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Worms

MY FIRST ENCOUNTER WITH “WORMS” OCCURRED JUST before Christmas during my second year in medical school. My wife Anne and I had attended a potluck dinner on the Friday following my final examination in microbiology. The next morning I woke with cramps and loose bowels. When I groggily noticed a bunch of yellow kernels in the toilet bowl, I panicked, quite naturally assuming that the kernels were tapeworm proglottids. There’s a cestode in my intestine! I must have picked it up in the communal outhouse earlier that autumn on a weekend camping trip in West Virginia. How can I tell Anne, who by now is probably also infested with a food-sucking worm? No wonder I’ve felt overwhelmed for the last two months. No wonder I’m always irritable and too fatigued to study.

It took only a few minutes for me to realize that the proglottids were actually kernels of corn that had sped through my intestine as a result of alcohol and dietary excess. I heaved a sigh of relief and pledged myself to a life of moderation in all things. Thus ended my first episode of Medical Student Syndrome, an illness that recurred at least two more times before graduation; first, when I diagnosed a brain tumor in my right frontal lobe, and later when I suffered from a classic case of systemic lupus erythematosus that lasted several days.

My first encounter with *real* worms occurred the following summer, when I participated in an epidemiological training program at the University of Kentucky. Two Lexington medical students and I were given the task of ascertaining the prevalence of intestinal parasites among Head Start children in Bell County, deep in the heart of Daniel Boone—land in the mountainous southeastern corner of the state. Anne, who was a graduate student in social work, decided to join us in this exotic adventure, although at the time neither of us realized the trouble we had gotten ourselves into.

We made our headquarters in Pineville, the Bell County seat, at the time a town of about 2000 souls. Upon arrival, we found our mobile laboratory already in place—a large white vehicle parked in the leafy courthouse square and bearing the logo of the Kentucky state health department. This laboratory aroused considerable curiosity. Not only was it from Outside, but it also represented Government, which the people of southern Appalachia instinctively resented. Likewise, the newcomers who came with the lab were suspicious. How did that young girl who looked about 17 years old get mixed up with those three men? (My wife was 24 at the time.) And what about that scraggly-haired, mustachioed young man with a harsh Northern accent? Pineville had already learned everything it wanted to know about hippies. Fortunately, our colleagues, Robert and Sam, were hon-

est-to-goodness Kentuckians, even though they hailed from the western bluegrass portion of the state. Their easygoing familiarity helped us become tolerated—if not fully accepted—fixtures in downtown Pineville that summer. However, when word got around about what was *really* going on inside that state vehicle, I can only imagine what the elderly men who spent their day sitting on the benches in front of the firehouse had to say.

Anne and I stayed at a \$3-a-night motel on route 119 but ate our meals on the square at Granny’s Restaurant. Every night Granny had a 98-cent special, a three-course gravy-based meal including coffee and dessert. Coming as we did from the big city, we thought Granny’s special was an unbeatable bargain, until David Ross, a Pittsburgh classmate working on a project 20 miles up the road in Knox County, told us about the 89-cent special he had discovered in Barbourville. When we visited him, sure enough, the Barbourville restaurant was not only cheaper but offered a more commodious custard pie.

The study design was simple. Each morning two of us would drive to a Head Start site, usually located in a primary school or church basement, while the other two caught up on paperwork, went fishing, or just hung out. We’d give our spiel to the 5- and 6-year-olds and distribute written instructions along with cylindrical cardboard stool containers. Anne usually did the talking for our team because she has a way with children; I stood beside her and nodded and smiled and shifted from one foot to the other. The next day we’d return to the same school and collect loaded containers, which were usually wrapped in cellophane or newspaper and tied with a double-knotted cord. The response rate was nearly 100%, an outcome unimaginable today but achievable then as a result of highly motivated (and possibly intimidated) parents. After all, folks who sent their kids to a newfangled program like Head Start were self-selected pioneers in President Johnson’s Great Society. In the afternoons the four of us processed specimens in the sporadically air-conditioned laboratory.

The lab reeked of organic chemicals, superimposed on the odors of human waste and unsuccessful air fresheners. Anne’s job was to open each container, remove a smidgeon of stool, and extract it with formalin and ether so that Robert, Sam, and I could examine for ova and parasites. The three of us sat behind microscopes, preparing, scanning, and discarding one slide after another. As medical students we had asserted our expert visual knowledge of eggs and cysts, ie,

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one lab session devoted to intestinal parasites, so Anne was permanently consigned to extracting the specimens. It's a wonder our marriage survived.

It's also a wonder that we ever got any work done during those long humid afternoons in cramped quarters, inhaling the sweet queerness of ether. We were giddy much of the time and kidded and laughed until our heads and faces ached.

Redbird Mission School was one of the larger sites. The mission compound was perched "up a holler" at the end of a dirt road somewhere between Pineville and Middlesboro. The school building had broad wooden porches and floors that looked like they were polished every day. I can still smell the chalk and crayons and feel the gracious but stern atmosphere, as if the place were run by nuns, which it wasn't, because Redbird was Presbyterian. The children were wiry and gnarled. Many looked prematurely old, like miniature versions of their hard-pressed mothers and unemployed coal miner fathers: girls in faded cotton frocks, boys in old overalls with new patches. A surprising number of them walked to school barefoot, carrying their shoes and socks slung over their backs. They simply weren't used to wearing shoes. They sat on porch steps and pulled their shoes on before going inside, as if this were a perfectly normal thing to do. I winced at the thought of how my bare feet would feel on the rocky paths they had just traversed, but the children ran and hooted with abandon.

When we entered their classrooms, they clammed up. The teachers had taped an orange rabbit to each desk, bearing the child's name in green crayon. How musical those names were! Silas, Jeremiah, Emmanuel, Fancy, Rebecca, and Tulip. The one I recall most distinctly belonged to a tiny boy who crouched at his desk near a window, as if he were trying to escape. His name was Marvelous. Marvelous Saunders. His great hazel eyes froze with horror when the teacher explained what the visiting doctors wanted, and he turned to stone when I tried to give him a stool container. Unsurprisingly, Marvelous was absent when we returned the next day. But almost all of his classmates marched to the front of the room and placed their sometimes heavily laden boxes into our Styrofoam container.

Our summer project opened a can of worms. Sure enough, 14% percent of preschool children in Bell County were infested with roundworm (*Ascaris lumbricoides*), 9% had whipworm (*Trichuris trichiura*), and about 5% were positive for *Strongyloides stercoralis*, a rapidly growing nematode with the unusual feature of completing its entire reproductive cycle inside the human intestine. Another 3% suffered from hookworm (*Necator americanus*), a serious disease that often leads to anemia and other systemic problems; and the same percentage were burdened with tapeworm (*Taenia* species). We diagnosed the latter by visualizing proglottids, which I was now able to differentiate from corn kernels, in their specimens. All in all, we demonstrated that in 1967 intestinal parasitism was still a substantial problem among preschool children in southern Appalachia, although its prevalence had declined since previous surveys in the 1930s and 1940s.

Our project also involved notifying the parents of affected children and advising them to seek treatment, either from their own physician or at a health department clinic. The letter also recommended testing and treatment of other family members. Thus, we could view our work as being more useful than just an academic report. Perhaps this small glimmer of doctoring made up, in part, for the awkwardness and horrible smells.

Anne and I had a number of other adventures with worms that summer, but there is one I regret letting slip by: we never went fishing with Robert and Sam, who were like Mutt and Jeff: one short and slight, the other tall and hearty. Robert wanted to become a general practitioner in his west Kentucky town; Sam set his sights on orthopedic surgery. I remember them as good old boys, colorful rogues who put in a lot of elbow grease during working hours, but were primarily interested in fishing and beer.

I think they considered Anne and me insufferable prigs, especially since I complained incessantly that we were behind schedule and wheedled them into spending spare time reading the literature on intestinal worms. And Anne was a bit too outspoken on civil rights. They forgave us because, as Northerners, we didn't know any better. And anyhow, those etherized afternoons in the lab knocked our inhibitions for a loop and promoted collegiality. However, our paths didn't cross much outside work, not even at Granny's Restaurant, since Robert and Sam frequently dined at home in their boardinghouse on fresh trout.

Although they often invited us to go fishing with them, we never did. They had plenty of equipment, including spare rods, and were always happy to share the carton of worms they picked up at a local bait shop. But neither Anne nor I was interested. We typically plied them with lame excuses, like needing to do our laundry, or wanting to finish reading a Nero Wolfe novel, until the invitations stopped. My perspective on fishing was functional—restricted to catching, cooking, and eating the creatures—and I preferred Granny's for supper. It wasn't until much later that I realized that for Robert and Sam trout fishing was a form of spirituality, although I'm sure they wouldn't have called it that. Fishing was mysticism, a paean of solidarity with nature. I was so busy planning for the future, like the details of a much-anticipated camping trip at the end of the summer, that I simply couldn't accept the gift that Robert and Sam offered in the present: the opportunity to learn more of their stories; in fact, to become part of their stories, to slow down and Be Here Now.

Ascaris, *Strongyloides*, and *Trichuris* were fine as far as they went, but I sure wish that we had gratefully accepted a carton of those fat Kentucky earthworms and went out and done some fishing with Robert and Sam.

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