

Memories of E. O. Wilson

Walter Tschinkel

WELLMAN HALL, the home of the Department of Entomology at University of California, Berkeley, had a wonderful, old-fashioned round lecture hall with a balcony overhanging the back row of seats and a steep rake to all the floors. My first view of Edward O. Wilson was thus almost a bird's-eye view. It was in the mid-1960s and I was searching for a research project that would harness my background in natural history and chemistry. Wilson's seminar seemed promising.

On the stage below, Wilson was asking us to imagine that we were the first explorers to arrive on Mars, and we had discovered an intelligent form of life that communicated, not with sounds, but by emitting patterned puffs of specific chemicals. This seemed feasible until he pointed out the limitations of these creatures: they could be no more than a couple millimeters tall and could communicate over distances of only a few millimeters as well. Their chemical language required emission of high concentrations of the chemicals because their nervous systems were relatively insensitive to them. He went on to explain this imaginary scenario in terms of the chemical and physical properties of these signals and their use—the principles of vapor pressure, diffusion, turbulent mixing, concentration gradients, and molecular structure. *This is really cool*, I thought: *I am going to work on ants after I finish graduate school. And that is indeed what I did.*

My friendship with Ed Wilson began and was always nurtured by our shared passion for ants. But we soon discovered that, odd as it may seem for a German-born scientist like myself, we had the common bond of having grown up in Alabama in the 1940s and 1950s.¹ We had both experienced Southern culture in all its color and quirkiness, and for both of us it recalled fond memories from our youth. He soon came to call me Cousin Walter, and I called him Cousin Ed, as was customary among close Southern friends. His Southern graciousness was unfailing, as was his Southern sense of humor. How else could I joke that the bait I used to lure him to give a seminar in my department was a Nehi soda, a Moon Pie, and a greasy paper bag of hush puppies? How else, after he almost fell into a creek on a field trip, could we begin a years-long running joke about attempted assassinations? The crescendo in that

joke came when he slipped and fell at my retirement event and came to the evening party with a bloody bandage on his head.

Field trips with Ed were always fun and informative, and revealed that the boy who roamed the wilds of Alabama was still in there. Once, while sprawled on the ground at the base of a longleaf pine, he delighted in showing me the amazing number of ant species living between the flaking bark at ground level in that tree—no fewer than seven. Ed greeted each new species with obvious pleasure and a synopsis of its natural history. He seemed to be greeting old friends, an ease I also developed with time.

I came to see a pattern in how he integrated other fields with biology. In the talk that had convinced me to work on ants, Ed had integrated the study of chemical communication through pheromones with the principles of chemistry and physics. But Ed was an “ant guy,” in love with that most marvelous and charismatic group of creatures, not a chemist or a physicist. How had he built this theoretical edifice? He did so in a process that he would repeat many times over his career. He had an uncanny ability to sniff out scientific fields that were ripe for a theoretical synthesis and then to collaborate with experts in the needed field to produce the synthesis. His experiments with the pheromones of fire ants called for the application of chemical and physical principles, and he achieved this by collaborating with the chemist Fred Regnier and the mathematician William Bossert. When he wanted to analyze his Polynesian island ant data with respect to species diversity, island size, and distance, he collaborated with the mathematician Robert MacArthur to produce the theory of island biogeography, currently the basis of much conservation biology. With the mathematician George Oster, he produced a theory of how caste evolves to serve the ecology of social insects. With Bert Hölldobler, himself a giant of myrmecology, Ed wrote what 30 years later is still considered the bible of ant biology, *The Ants*, to be followed by *The Superorganism* and *The Leafcutter Ants*.² Other collaborations followed, as did many books that put Wilson's own remarkable synthesizing and storytelling ability, not to mention his astounding knowledge of biology, on display. His capacity for lyrical writing is present in many of his books—one of my favorites is *Biophilia*, a collection of charming and affecting

essays on nature.³ Frankly, I lost count of the books, he was that prolific. So driven was he to write that he produced the first draft of our only coauthored paper while he was recovering from a small stroke in the West Indies.⁴ It was, of course, handwritten on yellow, lined legal paper, as was everything he wrote, to be transcribed by his lifelong assistant, Kathy Horton.

Throughout his books and lectures Ed was a voice for conservation, and he accumulated an admiring following among the general public. He treated his fans with characteristic courtesy, never complaining about the large numbers of books he was asked to sign at events, despite often missing the refreshments that followed. He pursued conservation and biodiversity with the missionary zeal that seemed in keeping with having grown up as a Southern Baptist. Ed did not deny this connection and felt that a religious-like belief about nature and our relation to it was the main hope for conserving the living world. As I observed his audiences, the message seemed to get through to many of them, or perhaps many already shared this attitude. In any case, Ed encouraged care for nature through much more than scientific facts and theories. His advocacy culminated in the book *Half-Earth* with an audacious proposal to set aside half of the earth's land for the conservation of biodiversity.⁵ Ed was intellectually courageous and often seemed to enjoy controversy. His life was an astounding journey from a child collecting snakes and ants, to a top-ranking academic biologist, to one of the best-known public champions of nature.

When Cousin Ed died late in 2021, the world lost an amazingly productive scientist and a wonderful human being. And, to the end, his love and fascination for ants never faded.

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1. Ed was born in Birmingham in 1929.
2. Bert Hölldobler and Edward O. Wilson, *The Ants* (Cambridge, MA: Harvard University Press, 1990); Bert Hölldobler and Edward O. Wilson, *The Superorganism: The Beauty, Elegance, and Strangeness of Insect Societies* (New York: W. W. Norton, 2009); and Bert Hölldobler and Edward O. Wilson, *The Leafcutter Ants: Civilization by Instinct* (New York: W. W. Norton, 2011).
3. Edward O. Wilson, *Biophilia* (Cambridge, MA: Harvard University Press, 1984).
4. Walter Tschinkel and Edward O. Wilson, "Scientific Natural History: Telling the Epics of Nature," *BioScience* 64, no. 5 (2014): 438–43, doi:10.1093/biosci/biu033.
5. Edward O. Wilson, *Half-Earth: Our Planet's Fight for Life* (New York: Liveright, 2016).

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