



Holy, holy, holy is the hymn of my buckskin gloves—seasoned from within by the salt of my devout exertion, permeated from without by the layered sacraments of earthy communion: rain, dew, grass, ash, mud, blood, mucous, feces and birth fluids—early in the morning their humble praises rise like psalms from the tendon-stringed harps of my hands.

If you could tune your ear to the song of my cast-off, thin-palmed, rip-riddled gloves, I'd be saved the time of writing this reflection. If you understood the language of gloves, I could offer a tattered, leather-bound volume of vignettes—pairs in lieu of paragraphs—rending, rousing tales of four fecund springs, three floods and one drought, two ice storms and a blizzard, unnumbered births and deaths, and a handful of epiphanies.

These gloves are story and song, sacred relics, symbols of my apprenticeship to the prairie, a trail of gauntlets flung and taken up. *And God threw down the gauntlet and challenged me in the unmistakable language of thunder to wrench back my ribs and expose my broken-open heart to the white-hot light rebounding jaggedly between heaven and earth—and I was not allowed to ask any mortal questions, but knew in my roots and my bones that the only possible answer was: I do not belong only to myself, do with me what you will.*

I trace the origins of my apprenticeship to this catalytic encounter with thunder and lightning—God's glove thrown—and my reply a refrain sung by my heart ever since—*do with me what you will.*

Three years ago, Jane threw down a comparatively minor mortal gauntlet one afternoon, dispatching me on an assignment to go forth and return with an inventory of cows close to calving.

Absolutely nothing qualified me to perform bovine pre-natal assessments. I returned with a jumbled list of animal I.D. numbers accompanied by decidedly unscientific descriptions: *huge, close, about to bust, probably soon.* To my unpracticed eye, the entire herd appeared to wobble on the brink of giving birth *en masse.* I suffered from the classic symptom of information poverty: the cows all looked alike to me.

Unlike the terminally ignorant, however—*which have eyes, and see not, which have ears, and hear not*—I possessed the wisdom to know how little I knew. This is the mark of the apprentice—the beginner, the learner—who sets out with open eyes, ears, heart and hands to *apprehendere*, the Latin root of apprentice: *to take hold of, grasp, seize with the mind.* This is not the passive spoon-fed chew-up-and-spit-back rote and recitation of the polite classroom. This is a bawdy, bawling brawl with naked ideas, an unorthodox search and seizure of random concepts and connections, a trial by total immersion in which choices are few: master the art of swimming, sprout gills and learn a new way of breathing, or sink under a surfeit of slippery information.

I'd like to reach back and tap the magic of my brain when I was an infant going through what neuroscientists call a time of *synaptical exuberance* among the 100 billion neurons in the brain. Brain plasticity declines in adulthood. When we attempt to learn a new body of knowledge in later life, *neural competition* complicates the process; what we already know and the ways in which we learn interfere with acquiring new knowledge. One brain researcher suggests that to acquire a new language in adulthood, it's best to leave the country in which your native language is spoken. "In order to re-sculpture your brain pathways to take on a new skill in adulthood," says Dr. Lise Eliot,

Assistant Professor in the Department of Neuroscience at the Chicago Medical School, "you've really got to reduce the opportunity to continue practicing the things you have been doing for the past 20 to 30 years."

This is, in effect, what I have accomplished by moving from the heart of the city to the middle of a pasture and by radically changing my vocation, my passion, even my ecosystem. Everything is new.

I have now invested three years...1,095 days...26,280 hours in my apprenticeship to cows and calves, to grasses and forbs, to birds and butterflies, to agriculture and conservation, to natural and cultural history, and to the larger framework into which all these components fit—the remnant tallgrass prairie in the Flint Hills of Kansas. By choice I became (as all successful apprentices must be) immensely permeable—receptive, absorbent, penetrable—a rare state of surrender at midlife, especially in our culture. This is why, in the traditional apprenticeship model, the typical novice was 14 to 21 years of age, not 45 to 50. Most of us in later life develop all manner of complicated filters, screens, one-way valves and other defenses against inundation by new information outside of our recognized areas of expertise or our fragile zones of comfort. Precisely because of the diminishing plasticity of our brains, many of us suffer, to some degree, from a chronic hardening of the categories. We take comfort in our long-held assumptions and shy away from asking questions that might reveal how little we know or undermine what we think of as indisputable truth.

From the beginning, I allowed free rein to my favorite assistant—the 3-year-old version of myself—who, with her incessant who-what-where-when-why inquiries, is a natural investigator. This early iteration of Marva-becoming has not yet been corrupted by the *knowledge is power* paradigm; she thinks knowledge is pure fun. She, with her *synaptic exuberance*, makes a great partner—she asks the questions while I, with my superior powers of synthesis and hierarchical organization, figure out where the answers connect to the rest of the big-picture puzzle we've been working at for 48 years.

As a result of this approach, the cows that once all looked alike to me have resolved into distinct individuals, many of whom I can identify even at a distance by clues as subtle as profile, gait and attitude. I understand how they see, hear, graze, digest and reproduce. I can now scry the signs of impending birth a day or two in advance. I even fancy that I comprehend a little about how our cows think, feel and communicate.

Just as I know their habits, preferences and personalities, the cattle know my scent, voice and intentions. There is no short-cut to this kind of intimacy; it is built incrementally upon proximity and history. My gloves could tell you all this, saturated as they are with the slick birth fluids of calves Yellow 30 and 31, with the labored sweat of heifer Green 9 and the viscous saliva of Red 60, Orange W and Green 14.

Time passes...intimacy grows...my gloves stiffen with their layers of story. The other day I got a call from the family that bought a heifer calf from me two years ago. You might remember Gladiola, whose mother abandoned her, and who I bottle fed until I heard from the young girl who needed a bucket calf for her 4H project. The phone call last week heralded the arrival of Gladiola's first calf, a tiny heifer that looks exactly like her mother did two years ago. History at the personal level is all about establishing—in both ordinary and extraordinary moments—the reference points to which we can later harken back and note how far we have come.

Another recent call gladdened my heart and validated a different aspect of my apprenticeship. A local woman who runs cattle in three of our pastures during the grazing season left an urgent message. Flooding had ripped out fencing across a creek—what we call a *water gap*—and left a daunting mess of barbed wire and debris. A truckload of cattle was scheduled for arrival in the morning and she did not have time to mend the breach beforehand. *Could you or Marva get down there to fix it before 10:30 tomorrow morning?* If you've never faced the challenge of carving out a toehold in a tightly-knit rural community, you will not, perhaps, understand how two words in that sentence—*or Marva*—could ring in my heart like the Liberty Bell on the day the Declaration of Independence was signed. In those two ordinary words rang acknowledgment, acceptance and credit for competence. Like the Velveteen Rabbit, I am *becoming real* to the persons I first met three years ago, and like the Skin Horse, I understand that *it doesn't happen all at once. You become. It takes a long time.*

Back in April, very nearly on the three-year anniversary of my arrival here, I went to town—meaning Cottonwood Falls and Strong City—on errands. I returned home several hours later in a buoyant mood of celebration. My list of tasks had taken me on a circuit from the corner gas station to the grocery store, from the hardware store to the feed store. At each stop, I heard a magic word—my name—and each time someone spoke it, a candle flared into warm illumination on an imaginary cake. *Let there be light*—the luminosity of knowledge, familiarity and understanding that accrues and grows brighter with each modest investment over time.

For every person I've met in the last 1,095 days, I've created a profile in my brain. I link name to face to place. Many times I attach a brief genealogy chart to help me remember relationships. Often I make a note of vocation, hobbies and skills. My brain obliges by creating the equivalent of a local asset map. This diagram reminds me of the natural resources maps over which I labored earnestly with my Prang colored pencils in geography class, enriching the stark outlines of countries with colors and symbols for lakes, streams, forests, gold and silver.



Like a map, the web of lines on the palms of my buckskin gloves bears a surprising resemblance to photographs of neuronal dendrites—those marvelous and still mysterious networks of filaments that allow neurons to send electrical messages to each other across synapses at speeds of up to several hundred miles per hour in our brains. These dendrites are constantly in flux, growing in number and complexity, shifting and branching to compensate for lost cells, and evolving to accommodate the changing information and stimuli to which we subject our brains. If I'm ever asked to deliver an acceptance speech, I hope I'll remember to thank my dendrites.

Without their unfailing responsiveness to my often outrageous demands, I would not be able to memorize and recall that the Latin name for sideoats grama is *Bouteloua curtipendula* or that the regal fritillary butterfly is *Speyeria idalia*. I would be seriously hampered in attempting to quickly learn and substitute the vocabularies of rural agriculture, the beef industry and prairie preservation for those of urban planning, the non-profit sector and inner city culture. My dendrites enable me to flood my brain with a *mélange* of new ideas from multiple fields of study and somehow sort and synthesize them in relatively short order. They conspire to make it possible for me to shout *AHA!* with blessed regularity.

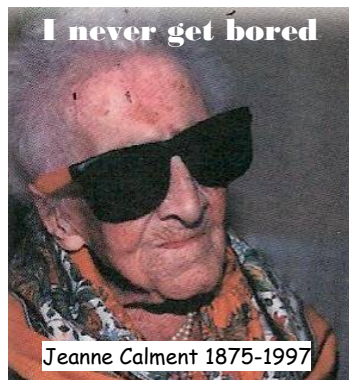
According to researchers, the minds that seem to retain the most acuity over the long haul belong to the flexible thinkers, those who cogitate outside the envelope, the box or any other safe enclosure or framework. This comforts me, higgledy-piggledy thinker that I can sometimes be. I set out about an hour ago to check our heifers (a 15-minute job) and ended up chasing a big, undulating flock of white and gray birds (ring-billed gulls, I think), stopping to study a great egret through my binoculars, and hiking across the pasture to photograph a fairy ring of puffball mushrooms I spied along the way. Meanwhile, this paragraph started writing itself in my head and I hurried home and captured it here. I did manage to check the heifers. I also looked up ring-billed gulls and fairy rings (which are not caused by dancing fairies, but by underground mycelium) and noted that the natural world thoughtfully provided me with ring themes just as I was writing about full circles.

Flexibility is the ability to process information or objects in different ways. It is the ability to abandon old ways of thinking and initiate different directions. **Flexible thinking** provides for shifts in thoughts, detours in thinking to include differing points of view, alternative plans, differing approaches and various perspectives of a situation.

-Dr. Kathy Goff

Here's some other great news: the efficiency and flexibility of dendrites help to compensate for the brain's age-related decline in plasticity, but only if you keep them occupied. I think I've read at least ten articles about brain research today, and over half of them contained the phrase *use it or lose it*. For inspiration, consider Jeanne Louise Calment, who died in 1997 at the age of 122.

Jeanne took up fencing at age 85 and still rode a bicycle at 100. She lived on her own until shortly before turning 110. At the age of 114, she played a cameo role in a children's film about Vincent Van Gogh, who she'd met a hundred years earlier and remembered as "dirty, badly dressed and disagreeable." At 115, her memory began to fail, but her sense of humor remained intact; when a



visitor departed her birthday celebration with the words, "Until next year, perhaps," she replied, "I don't see why not! You don't look so bad to me." On her 120th birthday, when asked what kind of future she expected to have, she demonstrated continued possession of her wit—both singular and plural—by dryly replying, "A short one." No kidding. On her 121st birthday she confided one of her secrets: "I dream, I think, I go over my life. I never get bored."

Jeanne received numerous visitors and remained engaged and talkative until her 122nd birthday, at which point nursing home staff, concerned about her declining health, began to turn away callers. According to her biographer, the ban on visitors finally allowed Jeanne to relinquish her remarkable hold on life; the attention, he speculated, had kept her going. She died of natural causes on August 4, 1997.

I falter when I try to imagine living in my body for another 74 years—until 2081—but I have no difficulty imagining my mind tenaciously hanging on for at least that long, poised to pounce on the next idea, coiled to strike at the next intriguing question, or hunkered down reflectively to await the next miracle.

Much as I adore research and information, I admit to hoping neuroscientists don't uncover all the brain's secrets. I don't want every drop of juice sucked out of my awe. I like to understand how things work, but I derive equal pleasure from wonder. I enjoy awakening and reveling, as I did this morning, in what I know now that I didn't know before, as well as in the staggering breadth and depth of the unknown. Yesterday morning, I didn't know much about dendrites. This morning I arise

and bless them. I can visualize in a vague way how the branching tracery of neuronal dendrites has grown and shifted to facilitate transport and storage of the information my brain cells sent to one another yesterday. With eyes closed, I ask my brain to make pictures of what I wrote the previous day and there—*O, blessed thought*—are the paragraphs lined up in order like train cars in my head. I can't see every sentence inside of them, but I can inventory the conceptual cargo. Head still on my pillow, I hear the clank of coupling cars and the rumble and screech of steel wheels on a steel track as my thoughts embark on today's journey to unknown destinations—neurons firing, errant sparks flying off the rails and *every common bush*, as Elizabeth Barrett Browning put it, *afire with God*.

I might just as well not bother wearing shoes today—or any day—for *holy, holy, holy* is the hymn of my gloves and the song of my brain and the running bass line of my heart and there is not one single scrap of ground to be found hereabouts that is not stunningly sacred.

This is the third year I've written my annual Full Circle Reflection. Here's a little secret: I never know where I'm going when I start writing. But maybe you knew that. As I told a friend recently, *I apprentice myself to the process*—and then I just hang on for dear life. This year the major themes turned out to be gloves and brains, which symbolically echo the first year's theme of a dynamic balance between *the routine and the unexpected, physical labor and intellectual engagement, analytical tasks and creative undertakings, work and leisure, people and solitude*.

A less obvious, but nevertheless pervasive theme this year is heart—my broken-open, love-filled, surrendering heart. Poised at the center between gloves and brain, my heart is the conduit, the translator, the mediating influence, the scale upon which hands and head find their balance.

In 2006, I reflected on interstices—spaces that intervene between things—and admitted that I found myself in an uncomfortable interval. I was no longer who I had been and not yet who I would become. I noted how similar this was to the conditions inside a cocoon: the caterpillar must be fully dissolved before it can be transformed. Sometime later in the year—I don't know exactly when and certainly not precisely how it happened—I suddenly became aware that my discomfort had dissipated and the things that had seemed novel and strangely awkward were suddenly second nature to me. I was sitting in my chair on a perfectly ordinary morning, probably eating a piece of peanut butter toast, when the awareness unfolded, as I imagine it must to a butterfly—*Well, I'll be darned...will you look at that! Wings!*

Three years ago I stepped off the edge of my known life. God had thrown down the glove and I answered—*do with me what you will*—with hands, head and heart. Seven or eight pairs of homely, earthy, worn-out gloves mark my path from April 2004 to the present. Each is a fertile repository of stories encrypted in the looping language of DNA—my own intermingled with that of cow, deer, chicken, wild bird, dog, bobcat, flower, fungus, insect and who knows what else—a scumbled genetic portrait of an exuberantly diverse family of beings. I am loathe ever to throw my gloves away, so instead, I lose them one at a time. They're out there somewhere in the grass. John Chapman left apple seeds to sprout in his wake across the prairie; I sow gloves and ideas and love.

Who can say what will take root and flourish?