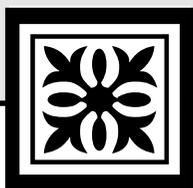


Power With Nature



Dog of the Sun Cat of the Wind

a primer disguised as a fable

ILLUSTRATIONS BY SARA TUTTLE

big mean yellow cat
black dog runs hot on its tail
old script, new ending

I thought I was waking up to a normal day. The sun was rising in its rightful place over the eastern foothills while a few broken clouds filtered warm rays into golden shafts of shimmering light. I could hear the usual swarm of hummingbirds outside my window, chattering and posturing for places at the feeder. And the impatient (and at that hour, cacophonous) clicking of the dogs' claws on the oak floor was a familiar signal that they were eager to go outside and do all the things that dogs naturally do after a night's incarceration. Nothing abnormal about that.

It was only after I tromped down the stairs—bleary-eyed and half-asleep—that I began to realize my perfectly normal day wasn't going to last. For starters, the clock on the microwave was blank, meaning that the power was out—again. Not that unusual, when I stopped to think about it. Just annoying.

The real problem was the cat; the big yellow one. The one with the attitude. Wild Willie From Outta Town. He was up to something; I could feel it.

Just as always, there were three dogs pacing the floor in front of the big glass door, looking alternately at me and whatever it was outside demanding their immediate attention. When Big Mick, the leader of the pack, saw me coming down the stairs, he pushed his way into position, since it was his birthright to always be the first out the door. Amiable Amy was second, and Newt, The Nubian Devil Puppy, was at the bottom of the pecking order. She hung back in an uncomfortable proximity to Willie the cat and waited for me to kneel

my way through the traffic jam of hair, teeth and claws to open the door. The other cat, Stinky the Spook, warily eyed the anxious foursome from the relative safety of the couch, where she no doubt planned to take a long, peaceful nap while everyone else—particularly her nemesis, Wild Willie—was out chasing rabbits, ghosts, velociraptors, woolly mammoths, or whatever else might wander into range.

Wild Willie, true to his name, is a born troublemaker. He has no respect for authority, or sense of fair play. If he were a fox, he'd be the bane of every farmer's hen house; if a 3rd grade student, he'd sneak tacks onto the teacher's chair and pelt the back of her head with spitwads. Being trapped in the body of a housecat, however, Willie has to sate his aggressive urges with frequent sneak attacks on poor Stinky, and occasional, unprovoked swipes at Newt. Mick and Amy, on the other hand, manage to stay above the fray, since they both learned long ago the best way to deal with Willie was to refuse to acknowledge he exists.

On this particular morning, Willie had a devilish look in his eyes. He was planning something, that much was clear. It was the same look he'd had when he got Newt to chase him into a culvert that wasn't quite as big as she was. It took two 5-pound cans of vegetable shortening, a prime cut of beef, and a long pole with a padded end to get



her out again. I shivered at the thought. Newt has a short memory, and I was out of shortening.

But, what the heck? I needed a shower and a cup of coffee and the dogs needed out. Whatever that miscreant of a cat had planned, there wasn't much I could do to stop it. I opened the door and let the river of semi-domesticated predators pour out into the unsuspecting day.

Fortunately, the power outage was short lived, so after a few minutes I was able to take a shower and give myself an infusion of Java before setting about to do my morning chores: feeding and watering the horses and calves, and mucking the horse stalls. It's not a lot of fun, but it sure beats a real job.

Keeping a suspicious eye glued to my yellow cat, I could see that my first feelings about Wild Willie were on the money. The ornery cat had a real attitude on today. He acted like he had a tick buried in his backside and was convinced that Newt was the cause of it. He ambushed her at the horses' water trough, and again in the feed room. I could see the poor dog's patience was running thin.

Finally, just as I was making my way back to the house for some breakfast, Willie launched himself off the haystack and sunk his fish-hook claws into Newt's back. She took off like a rank bronc with Willie—ears laid back and a sardonic sneer on his face—determined to stay on for the full 8 seconds. It didn't last that long. Newt took a roll after a few strides, and Willie leapt off just before becoming two-dimensional. It was a footrace from then on.

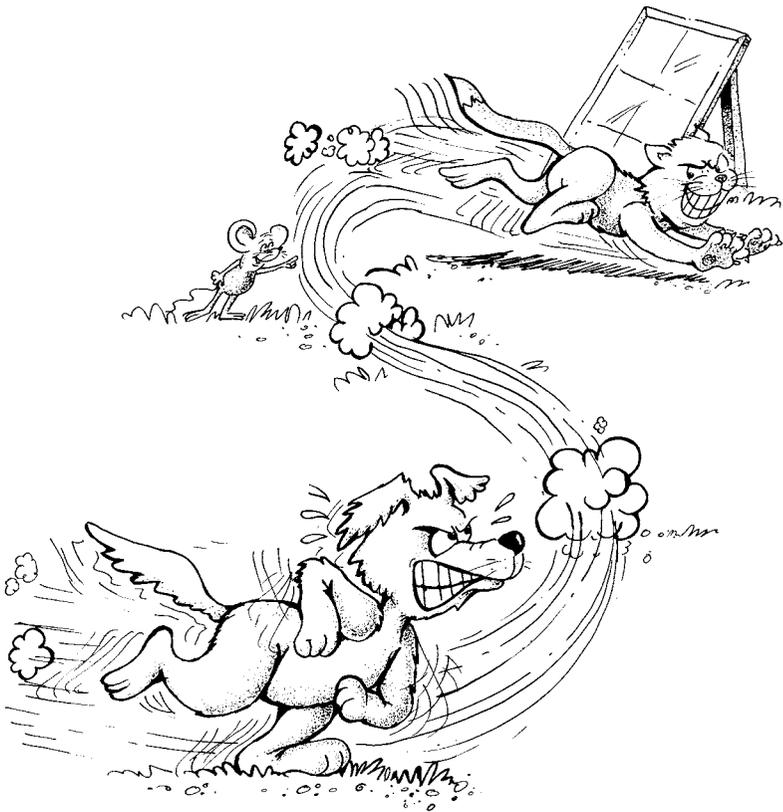
Newt lit after Willie like a dog possessed. She chased him under the deck, around the house and clear down to the barn. I remember thinking *for Heaven's sake, just stay away from the culvert!*

Back up to the house, and around the fish pond. Then Willie ran up the tree, 50 yards downhill from the brand-spanking-new solar panel I'd bought to run the pump that aerates the pond water. I could swear I heard the cat chuckling as Newt growled and paced around the base of the old Ponderosa. Fine, I thought, it'll do the miserable cat some good to spend a day in the tree. But Willie had other plans. Just as I was turning to go in the house, he jumped out of the tree and ran right for the solar panel, Newt's hot, steamy breath ruffling the fur on his tail. I didn't want to see what was about to happen, but I could hardly

turn away. I yelled at Newt to stop, but she goes stone deaf when her blood's up and this is one time I couldn't blame her. I didn't want to have to call the vet to extract my dog from a solar panel, but at that point I couldn't see any way around it.

Then, just as I predicted, Willie ran under the solar panel, while Newt ran right into it. I cringed, waiting for whatever god-awful noise is supposed to occur when a dog running full-bore meets a fixed panel of tempered glass, but to my utter amazement there was not a sound to be heard.

Nor was there a dog to be seen. Newt had vanished. 🐾



black dog in shadows
 *yellow dog unloads his mind* 
denial ensues

Just the week before, I had installed that simple little solar system (not to be confused with the big one with planets and moons and all—mine was a lot smaller). It wasn't much, just a modest 30-watt solar panel, and a 12-volt pond pump, both purchased from one of those environmentally oriented mail-order houses. The idea was simple; whenever the sun shines, the pump pulls a column of water from the bottom of the pond and dribbles it over a pile of rocks on the shore where it drains back into the pond.

When the sun was low in the sky, the flow was ponderously feeble, but it got to be respectable around midday. Upon seeing that it actually worked, I just had to ask the question: "How does a blue, glass-covered rectangle of silicon make water flow over a waterfall?" The answer was simple: "Who cares? I'm a rancher, not a geek." It was true. I am a rancher. And I didn't care.

At least not then.

But now, considering that my solar panel had just swallowed my dog whole, I suddenly had a keen interest in solar power.

I stared in disbelief at the seemingly innocuous "thing" that had just eaten Newt. I was already starting to miss her. Even Willie seemed a little disheartened by the whole thing. He sat on his haunches and tapped the hard surface of the solar panel with his paw, as if he expected Newt to somehow pop out of it and get back into the game. I shared his sentiment.

But like 'em or not, facts are facts and the dog was gone. The ominous question was: gone where? It wasn't like there was a bone-rending crash, or a crack in the solar panel, or any evidence at all that she had ever been near the thing. Could I have imagined it all? Maybe, I surmised, late nights rocking with the Rolling Stones at full volume had at last begun to alter my sense of reality. Newt was probably on the other side of house, trying to flush a rabbit out of a bush.

As much as I wanted this to be true, the thought of giving up the Stones for Barry Manilow—or worse yet, the Carpenters—gave me an awful sinking feeling in the pit of my stomach.

After a thorough search, however, it became clear that Newt was gone. She wasn't looking in the bushes and rocks for rabbits or chipmunks, and she wasn't busy trying to uproot voles. She was just plain gone. At least (I tried to console myself) I didn't have to rewire my brain to appreciate mushy music.

Then, just as the sun set and I was preparing to feed my two remaining dogs, there came a scratching at the door. It was Newt. I quickly let her in and examined her from head to claw. Not a scratch or bump; no singed hair, loose or missing teeth, or even any sore spots. But for all that, she still looked like she'd chased a deer to the Continental Divide and back. Her eyes were glazed over and her tongue dropped nearly to the floor. Maybe that was it! I mused. Maybe she'd taken after a deer and disappeared into the woods where I couldn't find her. About then *Mandy* started playing in the back of my head, so I desperately looked for some evidence—any evidence—that Newt hadn't spent the day chasing deer. Wouldn't the pads on her feet be worn or torn? I pulled up a foot and studied it. It was as clean and smooth as if she'd been napping on the floor for the past 12 hours. The other three feet were the same way. *Mandy* thankfully faded into *Angie* as I watched Newt wolf down her supper.

Time has a way of mellowing weirdness, so by the time I hit the sheets I had pretty well convinced myself that I hadn't really seen Newt swallowed by a hungry solar panel. Probably just some trick of the sunlight reflecting from the solar panel and nearby rocks; a sort of natural hologram. With that comforting—and completely erroneous—thought in mind, I drifted off to sleep.

Some time later (I can't say just when) I was awakened by a soft, whispering voice that seemed to be coming from the floor beside my bed. I instinctively reached for the light switch, but the voice said, "Don't. It's better that we do this in the dark. It'll be easier for you to deny we ever had this conversation."

My hand continued toward the light switch, anyway, but then I

remembered what a comfort deniability had been to me all day and I pulled it back. “Who are you?” I asked.

“What do you mean ‘who?’ It’s me. Mick. Your main dog.” He sounded offended.

“Of course,” I answered lamely. “How silly of me.”

“Look. This isn’t easy for me, either,” he admitted, “but it’s the way it’s got to be.”

I strained to see my talking dog in the dark, but the night was pristinely black. “Okay,” I said. “What’s going on?”

“It’s Newt. She wanted me to tell you something.”

“Why not just tell me, herself?” I wondered aloud.

“Don’t be ridiculous! Newt can’t speak English; she barely understands it.”

True enough. “Okay. What’s on her mind?” I decided to play along, since by now I was convinced I was dreaming.

“She says the pond pump wants a battery.”

“She said WHAT?”

Mick ignored my outburst and continued, “She says the pump has to work too hard when the sun’s low, so it wants a battery to store the extra power the solar panel gives off when the sun is high. To even things out, so to speak.”

“I didn’t know Newt knew so much about electricity,” I answered, trying to stifle a laugh.

Mick replied, “Actually, she’s had a very keen interest in the subject ever since you tried to electrocute her with that awful electric fence.”

“I never....!”

“I know, I know,” he interrupted. “Don’t worry. She’s almost forgiven you.”

Almost forgiven me, I silently mouthed. I shuddered to think what would happen if Willie ever got tangled up in the electric fence I’d strung around the calf pasture. Vengeance, real or imagined, was the cat’s purpose for living.

“I’ve got that old tractor battery in the shed,” I heard myself say.

“She knew you’d say that. She said to tell you not to be a cheapskate and go buy a good deep-cycle battery. It will keep the pump happy.”

I had to ask: “How does she know so much about what the pump wants?”

“After running through it a few million times she got to know it pretty well,” Mick answered, matter-of-factly.

“You mean.....?”

“Yeah. She spent the whole day riding the circuit from the panel to the pump, to the panel, and back to the pump. Wore the poor little thing out. Luckily, she was able to slip away, once the sun went down and the electrical potential of the system dropped to zero.” Silence. Then, “So buy a battery, why don’t you?”

“The electrical potential of the system?” I echoed. “Mick, where in the world did you learn...?”

“The Internet, after you go to bed. Why do you think I sleep all day?”

“I just thought you were lazy,” I answered truthfully.

“Hmmmph. Figures.”

“Sorry,” I mumbled.

“Sorry enough to buy me some liver while you’re in town?”

“Liver?” I repeated incredulously.

“And I want it grilled, not fried.”

“Yeah. Right.”

“With turkey gravy.”

“Don’t press your luck, mutt.” I waited for a prickly retort, but there was only the fading sound of his breathing. “Hey, Mick...?” I fell silent when I heard his familiar, scratchy footsteps on the stair. 🌿

 *a new battery* 
a highly charged winding path
black dog's déjà vu

It was all a dream, I told myself the next morning as I drove to Pickett’s Farm & Ranch Supply on the other side of the mountain. Just one long deeply weird dream. So why was I driving 20 miles to buy a battery? It wasn’t like my pets had cornered me that morning,

demanding with low growls and barred teeth I buy a battery for the stupid overworked pond pump. They all acted just like yesterday had never happened. Willie, though maybe a little subdued, still had that caustic gleam in his yellow-green eyes, and Newt bounded out the door as if she expected a dozen rabbits to be lined up on the deck waiting for the chase.

Even Mick wagged his tail and looked up at me with his simple, adoring gaze when I walked down the stair. And when I ruffled his fur and said, “So what’s all this about electrical potential?” he cocked his head to one side, as if to say, “Huh?”

No, I lied to myself as I negotiated a steep switchback, I was buying a battery simply because it would increase the life of the pond pump (though, admittedly, I had no idea why).

I reached for a Stones tape, thought better of it, and stuck in James Taylor instead. It was soothing. Mud Slide Slim lives in a really simple world. Probably doesn’t have dogs and cats.

Although the morning was cool, I rolled down both windows in the pickup and let the chilly breeze wash across my face and fill my nostrils with the refreshing scent of pine. Things seemed agreeably normal just then, and normal was exactly what I wanted. No more disappearing dogs. Certainly no more talking dogs.

It had to be the Stones, I concluded. That, and green chili burritos. And Mexican beer. It was time for a few changes in my lifestyle. From now on it would be mellow folk music, whole grain bread, organic salads and herbal tea.

Yeah, right.

Who was I trying to kid? I wondered, as a wave of nausea washed over me. That kind of stuff is poison to a guy like me.

So, rather than give in to a slow and excruciating death-by-granola, I resolved then and there to figure this whole thing out, even if it meant I had to learn something about electricity. It couldn’t be all that bad; certainly a far simpler subject than dog and cat psychology. After all, it’s just so much wiring; the wiring of a pond pump had to be less complicated than the wiring of vengeful cat’s twisted brain.

Mick had said—*hold on a minute!* In my dream, Mick had said—that Newt was able to get out of the system once the sun went down

and the electrical potential of the system dropped to zero. I wasn't exactly certain what electrical potential was, but I was pretty sure the battery I was about to buy would be full of it. So what would happen if Newt got stuck in the new system? Poor dog would never get out.

Fearing for Newt's life, I almost turned around. Then I realized just how silly I was being. I ejected James Taylor, stuck in a Rolling Stones tape, and drove to town.

I didn't buy liver.

Home again, I lugged the battery over to the pond and went to work. Mick expectantly sniffed the sack filled with all the other things I'd bought for the job at hand. He huffed derisively, cast me a cold stare and stomped off when he realized it was nothing but electrical stuff.

Had to be my imagination.

The guy at Pickett's Farm & Ranch Supply—Eli J. Pickett, “hisself,” as it turned out—didn't know beans about solar panels, but he had batteries down to a science and seemed to know a fair bit about wiring things. Like tractors and hay swathers and heaters for stock tanks. “Can't just hook it all together and hope for the best,” he assured me. “You gotta have switches and fuses. And a ground rod; gotta have one o' them.”

“Why is that?” I had to ask.

“Don't know much about this sorta thing, do ya, Sonny?” he said, narrowing his eyes. “Didn't learn nuthin' in school, did'ya?”

“I was a History major,” I answered, a bit defensively.

“Uh-huh.” He said this as if I'd just told him I was a cross-dresser studying ballet. “Whatever. Here's how it all works....”

He explained that the copper ground rod had to be pounded into the ground and hooked to the battery, so “all them little 'lectrons” had a place to go, if there was a short in the system, or a lightning strike.

“So why do I need the fuses, then?” I asked.

“Them 'lectrons is funny,” he explained. “Don't always know where they're gonna go. Anyway, the fuses are more for when they run backwards.”

“Backwards?”

“Yep. How much did your little pump cost you?” he asked.

“About twenty bucks,” I told him.

“And that solar panel thingy?”

“About two-hundred,” I said.

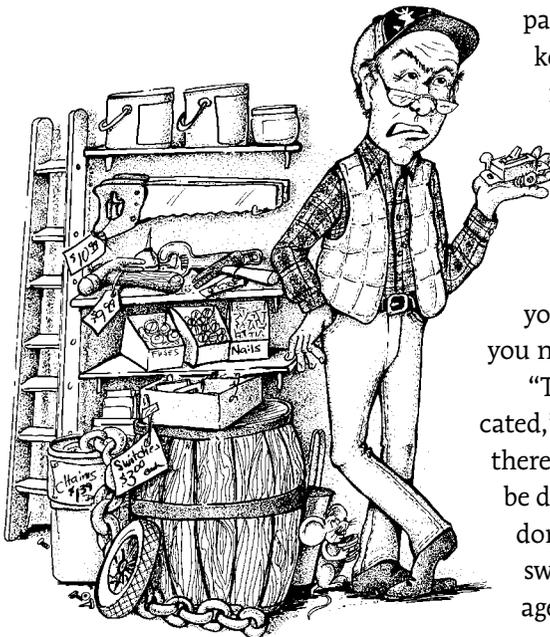
“So what’s to happen when water leaks into your cheap little pump’s wiring and shorts it out?” I opened my mouth to speak, but he answered for me. “It’s gonna send a surge of ’lectrons—supplied by this here battery...” he patted the battery as though it were his personal attack-trained rottweiler, “...back to that expensive solar gizmo, that’s what. And all them teeny little sissy circuits inside it are gonna get fried.” He made a sizzling, snapping noise between his tongue and his teeth, to make his point. “Same thing with the battery. If it’d short out...well, you think it through, yourself. Thing is, if sumthin’ goes hay-wire the fuses keep it from spreading the misery, if ya get my drift.”

I did. But what about the switches?

He pulled off his greasy John Deere ball cap, scratched his shiny, liver-spotted head, and said, “Boy, you’re lucky you ran into me.” I personally had my doubts, but I let him continue. “You gotta have a switch between the battery and the pump so you can turn the pump off at night and not run all the juice outta the battery. And you need

a switch between the solar panel and the battery to keep from pumping too much juice into the battery when you ain’t runnin’ your pump all dang day. And just so you know how much juice your batteries got in ’em, you need a voltmeter.”

“This is getting complicated,” I complained. “Isn’t there some way all this can be done automatically, so I don’t have to be flipping switches and testing voltages all the time?”



“Well,” he said, looking off into the distance. “Mebbe you could figure out a way to wire in a pickup’s voltage regulator to keep the battery from takin’ on too much charge, but ain’t no way to stop that little pump from runnin’ it all out again, ’least without a switch. That’s why tractors and trucks got ignition switches.”

“Come on,” I objected. “There has to be something.”

He looked at me as though I’d just insulted his intelligence. “Sure thing, Boy,” he said with a mean little smirk. “Just about the time the sow sprouts wings and takes to the sky.”

I bought the ground rod, fuses and switches, and even the voltmeter Eli assured me I needed (“Wouldn’t drive your pickup very far without a gas gauge, now would’ya?”), but passed on the voltage regulator. It just didn’t seem right to wire a car part into my solar pond pump setup. Not that I’d have known how to do it, anyway.

For a few days after that, everything worked perfectly. I turned on the pond pump every morning after the sun came up and the battery was taking on a good charge, then turned it off at night after the battery voltage began to drop. I was really kind of enjoying monitoring the little system with the voltmeter Eli had sold me. (Actually, it was a multimeter, since it also measured amps, ohms and circuit continuity, but at that point, voltage was the limit of my expertise with the thing.) I’d had no more late-night conversations with Mick, though he had taken to looking in his supper dish each night with an audible sigh of disgust. Even my conniving cat, Wild Willie, was behaving himself. For the most part. Oh, he still terrorized Stinky—poor little thing—whenever the notion struck, and he scrawled his name on Newt’s nose from time to time, but there didn’t appear to be much forethought to his acts of aggression. Which was good. There’s nothing worse than a calculating feline.

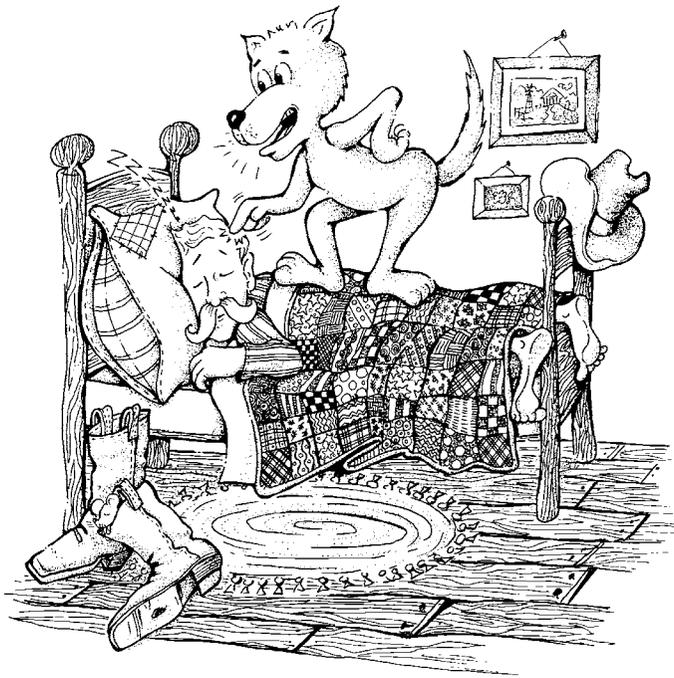
Then one day the harmony I hoped would last forever became dangerously unbalanced. The day had begun with heavy clouds in the east, so I didn’t bother to turn on the pump, deciding it would be better to wait until the clouds burned off and the sun began charging the battery. But by the time the sky cleared—about 9:00 o’clock, or thereabouts—I was busy sorting calves and forgot to turn

the thing on. By late afternoon when I finally got around to checking it, the battery was sizzling and boiling. I didn't need a fancy meter to tell me it was overcharged. I turned off the solar panel and turned on the pump, making a mental note to turn it off before bedtime.

Unfortunately, I forgot to attach my mental note to a mental clock and let the pump run all night. Well, not quite all night, since Mick woke me up at 4:00 a.m. to let me know we had a problem. "Better wake up," he said, matter-of-factly.

I'd been dreaming about the Perfect Woman. She was just beginning to turn her head so I could finally get a good look at her face (so I'd know her when I actually met her in the flesh) when I was so thoughtlessly interrupted. "Don't tell me the pump's unhappy again," I managed to hiss through gritted teeth.

He answered, "Not at all. The pump is having a great time, at the battery's expense."



Then it hit me: I'd left the pump on all night. "Oh, my God! I need to turn the pump off!" I exclaimed. I started to roll out of bed, but Mick quickly put a paw on my chest and said, firmly, "Just keep your shorts on. Everything's under control; the battery's fine. Besides, we need to talk Newt out of the system, first."

Talk Newt out of the system? This had to be another bad dream; best just to play along for awhile. "What's Newt doing back in the system?" I asked. "She was sleeping beside the couch when I went to bed. Besides, the solar panel is turned off. She couldn't get into the system if she wanted to."

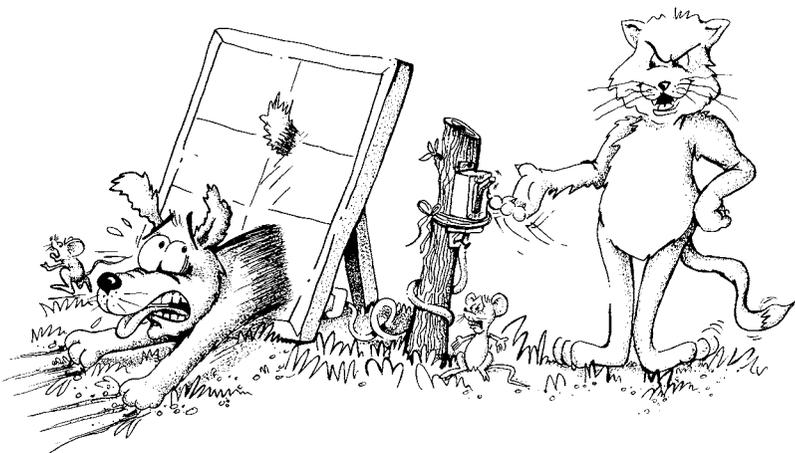
"For starters," Mick explained, "you left the pet door open, so we all went outside after you went to bed. Then that meddlesome yellow cat of yours flipped the switch to the solar panel. With the pump turning and the battery running low, it sucked Newt in like a bird into a jet engine."

"Why does this always happen to Newt?" I lamented.

"Hard to say," Mick answered, reflectively. "Could be Karma, or maybe just a love of cheap thrills. Personally, I think it's an extra-dimensional thing. But don't worry; Amy's out there with her. We'll get her back."

"How?" I asked. "We'll have to run the battery dry to do it. You know—that electrical potential business you were talking about."

"Only if it were a perfectly closed system," Mick assured me. "But



it's hardly that. There're power leaks everywhere; in the pump, the battery, the wires and ground rod, and even back through the solar panel. She'll be out again in no time."

Even though it was just a dream (I kept telling myself) I breathed a sigh of relief. I asked, "So why did you wake me up?"

"To tell you that you need to add a couple more components to the system to keep this from happening again."

"Such as....?"

"A charge controller, for starters. And a load controller."

"Is a charge controller like a voltage regulator?" I asked, recalling my conversation with Eli J. Pickett.

Mick replied, "Yeah, I guess you could say that. In the same way a computer is like an abacus."

"And a load controller.....?" I was beginning to get the gist of what he was talking about. It must be something to shut the pump off when the battery voltage dropped too low. "Wait a minute," I objected. "Eli said there wasn't any such thing!"

Mick was losing his patience. "Your friend and mentor, Eli," he retorted, "learned everything he'll ever know about electricity chasing down shorts on a '52 Massey Ferguson loader tractor."

Probably true.

"Anyway," he continued, "just add those two things to the system and we'll never have to have one of these conversations again."

"Promise?" I asked, hopefully. Late night conversations with a dog that knew more about electricity than I did were beginning to get a little unnerving. Not to mention dog-eating solar panels and switch-flipping cats. I was ready for things to get back to normal.

"At least until you decide to start messing with the system again," he warned. "Like when you get around to upgrading to AC."

"AC?"

"You know: alternating current—the kind all of civilization uses, where the current changes polarity about 60 or so times a second."

"Why would I do that?" I wondered.

"Never mind. You'll find out, soon enough."

"Why do I have the feeling you know something I don't?"

"Because dogs always know more about the future than people,"

he smugly assured me. “You’re all too busy thinking with those big brains of yours to pay attention to what’s happening around you.”

I’d heard that before, but never from a dog. Finding myself short on witty replies, I waited for him to say more, but he didn’t. I thought the conversation was over. I had just laid back in bed and closed my eyes, when, at last, Mick said, “By the way—didn’t you forget something the last time you went to town?”

“Liver?” I asked, a bit sheepishly.

“It would do an old dog good, you know.”

With that, he was gone. 🍃



*my bittersweet dreams
harbingers, I quickly find
though never quite grasped*

As I lay there wide awake, I considered getting up to observe the slow, laborious process of extracting Newt from the pond pump PV

system. At the very least it would make for an interesting chapter in my memoirs. But then I thought better of it. So far, in the comforting refuge of denial, I'd managed to keep my sanity; were I to go outside and find Amy and Mick conjuring Newt out of the system, one wisp of charged dog particle at a time, while Willie looked on with impish amusement...well, it just might push me over the edge.

Instead, I rolled over and tried to will myself to sleep, a process that's usually about as successful as telling yourself a root canal is a painless procedure. I tried counting sheep, but gave up when the lambs bounding over the short little fence morphed into disturbingly familiar black dogs jumping into voracious solar panels. Finally, I concentrated on the dream I'd been enjoying before being rudely awakened by my know-it-all yellow dog. Amazingly, it worked. I picked up the dream right where it left off.

There she was, the Perfect Woman, right before my eyes. A little hazy at first, but quickly the dreamy veil lifted and I saw her with crystal clarity: tall and slender with long, wavy, light-brown hair falling delicately over her shoulders. If only she would turn around so I could see her face...and then, as if granting an ardent wish, she did.

I was immediately captivated by her mischievous, gray-green eyes. They seemed to magnify light and brighten the rest of her lightly tanned face. She smiled demurely when she saw me staring at her, and I knew with painful certainty I was in love.

But where was I? I had to know where to look for her. With great effort, I pried my eyes from her enchanting face and tried to focus beyond. At first the background looked snowy, like a TV screen with no reception, but I persisted and soon saw long, black loops, pinched in the middle by open-ended cardboard scabbards, hanging from a wall; they looked like...fan belts? The Perfect Woman was in an auto parts store?

I shook my dream head to clear up my dream vision, but in the process I bumped my non-dream head on my non-dream headboard and woke myself up. Though it seemed I'd only been asleep for a minute or two, the sun was high above the eastern hills and I could hear the horses neighing for their breakfast. So be it. It was a far-fetched dream, anyway. A woman that beautiful wouldn't be caught dead in a parts store. What would be the point? There wasn't a guy

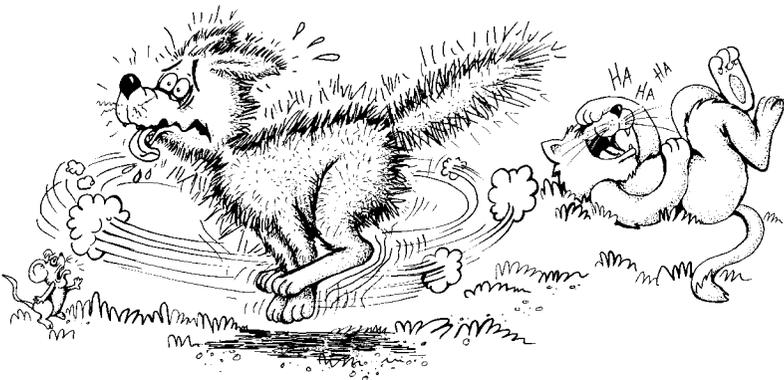
in the world who wouldn't rebuild her whole drive train for one of her smiles, and pay for the parts, to boot.

I rolled out of bed, slipped into yesterday's dirty clothes, and plodded down the stairs. Stinky was sleeping blissfully on the couch; not exactly a news flash. All the other animals were already outside, so I pulled on my boots and stepped out the door to witness the mayhem firsthand.

Mick, Amy and Willie were all resting on the ground by the pond, their attention riveted by Newt, who was running around in circles like a dog who'd just survived a near-death experience in an ocean of amphetamines. Her long, black hair stood straight out from her body and her tongue flopped from side to side in a mouth that was twisted into a hyena-like leer. She ran to one side of the pond, hit the brakes, spun around three times in a quick—but graceful—four-legged pirouette, then zipped back around to the other side. Puppy “crazies” taken to a new order of magnitude.

The pond pump was running—kind of slow, I thought—and the switch to the solar panel was in the ‘on’ position. I cast a suspicious glance at Willie, who looked back at me with a smug stare, as if to say, “You’ll never prove a thing.” He was right.

I thought about testing the voltage in the battery—right before I considered testing the voltage in the dog—but decided it didn't matter. The sun was high, the sky clear, and the dog was alive and (a little too) well. Instead, I fed the horses and pumped some water for the calves. At least I had normal livestock.



A trip to Big City later that day yielded the two crowning jewels in my pond pump PV system: a charge controller and a load controller. Actually, I soon discovered, the one is the same component as the other. I just had to program each one a little differently.

The guy at the Super Solar Megastore was a clean-cut young techie-type named Gordon. He was the antithesis of Eli J. Pickett. Patient and ever mindful of my technical limitations, he explained in detail how everything worked and why it was needed. In fact, his delivery was so smooth I concluded he must spend a lot of time talking to ignoramuses like me.

“Actually,” he explained, “a charge controller is really just a very sophisticated on/off switch. It senses the battery’s state of charge and adjusts the amperage going into it as needed. Its purpose is to keep the battery charged without overcharging it. When the battery is charged, it allows just enough current through it to run the load—your pump. Same thing when you use it as a load controller. When the load draws more current than the battery can safely give, it shuts off the load until the battery reaches a safe state of charge, again.”

He paused and scratched his head, then regarded me with a quizzical expression. “I’ve got to tell you: this is a lot of trouble—not to mention expense—for a simple little pond pump system. Why not just get a couple of cheap toggle switches and inline fuses, and then monitor the system with a voltmeter?”

Without thinking, I said, “I tried that. My dog didn’t like it.”

Unable to stifle a chuckle, Gordon raised an eyebrow and said, “Well, of course, if your dog didn’t like it...”

Dismissively I said, “Listen, Gordon, it’s a long story with an unlikely ending. You really don’t want to hear it.”

“On the contrary....”

I cut him off short, saying, “Just write up the ticket and I’ll be on my way, okay?”

“Sure. Whatever.”

My business there concluded, I left the store and drove back over the mountain to my little Shangri La in the pines...right after I stopped at the grocery store for a pound of liver. I was a few hundred dollars poorer and felt like a moron driven by the dictates of lifestyle-

induced delusions, but at least I had everything I needed to make my little pond pump solar system completely foolproof. It would all be worth it, I told myself, if things could now just get back to normal.

And, for a time, my wish came true. Things were gratifyingly normal. The two new components worked perfectly, once I managed to get the jumpers and set points on the circuit boards in the right places and calibrated properly. And all five of my pets went back to doing the things dogs and cats are supposed to do, whatever that is. Mick even had the good manners to act surprised when he found liver—grilled, not fried—mixed in with his dog food.

After a few weeks, in fact, I halfway managed to convince myself that Newt had never disappeared into the solar panel, or that I'd had any late night heart-to-heart's with Mick. Or that Wild Willie was really capable of all the devious acts I had accused him of.

Certainly, it was all a dream.

Then I paid another visit to Pickett's Farm & Ranch Supply. 🌿

 *the perfect woman* 
a perfect path to ... what else?
perfect confusion

Salt. The whole purpose of my trip to Pickett's Farm & Ranch Supply was to buy a couple of 50-pound blocks of the stuff for my calves. The pink kind that has trace minerals mixed in with it. I had no intention of engaging Eli in a conversation about tractor/pond pump wiring—it was all the same to him—or anything else to do with the events of a few weeks before. It was all in the past, now. In fact, I was hoping to get in and out without even setting eyes on the old scavenger.

But, as usual, Fate proved herself to be a playful companion. For, way back by the stacks of barbed wire and welded fence, I saw a sight that made my heart skip a beat. Or two or three.

Eli's grizzled form was the first thing I saw. Instinct, I have found,

always draws one's eyes to the most obvious and immediate source of danger. In front of Eli stood a tall fellow in ersatz-faded denims with two women standing beside him. All three had their backs to me. The woman closest to the man had short, dark hair and wore a pair of overalls that would never shrink to fit her slender figure in a million wash-and-dry cycles. The other woman, standing a few paces away, had long, light brown hair, crowning a tall, graceful form that ignited within me a scorching flame of recognition. I knew this woman. It was her; it just had to be. Same figure, same hair, same...; recalling my dream of weeks before, I let my eyes roam to the wall behind her, where I saw exactly what I hoped to see: fan belts. The entire wall was lined with them—some new, some dusty, some tethered to the wall with vast lattices of cobwebs—all hanging haphazardly on nails driven inexpertly into the wall board.

I swallowed hard, even though my throat had gone completely dry, and studied the situation.

She seemed to show only a passing interest in the conversation; obviously she wasn't in the store on any kind of business. Probably just tagging along with her sister or brother.

Suddenly, my attitude toward Eli did a complete one-eighty. Heck, he wasn't such a bad guy. Deep down, I was sure, I really liked the little shiny-headed troll. In fact, I was overcome by an urge to go strike up a conversation with him. Certainly his other customers wouldn't mind my intrusion, would they?

When he saw me walking toward him his eyes narrowed into a menacing glare and his lips tightened into a thin, bloodless line. What a kidder ol' Eli was, pretending like he wasn't happy to see me. His cryptic sense of humor became even more evident when he croaked, "Don't bother, boy. If this has to do with your silly little sun-powered pond pump thingy I can't help you no more." It was only when he planted his hands on his hips and took a step toward me that I realized this was not going to be easy. Maybe not even possible. But as I turned my head to gaze upon the young woman standing a few paces away, I was instantly suffused with an intractable sense of purpose. Eli had better have a gun, if he wanted me to leave. A big one.

I opened my mouth—to say what, I had no idea—when she turned

to face me. Her lips were formed into a coy little smile, and a sprightly gleam played in her gorgeous green eyes. My mouth instantly clamped shut, lest I say something stupid. Then she spoke. She could have said anything; a recitation of *row, row, row your boat* would have sounded like the sirens' song, coming from her lips. But she said, simply, "A 'sun-powered' pond pump? Do you mean *solar* powered?"

I wasn't sure I could manage the word "yes," but I gave it a try. She giggled when I chirped it in an octave I didn't know I was capable of.

"Swallow a canary?" she asked.

Eli broke in, saying, "Don't pay him no never mind, young lady. The boy just don't know what he's about, that's all." Good old Eli. I knew I could count on him to smooth over a rocky beginning.

I felt my face growing red, and the inside of my mouth had the taste and feel of sunburned cotton. It was now or never. If I didn't say something intelligent, and fast, I might as well go take a long nap on the bottom of my pond.

"It's a rudimentary system," I heard myself say, at last, "but really quite elegant in its simplicity. Eli, here, got me started with fuses and disconnects, but since then I've added other refinements that make the whole system self-regulating." So far so good. She looked interested, maybe even a little impressed. Should I go for broke? As my left-brain pondered this, my right-brain commandeered my vocal cords, and uttered, "I'd love to show it to you."

Right on cue, Eli butted in. "I'm sure you would, Sonny Boy, but these folks got better things to do than—"

She cut him off like he wasn't even there. "And I'd love to see it," she said, looking at no one but me. "How far away do you live?"

"Not far at all, really."

"Ha! Since when is 25 miles over twisted, unpaved mountain trails 'not far at all, really?'" Eli snipped.

"Twenty," I corrected. "And it's paved most of the way. Sort of."

"Sounds like a real adventure," she said, with an alluring twinkle in her eye. I could have fainted.

Her name was LaVonne. She was there with her sister, Angela, and her brother-in-law, Hank, two electrical engineers who had just abandoned their high-tech jobs in the sprawling, polluted metropolis of Big

City to live on a small acreage near the Wyoming border. They were there buying fencing and other ranching supplies. Things I just happened to know a whole lot about. LaVonne, I learned, was a nature artist, living in their small guest house. I surmised that they would need a fair bit of expert help getting their little operation up and running. And I was just the guy to lend them a hand.

The immediate plan was simple: I'd take LaVonne to see my solar pond pump setup, though for the life of me I couldn't understand why she thought it so interesting. Later we'd all meet at Hank and Angela's to look over their place and see what had to be done to make it workable.

Eli could stay in his store and look for new people to insult.

Things couldn't have been more perfect. So why was I looking over my shoulder for a bolt of lightning?

Maybe it was the way the dogs and cats took to her, once we arrived at my ranch. They flocked to her like she was made of roast beef and catnip. Even Stinky left her throne to nuzzle her way into the act, as LaVonne rested on a tree stump, petting and talking to each one in turn. I'd never seen anything quite like it. Frankly, it was worrisome. What would happen to my fragile new relationship with the Perfect Woman if Mick were to start blabbering away about electrical potential and extra-dimensionality?



I offered my hand to pull her away from the panting, writhing mass of fur balls and, to my good fortune, she took it. It was like grabbing hold of an angel and I didn't want to let go, but after an enchanted moment of staring deeply into her eyes I knew there would be more opportunities down the road. Better not press my luck.

I then showed her the solar pond pump system I was so proud of. She examined each component in turn, as the water bubbled melodically over the small waterfall I'd built on the shore, and asked several questions about wattage and amp hours and load amps, and so forth. Things I had just recently learned, myself. Though it was clear she knew what she was talking about, the words seemed a little awkward in her mouth, as though she had not long been in the habit of using them.

Fine with me. I'd have rather talked about other things, anyway.

As we walked away from the pond, she asked, "Have any of your animals been acting strangely?"

I stopped dead in my tracks. "Why do you ask?" I wondered aloud, after the wave of surprise subsided.

My hesitation didn't go unnoticed. "Uh huh. I thought so."

"You thought what?"

She turned to face me. I wanted to kiss her, but her stern expression said not now—as opposed, I hoped, to not ever. She said, "Don't you see? It's starting."

The gravity of her voice caught me off-guard. "What's starting?" I asked, in utter confusion.

"Nature is reclaiming what's Hers. It's starting with the animals. I'm sure you've seen subtle signs. Extraordinary intelligence, maybe. Or levels of cooperation that don't seem possible." She paused for a moment, took my hand, and said, "C'mon, admit it. You have noticed, haven't you, Rex?"

I almost said, *just spend a night in my bed when the system's on the fritz and you'll see animal behavior like you never dreamed of before*. But, upon a moment's reflection, I realized just how easily such a statement could be misinterpreted. Instead, I said, "Well, yeah...there has been an instant, or two. I just figured it was my imagination running wild."

She chuckled, and said, “No, it’s more than that. A lot more. The truth is, everything is about to flip upside down, and you—we—want to be on the right side of things after the dust settles.”

“So it’s not the Rolling Stones?” I wondered, more to myself.

Humoring me, she smiled warmly, and replied, “Believe it or not, this is even bigger than Mick Jagger.” Still holding my hand, she led me to a bench by the pond. “Care to explain what’s been happening around here?”

And so I did. I told her about how Willie had lured Newt into the solar panel—twice—and all about my two late-night conversations with Mick. I spoke of impossible things as though they were an everyday occurrence around the Last Chance Ranch. I spoke until my rigid concept of normalcy melted into a bubbling pool of imponderable probabilities, and when I was all through I fully expected her to tell me that me and my senses had parted ways.

Instead, she said, “Yeah, that’s about what I would’ve expected.”

“From me, you mean?” I asked, feeling a little paranoid.

She laughed. “Don’t be silly. There’s more to this than you think. A lot more.”

I waited for her to explain, but she didn’t. She just asked me to drive her home. So I did.

As we pulled out onto the county road, I realized I had forgotten to buy my salt. 🌿

back to the future
a planet begins to change
rodents run the show

As much as I enjoyed being alone with LaVonne—she was still the Perfect Woman, though the concept had begun to take on a more nebulous morphology—it was almost a relief to be at Hank and

Angela's talking about corner posts and stretcher posts, and the pros and cons of 4-wire, versus 5-wire, fences.

My rancher's brain, I had recently discovered, has a low weirdness threshold, and a lengthy exposition of 19th century animal confinement technology was a warm and fuzzy refuge for it. We walked the perimeter of their 40 acres and they listened intently as I explained the best ways for them to go about shoring up the fences that were already there and building new fences where they were needed. I offered advice for repairing their old outbuildings and the most practical placement of the new ones they had planned. So studiously did they focus on my every word, I felt like a purveyor of some arcane body of knowledge that promised glowing good health over a vastly extended lifetime.

What Hank and Angela lacked in know-how about fence and outbuilding construction, however, they more than made up for with their knowledge about the nuts and bolts of renewable energy. And not just the theoretical side, either—it was everywhere evident they knew how to put their learning into practice.

The wind turbine on the bluff above their house was the most conspicuous example. Looking much like a stripped fuselage with a disproportionately large propeller, I marveled at how furiously the blades spun in the light breeze. "How does it work?" I asked Hank.

He smiled, and said, "Do you want the short version, or the long?"

"How about the short version, for now?"

"Okay, then. I'll give you one word: magnets."

"Magnets?"

"Right," he confirmed. "Three pairs of them, actually, located 120 degrees apart around the inside of the rotor. And each pair of opposing polarity."

"You mean like north and south?" I asked, remembering my high school science classes.

"Well, yes, but 'positive' and 'negative' work better when you're talking about electricity."

"I suppose," I agreed.

"Anyway, when the propeller turns, the magnets revolve around the stator, and induce three separate—but 'in phase'—currents within the stator's windings."

“Stator? What’s that?” I asked, feeling very much out of my element.

“It’s like a cylinder with coils of wire wrapped around it lengthwise. Three primary coils, in this case,” he explained.

I scratched my head. “Pardon my ignorance, but how does that make electricity?”

He grinned broadly, and answered, “The accepted term is ‘inductance’. As for how or why it works, no one knows, exactly. All we can say for sure is that a magnetic field will cause a current to flow in a wire, just like a wire carrying current will produce a magnetic field around itself. So when you spin two oppositely charged magnets around a coil of wire it ‘induces’ an alternating electric current within the wire. It’s kind of spooky, when you think about it.”

“Alternating current?” I asked, remembering my last conversation with Mick. “You mean like house current?”

“Well, sort of. House current is single phase, not three-phase. Also the wind generator voltage is lower. And the frequency of the current varies with the wind speed.”

“Frequency?”

“Right. The number of times per second the current alternates—or cycles—from positive to negative. Normal house current is regulated at 60 hertz, or 60 cycles per second.”

It was beginning to sound complicated, which meant I was starting to feel stupid. Groping for familiar ground, I remembered my pond pump setup, and asked, “So you run the current through a charge controller, and then into your battery bank?”

“Exactly,” he confirmed, “except it’s not like the charge controller for your little 12-volt DC solar module. This one has rectifiers to change the AC into DC, so it can be stored in the batteries.”

“You can’t store AC current?”

He laughed good-naturedly, and answered, “No. It would run out again as fast as you put it in. AC is a pulsing current. It’s defined by its motion. Once you stop it, it’s not AC anymore.”

Changing the subject, I asked, “So how much power does your turbine produce?”

“It’s rated at 1,000 watts when the wind blows at 32 mph or so, but it’ll go higher for short periods.”

“And what will 1,000 watts run?”

“Oh, a dishwasher or hair dryer, or maybe a circular saw.”

“That’s all?” I said, a little disappointed.

“That’s enough,” he answered, “because you don’t usually run heavy loads often, or for a long period of time. And the power you produce when you’re not running those things goes right into the batteries. Anyway, our solar array is the real meat and potatoes of the system. It’s rated at just under 2,000 watts.”

He pointed to two large aluminum frames in front of the house mounted on heavy poles set in concrete. Each of the frames held eight solar panels—or modules, as Hank called them, being an ex-geek and all—and every one was a lot bigger than the little one I had for my pond pump system. I felt an annoying twinge of solar panel envy.

I said, “So let me get this straight: the wind generator produces AC current that gets changed into DC and stored in the batteries. The solar panels produce DC that’s likewise stored in the batteries. But the house runs on AC. How does that happen?”

“A nifty thing called an inverter,” he said, leading me down the stairs into the basement. A large, white metal case was mounted on the wall amidst a lot of other smaller boxes with displays and switches. I was pretty sure one of them was the charge controller for the solar array; the other stuff didn’t look in the least familiar. A pervasive hum filled the room; it sounded like power waiting to happen. Hank pointed to the largest component—the one with the biggest LCD display and the most buttons—and said, proudly, “The inverter. It takes low voltage DC current from the batteries here,”—he pointed to a large box on the floor beside the inverter—“and converts it into usable 120-volt AC house current, pulsing at 60 hertz.”

“How does it do that?” I asked, truly curious.

Again, he asked, “Long version, or short?”

“Short,” I replied.

“Okay, then. One word: magic.”

“Sounds good to me. I’m beginning to like the mystery.”

Hank said, “Good. Let’s go eat.”

When I first arrived, I’d noticed a small building several yards from the house. By the way the dirt was disturbed around the foundation, it

was clearly of recent construction. It had its own solar array, and several vent stacks poking through the roof. At last, my curiosity forced me to ask: “Hank, what in the world do you have in there?”

He flashed a grin, pointed to the building and said, “There? Oh, you’re not quite ready for that, yet.” Then he turned and led me into the house.

To that point it had been a fairly normal day. I’d learned a lot of technical stuff, and had even been able to share some of my knowledge—antiquated though it was—about ranching, fencing and barn building. It was only after we sat down for dinner that the conversation took a disturbing detour into uncharted territory. It began, innocently enough, when Hank asked me if I’d noticed more power outages in the last year or so. As a matter of fact I had, though I hadn’t given it much thought. I just assumed it was decades-old transformers, lines and power poles finally wearing out or rotting in the ground.

Hank shook his head. “Squirrels,” he said.

“Squirrels?” I repeated.

“And beavers,” Angela added. “They chew down the poles while the squirrels nibble on the wires and short out the transformers.”

“Don’t forget the prairie dogs,” LaVonne piped in, turning her gaze to me. “They chew the insulation off buried lines.”

Prairie dogs I could believe. They were born troublemakers. But squirrels and beavers? I asked, “I’m sure there’s a point to all this sabotage...?”

Angela fielded the question. “The animals have decided things are starting to get out of hand. We’re using up natural resources like there’s no tomorrow, just to manufacture and power a bunch of junk we don’t really need. The animals all accepted it, back when we all lived simpler lives and coal-burning power plants were the apex of technology. But now things are different. We have clean, viable options. Solar and wind power, for starters. Even micro-hydro power. There is no need for the planet to suffer further insult at the hands of the energy moguls. The animals are just trying to give us a little push in the right direction.”

“And if we don’t take the hint?” I asked.

“Then believe me, things could get really nasty.”

LaVonne walked me to my pickup when it came time for me to leave. “Interesting family,” I told her, after I was sure we were out of earshot of the house.

“But a little nuts, maybe?”

“I didn’t say that,” I protested.

She offered one of her ice-melting smiles, and said, “You didn’t have to. I’d think we were nuts too, if I didn’t know better.”

“You mean you really believe all this stuff about squirrels and beavers?”

She laughed, and said, “That’s a strange question, coming from a man who has late-night chats with his dog.”

I’d momentarily forgotten I’d spilled the beans on that one, and felt like I’d been chastised when she reminded me. “Yeah, but still.....” I mumbled, lamely.

“Don’t worry—you’ll come around.” With that, she kissed me on the cheek, said, “See ya!” and followed the path back into the house.

As I watched her disappear behind the door, I began to seriously wonder what I had gotten myself into, simply because I wanted a novel little solar-powered pump for my pond. It had already elicited mind-warping behavior from my animals, cost me hundreds of dollars more than I had planned to spend, and indirectly led me to the Perfect Woman, who then makes me privy to a vast wildlife conspiracy to drive the electrical utilities out of business.

The thing really should have come with a stronger warning label, I concluded, turning my pickup in the general direction of home.

As I left the high plains of no-man’s land of far northern Colorado and eased into the first mountain valley on the way to my ranch, it occurred to me that either LaVonne was not perfect, or she was telling the truth, since logic dictated that the Perfect Woman would not be able to tell a lie. Unwilling to entertain the notion that she was anything other than what I believed her to be, I was forced to conclude she knew what she was talking about. There had been a lot more power outages lately, hadn’t there? And if small, furry animals were the culprits, Planet Power Corporation would want to keep

it quiet, rather than admit to being bested by a marauding band of buck-toothed varmints. But what about the press? Wouldn't they jump on a story like this? Maybe not. They loved prairie dogs and their ilk. If they blew the whistle on what all these animals were really up to there'd be public outrage and wholesale slaughter. The streets and alleys would fill with gun-toting vigilantes, determined not to miss Monday Night Football because of some agenda-driven gopher gang.

If it truly was a conspiracy, it was a beautiful one. Everyone would blame Planet Power for inefficient service and, to make matters worse, they'd be forced to raise rates to cover their extra costs, adding more fuel to the public opinion fires. And no one could—or would—say a word about what was really happening.

I laughed to myself as I framed a mental picture of Gilbert Gigabucks, the CEO of Planet Power Corporation, holding a press conference. With wild eyes and sweat running down his forehead in rivulets, he'd exclaim, "It's squirrels, I tell you! Squirrels and beavers and prairie dogs! Oh, my! They're the reason for all the blackouts and the 200 percent rise in your electric bill, so blame them, for crying out loud, not me!" They'd lock him in a room with vulcanized walls and throw away the key.

I shook my head. It was crazy. So why was I beginning to believe it? Because the world was a crazy place, and getting crazier by the day, I told myself. Besides, I was enamored with the woman who told me about it; I refused to believe she was off her beam.

Then, just as I crested a small rise on the winding road leading to the ranch turnoff, I saw the confirmation I needed. As my headlights pointed downward they illuminated a pair of beavers at the base of a power pole. I worked my brakes, slowed to a stop in the middle of the deserted road, and watched.

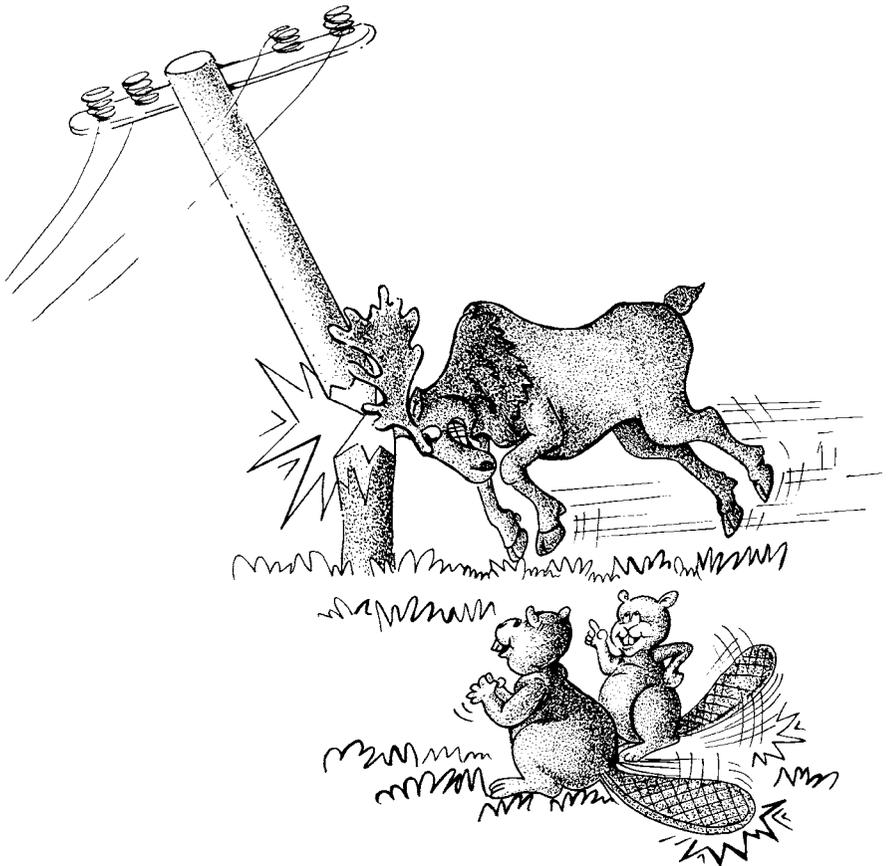
They were not in the least disturbed by my presence. In fact, they both seemed to be smiling (though, admittedly, I would be hard pressed to qualify the difference between a smiling beaver, and a frowning one). I could see the pole was almost chewed through; only the overhead lines were keeping it erect. "What're you gonna do now, little guys?" I whispered to myself, amused.

I didn't have to wait long for an answer, for out of the shadows

emerged an enormous bull moose. He lowered his head while one of the beavers chattered something in his ear, then stepped up to the pole and straddled it with his antlers. The pole weaved back and forth as the bull pushed and relaxed, pushed and relaxed, until, with a great snap and a shower of sparks, the pole crashed down amidst a tangle of wires. The beavers jumped up and down, thumping their broad, flat tails against the ground and clapping their little paws with delight, while the moose trumpeted a triumphant refrain.

Awe-struck by what I had just seen, and confident now that LaVonne wasn't crazy, I slowly continued my journey home.

My giddiness at the sight I'd just witnessed was quickly dampened, however, when I realized my house was enshrouded in darkness. The pesky beavers had cut my power. 🌿



 *a bright day dawning*
a new order now begins 
drive on, red Corvette

I could hardly believe my eyes when I found LaVonne standing beside my bed the next morning. She offered me a bright smile and a steaming cup of coffee as I sat up and wiped the sleep out of my eyes. “Morning, Sunshine,” she said, melodiously. “Let’s get moving. Things are happening fast.”

Once I realized she really was there in my bedroom, I had several questions, starting with: how did she get in the door? (probably didn’t bother to lock it, as usual), and what time did she have to get up to drive all the winding back roads between her place and mine, and still find me in bed? And what time was it, anyway?

“A little past nine. How do you make a living, if you sleep all day?” she chided.

“Sometimes I wonder that myself,” I croaked, taking a sip of coffee. It was chewy. “What the—?”

“Power’s out. Had to make it on the gas stove. You should really keep some instant around, don’t you think?”

“I’ll be sure to put it on my list,” I promised.

Not wanting to risk a shower with the well out of commission, I dressed, threw a little water in my face, and combed my hair. By the time I made it down the stairs she had already fed the dogs and cats and horses; I didn’t even want to know how she managed it—sometimes it’s easier just to believe in magic.

Sliding myself into the passenger seat of her immaculately restored, candy apple red ’64 Corvette convertible, I told myself that she was most likely an angel, and wherever she took me would be for my own good. It was a soothing—albeit thoughtless—philosophy.

Our first stop was the scene of last night’s crime. There was quite a commotion along side the road. The destroyed pole rested on the back of a big Planet Power semi rig. A pair of workmen tamped the ground

around the new pole, while another pair re-stretched the overhead wires from a cherry picker mounted on a smaller truck. A staunch-looking man in a white shirt and tie stood on the side of the road with his arms crossed, supervising the repair operation.

LaVonne stopped by the men at the base of the pole, and asked, “What happened here?”

One man kept working, the other looked up with a nervous smile. He started to say something, then stopped and glanced at the dour-faced executive on the shoulder of the road. “Logging truck must’a sideswiped the pole sometime in the night,” he lied.

I replied, “Yeah. You really gotta watch out for those buck-toothed loggers.”

He gave a shaky laugh, and answered, “Ain’t that the truth?”

“Yeah, ain’t it though,” LaVonne snipped, giving the suit an icy stare before popping the clutch and laying a squealing, smoking patch of rubber that sent the poor man scurrying for the side of the road.

“Good lord! What do you run in this thing? Nitro?” I asked, after the screeching subsided and I was able to peel my back from the seat.

She shook her head. “Hydrogen.”



“Hydrogen?” I said, in disbelief. “I thought that technology still had a lot of bugs in it.”

“It does,” she replied, never taking her eyes from the winding road speeding beneath the car.

“Okay then, how....?”

“I just happen to know a good exterminator,” she answered, gracing me with an enigmatic smile as she slid a tape in the tape player. I started to ask her what she meant, but was suddenly drowned out by Mick Jagger hammering *Wild Horses* through the 'Vette's speakers.

What a woman.

As we sped down the road in her pollution-free hot rod, it occurred to me that there was a lot to this renewable energy business that I didn't understand. Hank's whirlwind tour helped, but I was still more confused than enlightened. I turned down the music and said, “You know, all of this solar and wind stuff is great, but I still don't understand how it all works.”

She smiled, and said, “Maybe a little analogy will help.”

“Couldn't hurt,” I agreed.

Thinking, she stared into the distance to the horizon beyond the road. After a moment she said, “Okay. I've got it.” Glancing in my direction, she said, “You've got your little pond pump system pretty well figured out, right?”

“Yeah.”

“Good. We'll take it to the extreme, then. Let's say, for instance, that you decide you want the pump to run at night, hoping that perhaps the sound of running water will attract wildlife to your pond.”

“That'd be nice,” I agreed.

“Okay then. All you need to do is install another battery and a second solar panel, making sure that the combined panels—wired in parallel, of course—are powerful enough to charge the batteries for nighttime use, while still running the pump during the day. As long as the sun shines every day, your simple little system works great.”

“Okay,” I interrupted. “You said ‘wired in parallel’. I remember Hank talking about parallel and series wiring. Some things he did one way, some things another. What's the difference?”

Not taking her eyes from the winding road, she answered, “When you wire something in parallel you increase the amperage, but not the voltage. That’s because there are multiple paths for the current, so it doesn’t increase the ‘electrical pressure’ in the system. But a series circuit only allows one path. This increases the voltage because it does raise the electrical pressure.”

“Got it, I think.”

“Good. Now back to the analogy...You’re finally happy. At least until, after a long stretch of cloudy, windy weather, you notice the pump is sitting idle, your batteries are practically drained, and the wildlife have disappeared...”

At that point I stopped her and remarked, “You forgot to mention the part about my rotten yellow cat luring Newt into the solar panel.”

“It’s not a necessary element to the story,” she answered with teacher-like seriousness, before continuing. “...You get out your spotting scope and train it across the valley, on your neighbor’s place. There you spy *your* deer frolicking around *his* pond, the one run by the big pump that’s hooked into the Planet Power Corporation grid. You don’t want to invest in the extra solar modules and batteries to keep the pump running day and night on such sparse sunlight. Instead, you decide to add a wind turbine to the system to supply the pump with power on windy days when the sun goes into hiding.”

Again I interrupted, asking, “How’d you learn all this stuff? I thought you were an artist.”

“The art is from my mother’s side of the family,” she explained. “My father comes from a long line of engineers, machinists and tinkers.” She paused, glanced in my direction to see if I had anything more to say, then continued. “It’s a fairly large wind generator that sends AC current through the wires, rather than DC. Luckily, it comes with its own charge controller—one with rectifiers that convert the AC to DC before sending the current to the batteries, since—as you now know—batteries can’t store alternating current.”

“Just like you can’t catch a moonbeam in your hand?” I had to ask, just to see her gorgeous eyes flash. They did.

“Finally, you’re completely satisfied,” she went on. “At last you have a pond pump that works under any meteorological condition. But after

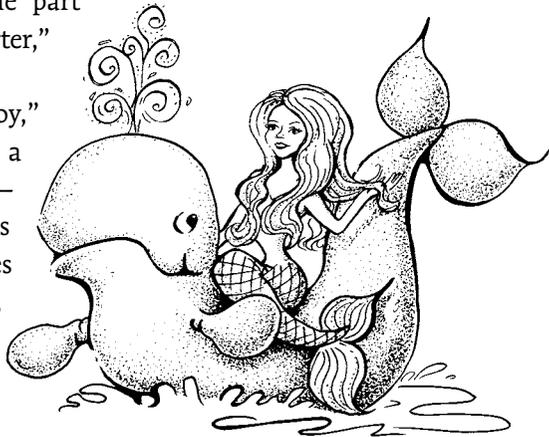
months of watching a feeble column of water dribble over a few rocks, you decide your little 12-volt pump just doesn't provide enough action. You check around to see what's available and after a little research you find just the pump you want. But to your dismay, this pump runs on 120-volt AC, and a lot of it."

"Sounds like things are about to get expensive," I predicted.

"It doesn't matter. You're a stubborn Irishman. This is *the* pump, so you upgrade to a bigger wind generator and buy more solar panels. And, of course, you add more batteries. Now you've got the generation and storage capacities you need to run the new pump, but not the right kind of current. One more component should do the trick."

"I'll bet this is the part where we add the inverter," I said, hopefully.

"You got it, Cowboy," she smiled. "You add a power inverter between—where else?—the batteries and the pump. This gives you the steady, clean, AC power you need to force a powerful spray of water out the blow-hole of a three-foot-high whale with a mermaid sitting on its back..."



"I love this thing! Where can I get one?" I exclaimed.

"I knew you would. Unfortunately, it only exists in my imagination."

"Hey! Wait a minute..." I began to protest, just as she pulled into a parking lot and killed the engine.

It came as no surprise that she had driven me to the Super Solar Megastore, where I'd bought my charge controllers, way back when all I wanted was normal pets. LaVonne turned to me, and said, "Okay, it's decision time."

"I suppose," I answered.

"You've seen what's happening with your own eyes."

“Uh huh.”

“And I’m sure you can imagine how bad it’s going to get, before things settle down again,” she added.

I could. Rodents and ruminants were just the beginning, I was sure. What would happen when birds started shorting out overhead lines and fire ants began crawling inside all of Planet Power Corporation’s delicate equipment? It would be the end of fossil-fuel-burning power plants. Which meant the stuff they sold in this store would cost ten times what it did now, if it was available. Which it wouldn’t be.

She took my hands in hers, then, looking me straight in the eye, asked, “So what’s it going to be, Cowboy? Off the grid now, while you still have a choice, or later, when you don’t?”

“Let’s do it.” I told her, losing myself in her alluring green eyes.

“Let’s,” she agreed, letting go of my hands to fish a list from her purse. She said, “I had Hank work this up last night. It’s probably not everything you’re going to need, but it’s a good start.”

I took the list and looked it over. A lot of the stuff I recognized from my experience with the pond pump system; other things—like the DC disconnect, auto-transformer and combiner box—I vaguely remembered from my conversations with Hank. I could sense that I would be ascending a sharp learning curve in the very near future.

We walked through the doors and LaVonne handed the list to Gordon. He recognized me right away, and also seemed to know LaVonne. You could see it was driving him nuts trying to figure out what we were doing together. Good. Let him wonder.

It took him a few minutes to work up the bid. After he was through punching numbers he hesitated, no doubt wondering how much discount I would expect on such a large order. Being a seasoned horse trader, I wasn’t about to show my hand until he showed his. Finally, he handed me the total.

I had my reaction planned before even looking at bottom line. “You can’t be serious!” I protested. “We can get all this stuff a lot cheaper off the Internet, even paying for shipping!”

His mouth drew into a knot of indignation as he studied me to see if I was bluffing, then wriggled into a smile when he mistakenly concluded I wasn’t. “Okay, let me see what I can do.”

When he handed us back the revised total, LaVonne took over the negotiations. With a voice that could turn battery acid into honey, she said, “C’mon, Gordon... this isn’t your best price, now is it? We know you can do better.”

“Well....”

“And Gordon,” she added, just as sweetly, “can we expect prompt—and free—delivery?”

The final total was most agreeable; still, I felt like I’d been broadsided. How much livestock would I have to sell to pay for all this stuff?

“Don’t worry about it,” LaVonne said, sensing my concern. “Of all the alternatives, this one is the cheapest.”

As things turned out, she was right. 🌿

*hard work and plenty
disaster’s seeds have rooted
the cat bides his time*



Never is a rancher’s mind so content as when it’s filled with a sense of purpose. Like any other vessel, however, a mind can only hold so much of anything before it begins to spill over the sides and turn sour. So, after a week of digging holes in rocky ground and setting the bases for the wind tower and solar array in concrete; digging trenches for the underground wires; building a box to hold the batteries, and drilling holes through the side of my house for all the conduit-housed wires running into it, I’d had more than my share of purposeful contentment. I was ready for some good, old-fashioned laziness.

To my dismay, however, it was not to be, for time was becoming an increasingly sparse commodity. The scene I had witnessed on the side of the road a week before was repeated again and again around the area—and, from what I could gather, around the country—though neither the media nor Planet Power would fess up to the real cause of the ever-more-frequent power outages.

The one crack in the carapace of this far-reaching cover-up conspiracy came in the form of a widely broadcast home videotape of a thousand or so plump crows sitting on a power line across the road from a distraught suburbanite in northern Iowa. Before the viewer's eyes, the crows began to lift from the wire and then settle back down again, in a purposeful, wavelike motion. And not just once. They did it until an undulating resonance whipped along the wire from one pole to the other, and back again. After several minutes of this violent, serpentine motion, the wire snapped from the pole and the crows all flew away, caw-cawing in what could only be delight. The media, not wanting to admit that crows could be so incredibly smart—and no doubt fearing that the nation's crow population would be immediately and severely stressed by a million shotgun-toting farmers—laughed it off as an inexplicable freak of nature. LaVonne and I knew better.



Though there were frequent outages all around me, my ranch remained unaffected. Somehow, the forest creatures knew what we were up to and had no intention of doing anything to slow our progress—a fact for which we were most grateful.

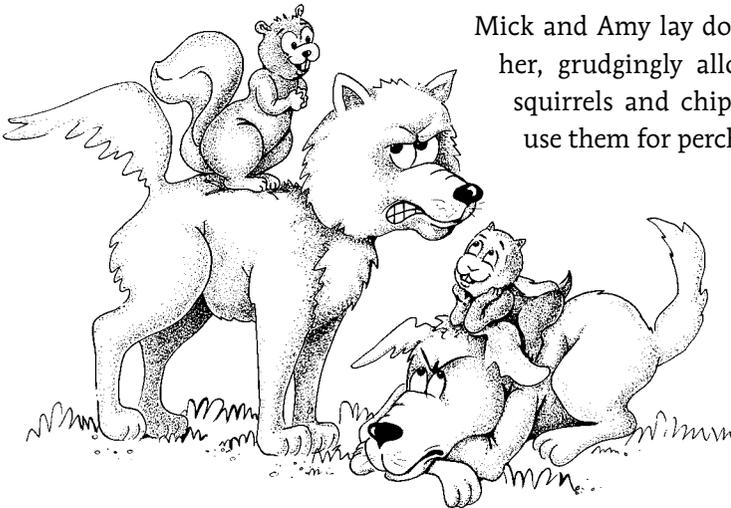
Whenever I worked alone, squirrels watched me from the treetops, and scores of birds scratched the ground around me, pretending to search for seeds. They were sentries, of course; eye-witness reporters from whom originated communiqués that traveled throughout the animal kingdom with a speed and efficiency that surpassed contemporary satellite communication. I marveled at the possibility of bamboo-chewing pandas in China and gazelle-stalking lions in Africa's Serengeti nodding approval at my endeavors to free myself from Planet Power Corporation's smog-ridden stranglehold on the world's electricity.

I assumed the animal grapevine was a sound-driven network—akin to the strange and beautiful sonar communication used by whales and dolphins—but LaVonne assured me it was telepathic in nature. Pure thought—unsullied by words, she claimed—was being instantaneously broadcast into the ether by birds and mammals, and even reptiles and insects, all around the globe. They knew; they all knew.

Bizarre as it seemed, it was hard to argue with her. When she found the time to come and help me with the innumerable tasks at hand, the squirrels came out of the trees and surrounded her like a large litter of attention-starved puppies. Competing species of birds would momentarily put aside their petty differences and alight upon her shoulders. It was a wonder to see.

Even the dogs made an uneasy peace with the not-quite-wild animals that hovered around LaVonne.

Mick and Amy lay down beside her, grudgingly allowing the squirrels and chipmunks to use them for perches. Newt,



who was genetically hardwired to chase any small thing that moved, kept her distance—unable to endure the insult of having a chipmunk or two, sitting on top of her head.

The cats were a different matter. Stinky watched the forest creatures with unwavering anticipation, her eyes following their every movement. To her credit, I believe it was more from fascination than any predatory designs, since she never once made a threatening move. Then there was Willie, the cat for whose demented pleasures the entire world existed. The telepathic waves of goodwill that were sufficient to transport Amy and Mick to Nirvana, and at least keep Stinky and Newt at bay, just irritated Willie, like chaff in the wind. From different vantage points he launched one attack after another, each one repelled, either by an army of squirrels, a squadron of birds, or simply a firm hand latching onto the scruff of his neck.

Finally, pecked and scratched, angry and frustrated, the big yellow cat retreated to the shadows and brooded darkly. It was worrisome.

Per Hank's instructions, I had run all the wires and installed all the components. The only task that remained was that of hooking everything together and flipping a switch or two. Knowing how tricky it could be—and how ignorant I was of the whole process—Hank came by early one day to assist me. He worked from early morning to late afternoon, while I mostly watched. When there was nothing left to do but wire the leads from the AC power inverter into the main breaker panel, Hank asked, "Are you really ready to free yourself from Planet Power's tentacles?"

I was.

He solemnly handed me a pair of wire nips and pointed to the electrical meter on the utility pole closest to the house. "Then do it," he said.

With neither pomp nor fanfare, I first cut the wire with the leaden seal that held the meter's flange in place, knowing full-well that I had to be breaking some sort of law. I then took a deep breath and prepared to yank the meter from its receptacle on the pole. As my nervous fingers wrapped around the ominous-looking glass jar that housed the meter's inner workings, a score of squirrels, chipmunks and birds formed a circle around me. A pair of bull elk emerged from

the trees to watch. I gave the meter a hard pull and it came free, to a chorus of chirps and chitters and throaty refrains. The elk bugled in tandem, their eerie calls echoing across the distant hillsides.

Electrically speaking, the house was now dead—though not for long. Quickly Hank went to work to resuscitate it. Within 20 minutes the house was running again—this time on clean, free, non-depleting (this was a cool new term I'd recently learned) energy from the sun and wind. Hank shook my hand and LaVonne rewarded me with a long, satisfying kiss. I was elated. I felt like I had just crossed a vast chasm between the old form of humankind, to the new.

I took LaVonne in my arms and returned her kiss. She didn't object, even though my brazenness turned her brother-in-law's face a deep shade of red. "Why, Hank," she said, with a chuckle, "I do believe we've embarrassed you!"

He answered, "Me? No...it's, uh...just a hot day, is all. Anyway, I think it's time for me to go." He gave me several pointers on potential bugs that might creep into the system until it was fine-tuned, and how to deal with them. Then he drove away.

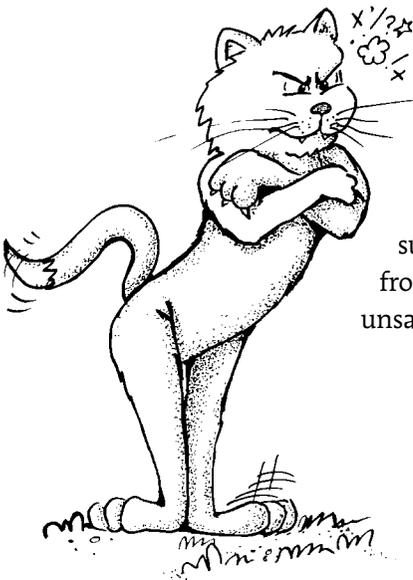
"Dinner in town?" I said to LaVonne, after Hank was gone.

"You buy, I'll drive," came the reply.

It sounded like a fair deal to me.

As the sun began to set and LaVonne and I drove away, happy and carefree, it seemed as though all the world was finally at peace.

All except for a spurned and sulking yellow cat that crawled out from hiding to ponder deeds most unsavory. 🌿



an antithesis
 *yellow cat has learned his code* 
darkness delivers

As we sped into town in LaVonne's hydrogen-powered muscle-car, it occurred to me that perhaps not all of nature's creatures would look forward to the budding energy revolution with the same hopeful anticipation as the winged and antlered and chisel-toothed vigilantes. Some, those who thrived in a polluted world, might feel severely threatened by any philosophy that required its followers to live as though the planet actually mattered. If people suddenly began to take responsibility for the energy they used and the means they employed to produce it, might they not also become mindful of other wasteful practices, such as the millennia-old tendency to pile garbage in big, smelly heaps? If the energy revolution ever caught on, it would mean a wholesale restructuring of the refuse chain. Everything would be recycled. People's homes and yards would be neat and efficient, city streets would be far cleaner, and trash dumps would become a thing of the past. What, then, would become of the unnumbered populations of vermin—rats and cockroaches, for instance—if humanity were suddenly to treat the world with same respect as other animals? Might they not resent the change, and try to sabotage our efforts?

Unable to shake the feeling that this was more than my imagination, I shared my concerns with LaVonne once we were seated at a small, candlelit table in the one of Big City's coziest and least known restaurants. She just smiled, and said, "You're catching on."

"Catching on to what?" I had to ask.

"The way of the world," she answered. "Of course there's going to be a backlash. It's just the way things are. Remember Newton, and your high school physics? For every action there's an equal and opposite reaction?"

"But we're talking about animals here, not rockets," I pointed out.

Undaunted, she replied, "Okay, then...how about yin and yang? Or Hegel's dialectic? For every thesis there's an antithesis? Eventually the two resolve into a synthesis?"

“Yeah,” I jabbed, “Ol’ Karl Marx tried putting Hegel’s dialectic into practice. Last I heard, it wasn’t working out too good.”

She brushed off my objection with a wave of her hand. “Marx’s idealism stifled the course of societal evolution. He didn’t understand Hegel at all.”

“Does anyone?” I wondered.

“Good point,” she conceded. “Just the same, it’s nothing you need to worry about. Remember the simple little truism, ‘whatever must be, will be’? These things have a way of working themselves out.” Picking up her menu, she said, “Anyway, are we going to order some food, or should we just sit here all night and discuss 19th century German philosophy?”

I thought she was making light of what might end up being a real problem, but she didn’t seem to be the least bit worried. Maybe she was just playing down the issue because she didn’t have a solution. Or maybe she knew something I didn’t. Either way, she had nothing left to say on the subject, so what difference did it make? There wasn’t much either of us could do about it at the moment. Besides, it was a pivotal day and a good time for a little indulgence. We ordered a bottle of Colorado Merlot and enjoyed it over a perfectly roasted chateaubriand. We discussed many things of scant consequence and enjoyed each other’s company immensely.

I tried my best to steer clear of “shop talk,” feeling the night was better suited for more intimate subjects, but after awhile our conversation took the inevitable turn in that direction. “You know,” I said, finally, “I’ve just cut my ties with Planet Power as though it were a well-planned move, but the fact is I know basically nothing about how my place is powered now. It’s a little unnerving.”

“What did you know about how it was powered before?” she asked.

“What was there to know? Juice came through the lines, everything worked most of the time, and I paid an electric bill every month.”

She laughed, and said, “Well, now things will work all the time, and there’s no more electric bill to pay.”

“Yeah, but...”

“Maybe I should finish the little analogy I started the other day on our way to town?”

“Why not?” I agreed. “You were just getting to the really cool part about the mermaid and the whale.”

“Right, okay, let’s see...I’ve got it.” She took a breath, and began. “At last, you are profoundly satisfied with your little system. So popular is your pond, now that the pump runs day and night, an entire wildlife ecosystem has blossomed around it. You only have to look out the window to feel you are on safari. Then your luck gets even better, for as fate would have it, you chance to meet the Perfect Woman...”

“The ‘Perfect Woman’? LaVonne, how did you—?”

With a knowing smile, she said, “Because I’m a woman, you starry-eyed cowboy. Now pipe down and listen.”

I did, and she continued: “Matrimony follows a whirlwind courtship. All is right with the world...”

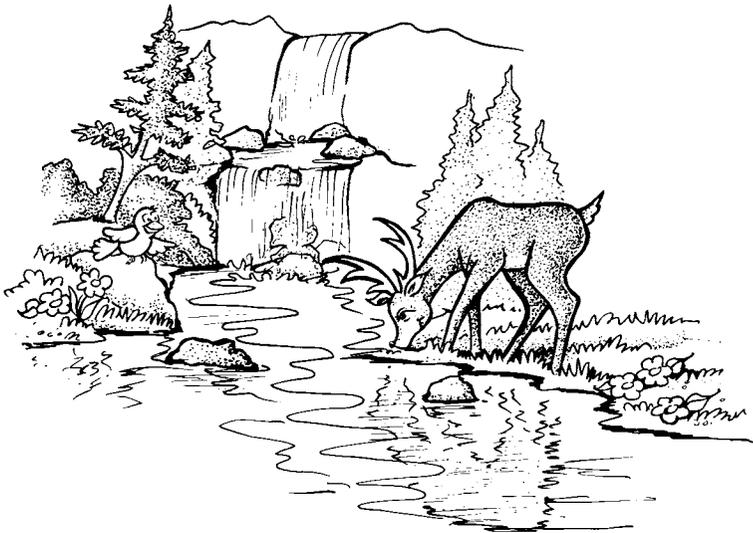
“This is really getting deep,” I told her, my heart fibrillating wildly.

“It gets deeper,” she assured me, before returning to her tale: “...But now your new bride delivers a crushing observation: she has always thought that your anatomically correct bronze mermaid—perched on the back of a smiling whale—is, well...voyeuristic.”

“Really?”

“Uh huh,” she answered, nodding her head.

“Dang!”



“...Wouldn’t it be better, she innocently asks, if you enlarged the pond—an acre would be about right, she thinks—then built a 20-foot high rock-and-mortar mountain in the middle, from which would gush a miniature Niagara of bubbling water?”

“Now wait a minute here!”

She smiled and flashed me a don’t-interrupt-me look. “She’s right, of course—you said yourself she was perfect. So, while the excavating crew enlarges the pond to the size of a small lake, and the stone masons build a re-creation of the Matterhorn in the middle of it, you buy another wind generator, a vast solar array, and several more batteries, because you know the old pump for the mermaid and the whale just isn’t going to cut it anymore.

“The new pump, as you might’ve guessed, runs on 240-volt AC, and your inverter only produces 120-volt AC. Should you buy a new inverter, you wonder, and wire it in series to the old one to double the voltage, or is there another way? You do a few calculations and discover the original inverter produces more than enough continuous wattage to drive the new pump, so you take the much cheaper route of installing a 240-volt transformer between the pump, and the inverter.”

At that point, I interjected, “It doesn’t matter what it costs, Honey, because I had to sell my last horse to pay for the mermaid you just carted off.”

“So why don’t you pretend you’re rich and let me finish the story?”

“But every time I pretend I’m rich, I end up poor, again!” I protested.

Ignoring me, she continued: “The transformer works perfectly, and your waterfall gurgles to life. It is truly a sight to behold. At least until darkness sets in, and you have to view it with a flashlight. So, with a gleam in her eye, your new bride asks if it would be too much trouble to put in a few teensy-weensy lights around the waterfall, maybe twenty, or so? Sure, no problem, you say. But low-wattage compact fluorescent bulbs, you quickly realize, don’t run on 240 volts. To remedy the problem, you simply install a 120-volt breaker panel between the inverter and the transformer, to provide a few 120-volt circuits before the current changes to 240 volts to power the waterfall.”

“I’m pretty clever, aren’t I?” I just had to say.

“Maybe too clever, by half?” she warned, before ending the analogy. “At last: your wife is elated, your waterfall is the eighth wonder of the world, your lake is brimming with fish and exotic waterfowl, and you are eminently proud of yourself for putting together an unassailable solar and wind electrical system.” Finished, she took a deep breath and beamed me a satisfied smile.

“Wow,” I exclaimed, “this is too much to think about all at once.” And I wasn’t talking about her lengthy exposition on wind and solar power.

She reached across the table and took my hand. “Don’t act so surprised, Cowboy. I knew you were the Perfect Man the minute I set eyes on you.”

“Did you ever...I mean, did you have...?”

“Dreams about you?” she asked, finishing my thought. “Sure. I knew just what you would look like before I ever saw you.”

“Me too,” I said. “About you, I mean.”

I was dumbfounded; couldn’t think of a thing to say. So, I asked, “Uh, this pond pump setup you just described...do you really want me to build this thing?”

She laughed. “No, silly! It’s an analogy. No one in their right mind would spend that much money on a pond pump system. It was meant to help you understand the system you just installed. As a matter of illustration, I took the pond pump idea to a ridiculous extreme.”

“That’s an understatement,” I murmured, then asked, “But how about the mermaid?”

“We’ll talk about it,” she promised. “But first things first. Let’s go back to your place.”

On the way out of the restaurant, I asked, “By the way, did you enjoy dinner?”

She offered a sympathetic smile, and replied, “Yes, it was delicious. But...”

“But what?”

“To tell you the truth, I’d have rather had green chili burritos and a bottle of Mexican beer.”

No doubt about it—I was in love.

I was hoping the conversation on the way home would wander back into more intimate territory, but LaVonne wasn't one to stoke a hot fire. Instead, the engineering side of her genetic profile kicked in, and she asked, "Okay, let's see how much you've learned. Can you explain the difference between voltage and amperage?"

"Sure. Voltage is the electrical potential of the system, while amperage is the rate of flow."

She furrowed her brow, and said, "That's a copout. It's the same confusing explanation they give to high school kids to make sure they never actually understand this stuff."

Unruffled, I answered, "How about I explain the relationship between the two?"

"Go for it."

Maybe I didn't entirely understand all the everyday, practical aspects of my new system, but I'd thought long and hard about voltage and amperage ever since my first talk with Mick. I was ready to show off a little. I said, "Alright, try this: voltage is to amperage what gravity is to matter."

That earned me a smile. She said, "That's pretty deep; almost poetic. But what does it mean?"

I thought for a minute, then said, "Let's say you've got two cliffs. One is really high, with a small rock resting on the edge. The other is quite a bit lower, with a much larger rock on the edge. You give both rocks a little push. If you've chosen your rocks and your cliffs carefully, you'll discover that both rocks hit the ground with the same force."

"That's neat," she said. "Let's see, now; the two rocks must be analogous to loads of different amperage, and the cliffs of different heights would represent different voltages, or electrical potentials, right?"

"Uh huh. And so the force with which they hit the ground would be...?"

"Wattage, of course."

"You've got it!" I told her.

"But wait a minute," she objected, "Once the rocks have come to rest the big one still weighs more than the little one."

“True,” I agreed, “but unless you’ve got another cliff nearby to roll if off of, it really doesn’t have any more potential.” I could see she wasn’t quite satisfied with this answer, so I said, “Okay, forget the rocks; let’s try water falling through a pipe, like in a hydroelectric dam. It works better, anyway.”

“You don’t say?”

“Oh, but I do. Consider this: the force exerted by water flowing through a pipe at 5 gallons per minute, with a 100-foot vertical drop, is the same as 100 gallons per minute through a pipe with a 5-foot vertical drop. In the same way, 5 amps of current being pushed through a wire by 100 volts provides the same wattage as 100 amps of current at 5 volts. In either system the variables are interchangeable.”

“Really!” she exclaimed. “And all this from a cowboy who a week ago didn’t hardly know a watt from an amp!” She thought for moment, then said, “But you forgot to mention that in both cases the pipe, or the wire, needs to be properly sized so you don’t lose too much to resistance.”

“Good point,” I agreed. “In fact, your observation helps to round out the analogy. What happens to a pipe’s carrying capacity when you double the diameter?” I asked.

She replied, “Well, you quadruple the surface area of the cross-section, so you can push four times the amount of water through it.”

“Exactly. Now, what happens when you double the voltage of a system, without changing the overall wattage?”

She rested her chin between her thumb and forefinger, then said, “Let’s see...if the wattage remains the same, then the amperage is halved when the voltage is doubled. If I remember right, it means the wire will have four times the carrying capacity. Right?”

“I rest my case.”

Narrowing her eyes, she asked, “Did Hank teach you all this stuff, or are you just that clever?”

“LaVonne! I’m shocked!” I exclaimed, a little pretentiously.

“He did, didn’t he?” She asked, poking me in the ribs.

“Some of it,” I admitted. “But mostly Hank likes to talk on a more philosophical level. For instance, he’s fond of pointing out that no one really understands why it all works the way it does.”

“So how come we have all these formulas to perfectly describe electrical behavior?” she asked.

“Oh, we know how it works, well enough. Just not why.”

“Give me a for-instance.”

“Okay, take inductance. As Hank explains it, we all know that an electrical current running through a wire will induce a magnetic field around the wire. Or vice versa. It’s the basic principle behind transformers, motors and generators, and even radios and wireless communications. But no one knows why it works the way it does.”

“Interesting.”

“Oh, that’s just the beginning,” I told her, as she turned off the county road onto the drive leading to my house. “Hank ties it all in with theoretical physics. By the time he’s finished he’s got you believing that an electrical current and a ham sandwich are just different manifestations of the same thing. Then he smiles and says, ‘now why do you suppose the world works like that?’”

“Sounds like Hank, alright,” she agreed. “But look at it this way: if he’s right—about the ham sandwich thing, I mean—then it would go a long way toward explaining how Newt keeps getting in and out of the system.”

I hardly heard what she said. “We’ve got problems,” I announced, looking toward the house.

The single light I had left burning in my office was blinking on and off at a seemingly irregular rate. As I studied it, however, I realized the spacing and duration of the blinks was cyclic. Remembering my former training as a ham radio operator, I quickly recognized what it was. I felt an icy shiver run down my spine.

LaVonne was perplexed. “What is it?” she asked.

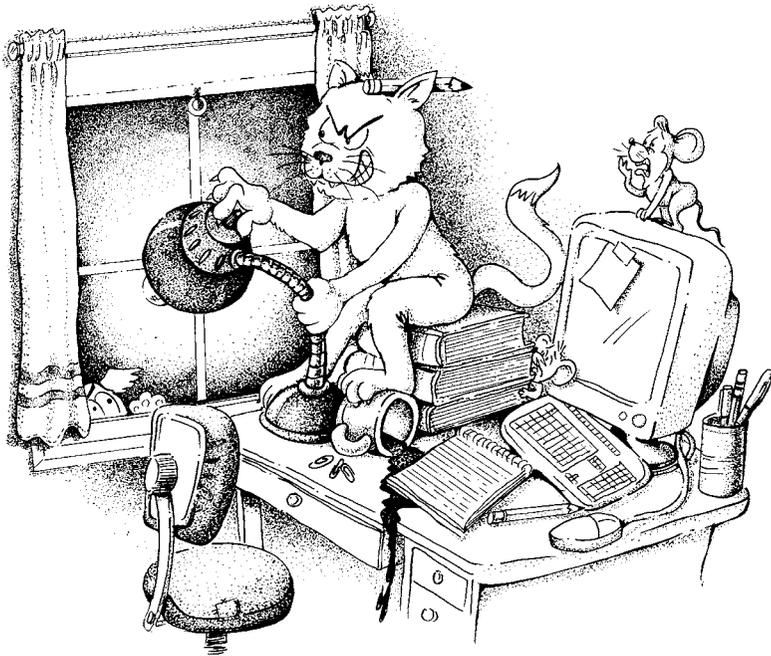
“Morse Code,” I answered.

“Oh, no! What is he saying?”

“PACKRATS...UV...THE...WURLD...UNITE.”

“Willie?” she asked.

“Who else?” I sputtered, through clenched teeth. 🌿



a packrat party
a lofty pursuit, en masse
Too smart, yellow cat

The scene before us as we pulled into the yard was like something out of a John Carpenter film. Packrats were pouring out of the hay barn and scrap piles, the equipment shed and wood piles in droves, their little black beady eyes glistening in the headlights as they scurried toward the house. The three dogs and Stinky, the cat, had tried to set up a defensive perimeter around the house, but there were too many rats for the four of them to fend off; whenever one of them would send a rat running, another five would sneak past.

Through the window I could see that Willie had managed to push my office door shut, ensuring that no dog could deflect him from his twisted mission. He was sitting on his haunches on my desk, flipping

the desk lamp's light switch on and off with his paws, sending out his diabolical message to all his little nether-minions. His face was frozen into a maniacal rictus.

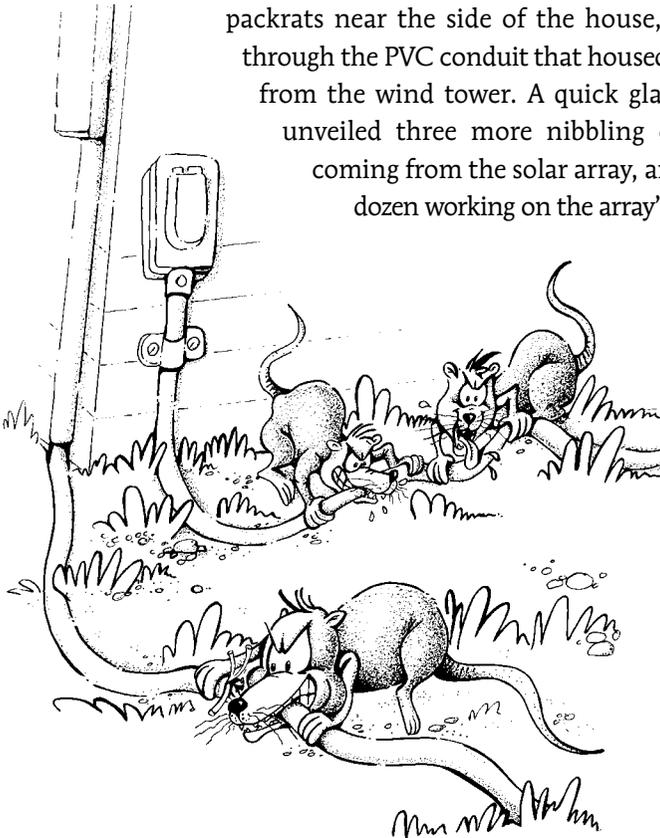
"Should have installed those compact fluorescent bulbs," LaVonne said, calmly. "They don't turn on and off quite so fast—it would really throw off his rhythm."

"Yeah. What was I thinking? I should have known this would happen."

Ignoring my sarcasm, she said, "You go take care of your cat. I'll handle things out here."

I started to object, but then I remembered the spooky way she had with animals. She probably didn't need my help. But, just in case she had overestimated her abilities, I ran quickly for the house to hog-

tie my seditious cat. As I rounded the corner I saw a pair of packrats near the side of the house, trying to chew through the PVC conduit that housed the heavy wires from the wind tower. A quick glance to the west unveiled three more nibbling on the conduit coming from the solar array, and another half-dozen working on the array's plastic junction



boxes. I pulled off my jacket, swung it around my head, and swatted at them until they all disappeared into the shadows. I unlocked the door and ran for my office.

If Willie was surprised to see me, he didn't let it show. The leer I'd seen through the window was still hard-set on his face, as though cemented in place by Igor, the hunchback taxidermist. However, the second I screamed, "Prepare to die, you good-for-nothing cat!" and lurched for his scrawny neck with outstretched fingers-become-claws, he realized the party was over. Like a furry ball of yellow lightning, he leapt from the desk—scattering hundreds of pages of the novel I'd been working on—zipped out of the office, and ran through the wide-open front door. Though it was obvious—even to me, in my advanced state of rage—that I would never catch him, I took off in hot pursuit.

The ruckus outside had grown several degrees more bizarre since I'd stormed into the house to put a stop to Willie's underground broadcast. As I expected, the big yellow cat was nowhere to be found. But neither had the swarm of packrats returned to bedevil my wiring with their insidious incisors. Looking up, I quickly saw why. The whoosh, whoosh of scores of wings cut through the chilly air, and the night sky was suffused with the darting, gliding silhouettes of a multitude of raptors. It was an aerial feeding frenzy. Dozens of owls and hawks, falcons and kites—even a pair of eagles—had come (or been summoned) from every direction to gorge themselves on the unnatural glut of rat flesh. Each bird hunted according its genetic wont—some spiraled down in low arcs, snatching their rodent victims in singular, smooth sweeps; others dove from the sky like kamikazes, landing squarely on their prey and corralling the hapless rats in their strong, majestic wings before latching tightly onto them and taking off again.



It was all over in just a few minutes. Every packrat that was still breathing had fled to safety amidst the junk and refuse from which it had emerged. I doubted seriously they would return anytime soon.

As the sky cleared and the stars returned to silent prominence, I noticed LaVonne standing serenely in the middle of the yard. Mick, Amy, Newt and Stinky all rested beside her, gazing up into the brilliant firmament. Willie was nowhere to be seen.

“Are you alright?” I asked, jockeying with a pair of dogs for a place beside her.

“Never better,” she answered, with a starlit smile, as I put my arm around her and kissed her on the cheek.

“What just happened?” I had to ask.

She wore a distant, dreamy expression, as she said, “Oh, just Nature doing what She does best.”

I didn’t bother to ask her what part she’d had in the spectacle, or even what her answer meant. It was not the type of answer that begged for qualification; surrounded in a cloak of mystery, it was nonetheless complete. It was just the way LaVonne saw things: to her, the most wondrous pearl was the one left inside the oyster.

“You didn’t happen to see if one of the owls carried off a big yellow cat, did you?” I asked, half hoping.

“Oh, no. He ran off over there, somewhere,” she said, pointing into a thicket of mountain mahogany.

My first thought was to take the dogs and go flush him out, but I knew he would just run somewhere else. The cat wasn’t going to be caught until he was ready to turn himself in. And that wasn’t going to happen until he got so hungry the thought of food weighed heavier on his warped little mind than the threat of punishment. But by then, he probably knew, I wouldn’t even be mad at him anymore.

I was startled from my thoughts by a whooshing sound overhead. At first I thought it must be a couple of birds conducting a cleanup operation, but I quickly realized it was the propeller blades on the new wind generator reacting to a sudden gust of wind 60 feet up. A moment later we all felt the wind at ground level. It quickly grew in intensity as the generator’s blades began to turn ever more furiously. Though the sound was a bit distracting, I quickly realized a

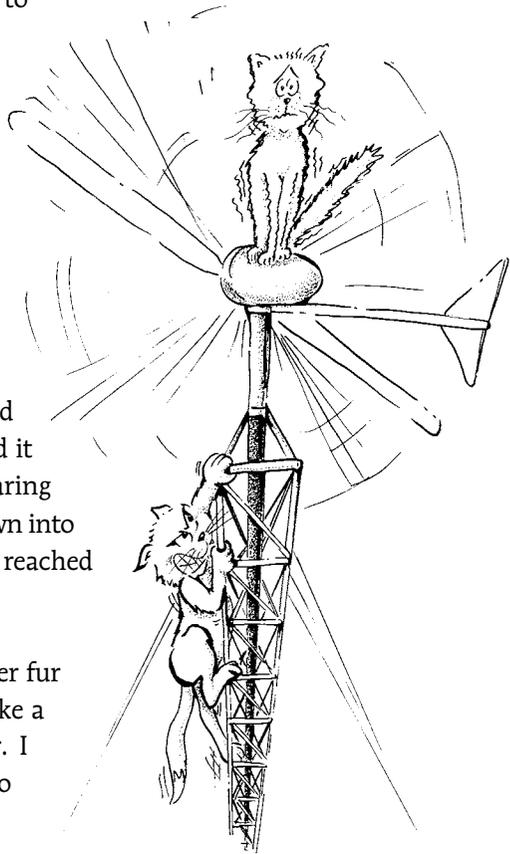
good portion of my electricity would now be coming from the spinning turbine atop that tower. It was an exciting concept. I wanted to run into the house and check the meters, to see just how much electricity the wind was producing.

As I turned to go, there came from the bushes a sound quite unlike any that I had ever heard before. It was coming from a cat, that much was certain, though it was not the sound a normal cat would make under any circumstance I could imagine. Definitely not hunger or fear, and probably not even lust, ecstasy or torture. It was a sound as melodious as it was strained; as compelling as it was disturbing. A sound that would've drawn Odysseus and all his men to their doom, had they been possessed of feline faculties.

Wild Willie From Outta Town, it seemed, was not yet through for the night. I looked first to LaVonne, and then to each of the dogs. They were all mesmerized by the operatic mewing issuing from the bushes. Then my eyes dropped to Stinky. Her head waved back and forth like a stoned teenager at a rock concert, and her nose twitched uncontrollably, as though she could actually smell the sound and it was catnip to her ears. Fearing that she was about to be drawn into another of Willie's traps, I reached down to snatch her up.

Too late.

The second I touched her fur she shrieked and took off like a pea through a pea shooter. I called out to her, but to no avail; she was too far under



Willie's malevolent spell. There was nothing we could do but wait, and listen.

It didn't take long for Willie to change his tune. Once Stinky entered the thicket Willie dropped his sonorous charade and the sounds we heard became those of a good old-fashioned cat fight. Apparently Willie needed to take out his frustrations on someone, and Stinky was the only one around he could pick on. I ran toward the bushes, LaVonne and the dogs hot on my heels. I had a big enough vet bill with my horses and calves; I didn't need another for a chewed and clawed cat.

Before any of us could reach the quarrelsome cats, the ear-piercing noises ceased as Stinky launched herself out of the bushes and up the tree beside the wind tower, Willie close on her tail. Great, I thought, it's going to take tranquilizing darts to get them both down. But, to my amazement, things got even worse. Stinky flew out the top of the tree and onto the wind tower. Now she's stuck, I said to myself. No way can a cat climb a steel tower, rungs or no rungs. I was wrong. By the time Willie launched himself from the top of the tree, Stinky was halfway up the remaining 20 feet of the tower, climbing the steel lattice, paw over paw. With the wind blowing and the propeller spinning, I saw no way either cat was going to make it out of this alive. I put my arm around LaVonne and prepared for the worst. All three dogs had their eyes riveted to the top of the tower.

Willie, taking stock of the predicament he'd worked himself into, lost a few degrees of determination. He clung to the side of the tower and watched as Stinky inched her way toward the top.

When she reached the final rung of the lattice, Stinky could climb no more. Above her, a 3-inch steel pipe protruded 5 feet from the top of the tower. On top of that was fastened the turbine and the feverishly whirling blades. Willie loomed below, mayhem boiling in his eyes. Wanting no more of Willie, no matter how unsavory the alternative, Stinky drew down on her haunches and jumped with every ounce of strength her poor tired legs could muster. It was just enough to propel her to the top of the wind generator, where she came to rest, looking very much like a feline aviator in a wingless crop duster with an oversized prop. Together, LaVonne and I clapped our hands and shouted encouragement at Stinky for her valiant maneuver. Amy gave her an empathetic "Woo, woo, woo."

It was more than Willie, in his deranged state of mind, could take. The hesitation he'd shown earlier was now transformed into a rabid lust for revenge. The horrid grin returned to his face and he shot up the tower like a rock from a catapult, not even pausing as he reached the top of the lattice. He hurled himself toward Stinky, but overshot his mark by several inches. Stinky ducked her head at the last instant and Willie, burdened as he was with far more momentum than he'd bargained for, zoomed right past her and into the spinning blades.

I prepared for a screech, a whack-whack, and a nauseating shower of finely ground cat parts. But there was only an intense, momentary brightening of the light in my office; the same one Willie had used to hail the packrats to his ill-fated counter-revolution. In the last instant Willie had unwittingly given up all his earthly energy to further the very cause he had fought so hard to destroy.

Sadly, I donned a backpack, flipped on the wind brake, and scaled the tower to retrieve my one remaining cat. 🐾

SIX MONTHS LATER...

 *so many changes*
could it be the way of things? 
nothing more, nor less

It was a great time to be alive. Once the blackouts became so widespread everyone with even moderate sensibilities knew what was happening, the media was finally forced to admit they'd known the true cause of the blackouts all along. The public outrage was swift and predictable. The powerful airway moguls who had formerly shaped the world by suppressing, inventing, twisting, watering-down and creating the news, were chastised into simply reporting it.

One of the first things the new breed of reporters covered was the press conference during which Gilbert Gigabucks, CEO of Planet Power Corporation, announced to the world that 95 percent of his company's profits would go into research on solar and wind energy, and hydrogen fuel-cell technology. He claimed his company was "firmly committed" to being pollution-free within ten years. Fearing a direct hit to their expansive-yet-dwindling portfolios, many of the larger stockholders cried foul and attempted to have Gilbert replaced, but their protests were quickly muted when another surge of animal-induced sabotage—the biggest one to date—brought worldwide commerce to a screeching halt. Swarms of gnats, in a giant, well-coordinated assault, had worked their way into the mainframes of every Planet Power control station in the country. The computers that once controlled the nation's power grid had been converted by the frolicsome little insects into Pacman play stations. The nationwide blackout lasted for five days. For most of that time all the plant managers across the country, feeling they could deal with the crisis on their own, feverishly played Pacman day and night. Their efforts proved futile. The lockout finally ended when Gilbert Gigabucks enlisted the aid of an army of twelve-year-olds, who swiftly brought the increasingly difficult games to a victorious conclusion. It gave a new, earthier meaning to the term "computer bug."

Following the blackout, the President of the United States, who just a month before had denounced the animal kingdom's concerted effort to shut down the grid as "the single greatest threat to national security this country has ever known," announced that it would now be his administration's "highest priority" to free the country forever from the "horrendous environmental costs" of a coal and oil-powered economy. To show his good faith, the President proudly unveiled a few projects the Pentagon had been working on under the cloak of national defense. The most impressive item, a portable, cooler-sized, solar-powered hydrogen fuel-cell recharger, was years ahead of anything on the drawing boards. It was rumored to have been a gift from aliens, in exchange for a small piece of real estate inside a mountain near Sedona, Arizona, where the extra-terrestrials wished to build a new base of operations.

Personally, I think it originated in Hank's mysterious metal out-building.

But who knows? Hank wasn't talking, and I was starting to believe that anything was possible. After all, the Perfect Woman I first met in my dreams now shared my name, and dreamed beside me every night.

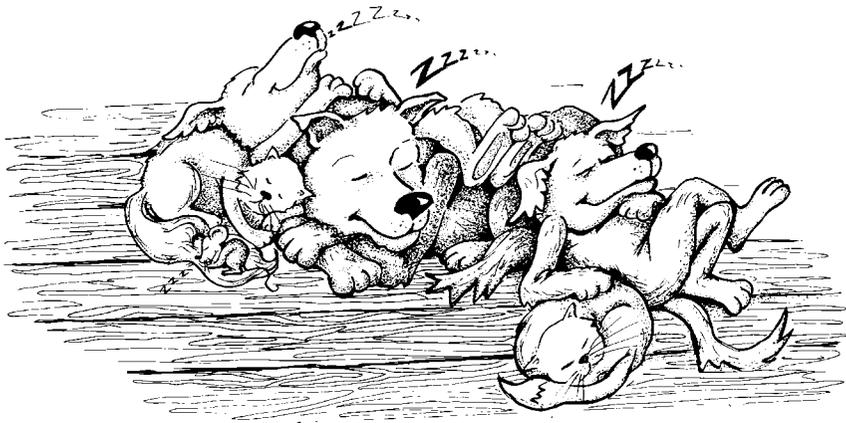
Unless, of course, we were awakened by Willie chasing Stinky across the bed after the lights were doused.

Willie? That's right—it seems our grief over his demise was premature.

Mick announced the cat's resurrection in the wee hours of the morning. With an uncustomary paucity of words, the dog said only, "He's back," before disappearing again into the shadows.

The bright flash of light we saw from my office as Willie was consumed by the spinning blades must have been the demon inside of him burning up, at last. As I discovered the next morning, the rest of my wranglesome cat had traveled through the power lines and into the batteries, from which he emerged, howling and scratching at the inside of the battery box cover.

He was tired, confused and rather subdued, but still Willie, all the same. Minus, it seemed, any knowledge of the psychotic episode he'd experienced the night before. But one never knows; with Willie, it could be just be another of his ruses.



All I can say for certain is there was never another instance of packrat sabotage; at least not around here. Of course, stories abound of more unnerving occurrences in other places and, if these harrowing tales are to be believed, I'd say LaVonne and I got off pretty easy.

But that's another story. 🌿

As we were preparing this book to go to press, we spotted this story in the *Rocky Mountain News* Business Section:

SQUIRRELLY OUTAGES

February 5, 2003

Longmont Power & Communications, which serves 35,000 customers, says that more than 90 percent of its significant outages are caused by squirrels. The pesky animals cut the power 393 times in 2002, up from 349 two year earlier. Banding utility poles with slippery, hard plastic apparently didn't help.

It lends credence to my personal Fiction Writer's Maxim: "Never spin a tale you don't want to come true."