knees. A strict order from the sports physician to quit. An arthritic future.

She set the lung in a small box, stole a pair of calipers from the lab and went home. Tomorrow she would do the measurements. Tomorrow she would make up a plan of action. There was nothing to lose. If she was wrong about rabbit lungs, John would never need to know.

Through the coming years, she added to her data set, dissecting, blowing, measuring. She made and analyzed plaster casts of the hearts and lungs, collected more rabbits, added them to her data file. No one ever questioned her occasional comings and goings to the laboratory when John was out of town, not his fellow colleagues to be sure, nor the secretaries who gave her the master key when she feigned fluster and rustled in her purse, saying, “Oh dear, I must have forgotten mine at home.” She measured the lungs of domestic bunnies, cottontails, and jackrabbits and compared these to those of squirrels, an unrelated group of animals. She managed to train a rabbit to run on the treadmill, and using the moments when John was out of town, she’d pointed the X-ray film on the running rabbit and measured lung volume when the rabbit sprang up and when it came down. Not only did jackrabbits have the largest heart and an enormous left lung lobe, but also extra tissue between the lung, heart, and sternum, and special grooves in the lung where the aorta and ribs sat. It looked indeed as if the left lobe, when blown up, was an air pocket around the heart and aorta. The domestic and cottontail rabbits lacked such pockets of air. The measurements from inflated lungs, plaster casts and X-ray film had been enough to make her case, “originally and compellingly so,” the reviewers had said.

On the morning that her paper on the morphology and function of jackrabbit lungs was published in Nature, Renée was sitting on the porch, her legs propped on an upside-down plastic bucket. Hummingbirds buzzed around the red feeders she’d filled the night before. She looked out beyond the porch at the Salt Lake valley, wide and flat, abruptly rising on its western side at the Oquirrh Mountains. There was so much she ought to be doing on a sunny morning like this. Three varieties of basil to be planted, new pots of Penstemon, a flat of pink snapdragons, but the air was so cool and the sun warm where it hit her legs. She reached out, plucked a snapdragon blossom, and squished its back end, causing the front lobes to open and close.

She looked up again at the hummingbirds hovering at the feeders, chasing and clicking at one another, forcing one another out of place. Maybe she’d start playing with the sugar
concentrations and colors of the food to see whether sugar and color were connected in a bird’s mind. Could she teach them to associate some other color, say blue, with high sugar concentration? Or were their brains forever set on red?

The phone rang, as she knew it would. She took a deep breath, felt her diaphragm pull down, and the air fill her lungs. She let out the breath and waited until the third ring. John would have seen the paper first thing that morning.

“Hello,” she said, in a generic tone.

“How did you do this?” he asked.

“How? The methods are written up in the appendix.”

“I’m not talking of the scientific methods!” he shouted.

“You never said a word.”

“I know.” He was understandably angry, she told herself.

“Where did you get the specimens? It says here that the rabbits were shot. When did you learn how to use a gun?”

“It’s not a big deal, John. Every kid in rural Utah knows how to shoot.”

“Why didn’t you say anything?”

“About the gun?”

“Jesus, Renée, not the gun, the rabbits!”

She didn’t answer immediately. “I don’t know,” she said, although this wasn’t true. “Besides, you never thought much of the idea anyway.”

How could she tell him that it had all started that day she’d visited him in his newly cleaned and organized laboratory? Rather than alone, she’d found him basking in the laughter of the students. And then his surprise, almost unhappiness, at seeing her standing before him. She’d realized then that she was not wanted there. She’d looked to the undergraduates sitting around the table and seen herself reflected in them: young, smiling, impressed. In that moment, she had despised him, an immediate and inexplicable sentiment, she knew, but still, for the rest of the week, every time she’d remembered it—going into that altered, sterile lab, seeing his feet propped up on the table, hearing the laughter of the students and then his sur-
prised face—she’d become angry and she’d vowed never to set a foot in his laboratory again.

It was a vow she probably would have kept if her neighbor hadn’t appeared with the dead rabbit. Boredom had driven her to the first dissection, but she’d quickly become excited by the possibility and an urge to compete. He’d said it couldn’t be done. She would prove that it could. He’d said her hypothesis was naïve; she would test it and find out. Just like when she ran a 10K or a half marathon, she had wanted to win.

She knew he would see her secrecy as a betrayal, like a hidden marital affair, and maybe it was, but including him would have tainted the project. She thought of all the well-meaning things he would have said, the comments and criticisms, the improvements on her experiments; she’d never wanted to hear them. Finally, it was a way of proving to herself, and him, what she might have done.

She also knew this stealthy science of hers would change everything between them. Eventually, he would get over his anger, but from today on, even though she would never again publish on rabbits or lungs or running, his sense of stability would be altered. Although it would never be discussed, not beyond the how could you?—I don’t know, she knew that like an old-fashioned scale, more weight had been added to her side. Tilted and rocking, it would be interesting to see where it came to settle.

Still on the phone, John continued reproaching her, using a thesaurus of adjectives to express his discomfort. Her eyes were caught by the iridescent feathers of the hummingbird at the feeder.

"John," she lied, "I’ve got to go. Samantha is calling on the other line."

She hung up and looked out once more at the desert horizon. She recognized the mix of feelings swelling in her, dual sensations of elation and relief, the same mix she felt when crossing the finish line at the end of a race. She let out a sigh, closed her eyes and listened to the buzzing and clicking of the birds zipping around her.