

Learning to See
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Presented at the New-CUE
— Nature and Environmental Writers, College and University Educators —
Fifth Environmental Writers' Conference
In Honor of Rachel Carson
Booth Harbor, Maine, 10-13 June 2008

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Several years go, shortly after taking a teaching position at a small state college located in the Catskill region of upstate New York, one of my new colleagues stopped by my office. “I have a question for you,” he said. “You’re the new nature guy, so I thought you’d be the right person to ask.”

He and his wife had thrown a dinner party at their place in the country the past weekend, and after dinner — lasagna was the main course — they had all retired to the living room, leaving the pan of lasagna on the dinner table. A short time later, they heard some odd noises in the kitchen; when they returned to investigate, they found the lasagna all over the floor, and their two rather large tomcats cowering in abject terror in the far corner of the room. A bowl of walnuts was left untouched on the table. My colleague figured that whatever had dumped over the lasagna (he was certain that it wasn’t the cats — unlike Garfield neither one apparently had a fetish for lasagna) had entered and exited by way of the pet door leading out to the garage, where the litter box was located. The garage door itself had been open.

“I’m going to buy a Havaheart trap, in case whatever it was comes back,” he said, “and what I need to know is this: how big a trap should I get?”

“Buy a trap big enough for a raccoon,” I suggested. “Just put it in the garage, by the pet door.” I half-jokingly added something about serving lasagna again.

The next day, my colleague brought me some photographs for me of a very large, rather sheepish looking raccoon in his Havaheart trap. Identifying the culprit hadn’t been very difficult — I suspect that anyone who has spent much time living in a rural area would make the same connection without too much difficulty. The lasagna thief had to be an animal with an omnivorous appetite,

agile enough to climb up onto the kitchen table, large enough to terrify two large cats, but small enough to fit into a pet door. It was simply a matter of linking the details together.

Since that time, I often use this anecdote in my classes; not in the context of natural history or field biology, but in my Introduction to Literary Studies course, a class that, among other things, seeks to familiarize students with the techniques of close reading and critical analysis. One of the oldest metaphors for nature study is that of “learning to read the book of nature,” and the techniques for close reading in literary studies and observing nature are similar. In reading literature, we look for specific details in a text that link together to form a pattern that reveals theme. In studying nature, we do exactly the same thing – as Henry Thoreau wrote in his journal: “The fact will one day flower out into a truth.”

When my eldest daughter was six years old, a friend of ours, a talented artist, noticed Rebecca’s artistic talent and offered to give her lessons. “I won’t necessarily be teaching her how to draw,” our friend told us, “I’ll be teaching her how to see like an artist.” In my writing classes, particularly those in which we discuss nature writing, I often take the students outdoors to practice the art of seeing. For one such exercise, for example, I take the students up to a pond located near the student union, and ask them to take about ten minutes or so and walk slowly around the pond, looking for something that is new to them, something about which they can formulate a question that they cannot yet answer. I don’t always – not at first anyway – tell them that the point of the exercise has nothing to do with being able to answer the question, but is a lesson in learning to see and ask questions about what you see. We then regroup and discuss what we’ve observed and what questions we have formulated. This past term, one of my better students opened up the post-walk discussion by asking a seemingly obvious, but seldom raised question: what does this exercise have to do with writing? The answer, of course, is “everything.” The great nineteenth-

century naturalist John Burroughs was often asked what it took to be a great nature writer, and his response was this: "Truth of seeing and truth of feeling are the main requisite: add truth of style and the thing is done."

Our questions about the things we see in nature are not of course, so easily answered as that concerning the lasagna thief. One rather amusing example is found in an essay entitled "Eye-Beams," written by Burroughs in 1881. After seeing a weasel disappear into its den near an old stonewall on the Burroughs farm in the mid-Hudson Valley of New York, Burroughs becomes curious to "get a peep into his larder," and so he gets a sharp stick and begins digging. Burroughs doesn't get too far, so he returns the next day with a mattock, and returns to his excavation project. After a rather substantial effort, he writes, "I began to be embarrassed and hindered by the accumulations of loose soil. Evidently this weasel had foreseen just such an assault upon his castle as I was making, and had planned it accordingly. He was not to be caught napping."

Tired and hot, Burroughs puts a temporary halt to his labors, but resolves to return the following day, "armed with a shovel in addition to the mattock." The next day, after what appears to have been several more hours of earth moving, Burroughs finally gives up his quest to find the "grand depot" where all the tunnels converged. His quest for an answer to this puzzle ends on a note of unintended humor: "the farther I excavated, the more complex and baffling the problem became; the ground was honeycombed with passages. What enemy has this weasel, I said to myself, that he should provide so many ways of escape, that he should have a back door at every turn?" To his credit, Burroughs concludes this anecdote by advising "If any of my readers find a weasel's den, I hope they will be wiser than I was, and observe his goings and comings without disturbing his habitation."

In another part of the same essay, Burroughs writes:

Success in observing nature, as in so many other things, depends upon alertness of mind and quickness to take a hint. One's perceptive faculties must be like a trap lightly and delicately set; a touch must suffice to spring it. But how many people have I walked with, whose perceptions are rusty and unpracticed, – nothing less than a bear would spring their trap! All the finer play of nature, all the small deer, they miss. The little dramas and tragedies that are being enacted by the wild creatures in the fields and woods are more or less veiled and withdrawn; and the actors all stop when a spectator appears upon the scene. One must be able to interpret the signs, to penetrate the screens, to put this and that together.

This passage not only relates to the issue of seeing and “reading” nature, but reminds me of an incident that took place when I lived in a small rural community in the foothills of the Catskills not twenty miles from where Burroughs had lived a century ago. For about a week or so there had been a rumor making the rounds that someone's pit-bull had escaped protective custody and terrorized some of the children in our small, rural community in the foothills of the Catskills. I wasn't sure how much credence to place on the report, but as the father of three young children I didn't feel that I should entirely discount it either. Just a few months ago, in early spring, I had greeted with considerable skepticism the news that a bear was seen in the woods surrounding our neighborhood; a few days later, the footprints around the cast iron pole (now bent double) that had once held one of our bird feeders furnished irrefutable proof of the sighting. I was therefore more inclined to keep an open mind regarding this latest report from the local grapevine. So while walking in the woods a few days later, when I heard what sounded like a distant cry for help, I immediately responded, plunging through the woods in the general direction of

the sound. The voice seemed to be coming from the direction of a small pond on my neighbor's property just to the east.

"Does someone need help?" I shouted.

"Yes! Yes!" The desperate reply was strained, heavy with exhaustion.

As I got closer, the sounds of a struggle became audible—branches breaking, scuffling feet seeking purchase in last autumn's leaves, grunts and labored breathing. Then, through a break in the woods, I saw my neighbor, a small, elderly woman dressed in an old powder blue housecoat, hanging like an inverted "v," over the top of a rusty wire fence that snaked through the woods. In her arms was a fawn, its left foreleg bent double, caught tightly in the fence. My neighbor struggled to hold the fawn, which was desperately kicking and writhing in an effort to free itself.

"I let my dogs out," gasped my neighbor, "and they saw the deer. She tried to jump over the fence and got caught in the wire."

The fawn's leg was trapped so tightly in the fence, and was at such an awkward angle, that if my neighbor released it the leg would likely break. As I approached the deer from my side of the fence, it saw me and redoubled its efforts to escape, its enormous dark eyes wide with terror.

"Here, I'll take it," I said. I wrapped my arms around the fawn, pulling it close to my chest. Almost immediately, the fawn ceased its struggles and went limp, its head rolling over to one side as though its neck were broken. My first thought was that I had fatally crushed the fawn while lifting it, or that perhaps it had suffered a heart attack from the stress of its ordeal. As my neighbor worked frantically to free the fawn's leg from the fence, I kept my arms clamped firmly around the young deer's limp and seemingly lifeless body. Then I realized that I could still feel its heart thrumming against my chest, could still see its ribcage rise and fall with each breath.

After a few minutes, my neighbor managed to loosen the fence enough to straighten out the fawn's leg. "That should do it," she said, and wearily straightened up. As she held the fence steady, I took a few steps back, withdrawing the deer's leg from the wire mesh. The fawn gave no indication that it realized it was now free, but instead remained completely immobile—until I bent down to release it. As soon as it felt my grip on it loosen, it gave one great thumping kick against my chest, and bounded off through the woods, white tail held high.

As I replayed the incident in my mind over the next few days, I kept coming back to the response of the deer to my charitably intended bear hug. It was evident that my embrace had not harmed the fawn in any way, as I had first feared. The fawn had, however, been struggling desperately until the moment that I took it from my neighbor, whose uncertain hold on the animal seemed to encourage its efforts to escape. Those efforts had only ceased when I (who outweighed my diminutive neighbor by at least one hundred pounds) got a firm grip on it. Why had the deer gone immobile once I picked it up? It is remarkable how many insights – mundane or profound, in whatever discipline or field – simply begin with an observation and a question.

Finding my curiosity irresistibly piqued by the episode of the deer's behavior, I went in search of a plausible explanation for the incident. Was the deer paralyzed with fear? Was the deer exhausted from its struggles? Was this a "coma" intended to minimize pain in an individual member of a prey species? Was the fawn "playing possum"? Or was it simply a curious anomaly of some sort? As I waded through the available information on the topic, I was confronted with one of the great ironies of the early twenty-first century; we are living at the intersection of two great oppositional forces of accumulating and disseminating knowledge. This has been called the "information age," thanks to the remarkable proliferation of technologies that make the dispersal of

information possible on a hitherto unimagined scale. I cannot help but be amazed by the remarkable access to information made possible by technologies such as the internet. In just fifteen minutes, one can find an obscure quotation from an obscure poet, get the blueprint for building a bat house, ascertain whether a student's paper was plagiarized, get a step by step guide to installing a new toilet, and stalk (or rather, "google") a former spouse or lover, all without leaving your desk.

However, we also live in the age of specialization, an era of experts and pseudo-experts, specialized training, discipline-specific jargon, and narrowness of intellectual focus. It is sometimes difficult to imagine that it was not so very long ago that it was possible for amateurs (that is to say, non-specialists) to make important contributions to fields that are now considered to be the exclusive domain of experts, through the application of basic principles and careful observation. We see the effect of specialization constantly, even in our everyday lives. How many people still change the oil in their cars themselves, for example? We now leave this rather basic automotive task to the experts at Jiffy Lube. This is one example. The list is endless.

After a number of false leads, I finally found a helpful article by wildlife biologist John Archer in a book entitled *Fear in Animals and Man*. In his study, Archer refers to what he calls the "fear response" in prey animals, and employs an ethological—that is to say, an observational—approach to fear responses in individual animals. After describing various responses to the presence of a predator, including flight or fight, Archer examines a second major class of fear responses, immobility reaction. This class includes responses such as "freezing," which is an attempt by prey animals to avoid detection, "protective immobility" which is used by animals such as the hedgehog and turtle, and "tonic immobility." In tonic immobility, writes Archer:

[A]t first, the animal struggles and attempts to escape, but subsequently it assumes a rigid immobile posture...termination of tonic immobility is usually abrupt—there is an almost immediate transition from the immobile to the mobile state, usually associated with an attempt to escape from the captor. Tonic immobility corresponds in most cases to death feigning or thanatosis, described as an anti-predator defence [sic] reaction.

Archer goes on to say that tonic immobility is used when the prey has already been caught by the predator and presumably lessens the chance of injury as well as the chance of being eaten, as the predator may either loosen its hold on the prey or even release it altogether.

Here, then, was a plausible explanation of the deer's behavior, but what truly surprised me was how little had been written on the topic. Much of the recent scientific work on predator-prey analysis has concentrated on mathematical models that plot the effect of predation on the populations of both predator and prey. One consequence of using these types of equations and statistical analyses is a concentration on the group dynamic and not the individual response — which is, of course, more easily quantifiable. Another, unintended, consequence of this type of scientific analysis is the diminished importance of field study, or — to use a somewhat outdated term, the study of natural history.

Some holdouts, however, still maintain that anecdotal evidence based on the observation of a single member of a class or species is vital to understanding animal behavior. A fascinating essay by Harry W. Greene on natural history and evolutionary biology contained in *Predator-Prey Relationships* (1986) considers the issue of “what’s wrong with natural history?” Greene identifies several reasons why “natural history is viewed as old fashioned and of limited value, even by some evolutionary biologists.” These reasons include “strict adherence

to Popperian concepts of what constitutes science, without regard for the origins of theory; the widespread appeal of reductionism and a certain ‘technophilia’ that have accompanied the rise of molecular biology...and powerful institutional pressures to deliver fast results.” Greene concludes his study with a powerful argument for the continued relevance of natural history, which, he argues, “is a source of timeless, priceless information for the biological sciences.”

This “timeless, priceless information” is not simply the province of experts, but is – or at least, should be – a common heritage. One of the reasons why many of us who love the outdoors are drawn to the work of writers such as Henry Thoreau, John Burroughs, Henry Beston, and Barry Lopez is because these writers have a deep and abiding curiosity about the world around them and attempt to satisfy that curiosity through careful observation. As Henry Beston points out in *The Outermost House*, and Bill McKibben reifies in *The Age of Missing Information*, we are losing vital information about the world around us as a result of living in a post-industrial society that distances us from the natural world: “When the Pleiades and the wind in the grass are no longer a part of the human spirit, a part of very flesh and bone, man becomes, as it were, a kind of cosmic outlaw, having neither the completeness and integrity of the animal nor the birthright of a true humanity.” As children, our first observations of nature are inspired by a “sense of wonder,” to use Rachel Carson’s wonderful phrase, and losing that sense of wonder is not a sign of professional or intellectual growth but of hubris; not a triumph, but a tragedy.