REMEMBERING E. O. WILSON

By John Tobin, Cornell University

The year 2021 was not an easy one for most of us. COVID-19 stubbornly refused to go away, with the coronavirus mutating more rapidly than vaccine development and distribution could be accomplished. Political discourse in a number of countries, including the United States, continued its descent into outright cacophony. And the refusal by many to accept scientific evidence as an essential tool in policymaking seemed somehow less shocking than it had in an earlier time—sadly, for no other reason than the fact that we seem to be getting used to it. To close out this *annus horribilis*, one of the finest scientists and, perhaps less well known, one of the gentlest souls to ever marvel at the wonders of tropical life departed for the great rainforest in the sky. Edward O. Wilson died on December 26, 2021, at the age of 92.

Ed Wilson had a long and distinguished career in science, with a publication record spanning over 70 years. While his writings had an enormous impact on generations of scientists, his influence spread far beyond scientific circles, and he became one of the rare academics who are also public intellectuals. News of his passing spread quickly around the world, and all manner of obituaries and tributes were published in the following days. Media outlets from *The New York Times* to *Le Monde* to the *Tuscaloosa News* (for he was, after all, originally from Alabama) reminded us of his origins and education, his many books and publications, the countless prizes and awards he won, and the wide recognition he received. But few of these articles tell us what the man was like once the lecture hall was empty and there were no observers in the room.

I first met Ed Wilson in the fall of 1987, when I arrived at the Museum of Comparative Zoology, or MCZ, as a first-year graduate student in his lab. I had been through the MCZ a year earlier when visiting graduate schools and had set up a meeting with him ahead of time but, when I arrived in town and called his office to confirm the appointment, his assistant told me he'd had a change of plans and he would not be able to meet with me after all. At the time I was aware of his reputation as a scientist but knew next to nothing about him as a person, and this last-minute cancellation reinforced my suspicion that he would, no doubt, prove to be stern, aloof, and inflexible as a dissertation advisor. So, when I finally did meet the famous scientist at the start of my first semester at Harvard, I was both excited and a little nervous. But I left the meeting feeling delighted: it turned out that Wilson did not come across as unemotional and distant. On the contrary, I found him to be warm and engaging and kind. I spent the next eight

years of my life as his student, and the feeling I had walking out of his office after that first meeting never left me.

It might not have occurred to me to apply to graduate school to work with Wilson unless a mutual contact had pushed me to do so. I'd grown up on the streets of Lima, Peru, which even in the more pleasant parts of town could be pretty rough at times, as the country was going through a deep economic and political crisis that had impacted my family directly. The idea of an education in the US was a bit of a pipe dream for me, and to have made it to UCLA as an undergraduate on a full financial aid package already seemed like all the luck I could hope for. To go to graduate school at Harvard with one of the most influential evolutionary biologists of his generation seemed, even for a kid who didn't struggle with self-confidence, too grand an ambition. But I was lucky enough to meet Bill Schopf, a renowned paleobiologist best known for his work on Precambrian stromatolites in Australia, who ran the Center for the Study of Evolution and the Origin of Life at UCLA. CSEOL, as it was known, was at the time a sort of 20th century salon that brought together selected UCLA faculty, a few prominent guests, and a handful of graduate students monthly for pizza and evening presentations and discussions around the broad topic of evolution.

I had somehow managed to get myself invited to attend these monthly sessions, and was the token undergraduate at CSEOL during my final year at UCLA. One day, Bill returned from a trip to Philadelphia, where he'd attended a meeting of the American Philosophical Society (founded by Benjamin Franklin in 1743), of which both Bill Schopf and Ed Wilson were elected members. He pointedly told me that he'd run into Ed Wilson at the meeting and that he'd told Wilson he had an undergraduate at CSEOL working on insect sociality, and told him to keep an eye out for my application to graduate school. Roughly one year later, I was driving across the US on my way to Cambridge, Massachusetts.

While at the MCZ, I heard stories about how challenging it had been for Wilson's earlier graduate students to get much of his time and attention, especially those who'd been with him during the years he was writing (and dealing with the aftermath of) his great trilogy on the evolution of sociality: *The Insect Societies* (1971), *Sociobiology: The New Synthesis* (1975), and *On Human Nature* (1978). These books established him as one of the great scientific synthesizers of our time, but were believed by some to validate discrimination based on racial and gender differences. Much of the loudest criticism of sociobiology and of Wilson came from prominent biologists on the political left, such as Richard Lewontin and Stephen Jay Gould, leading many to assume that Wilson must, therefore, stand firmly on the political right.

By 1987, when I joined the Wilson lab, much of this debate had quieted down and Wilson was moving on, convinced that he had won the intellectual battle over sociobiology. He was

approaching 60 years of age and he seemed to be thinking ahead to retirement and, realizing he'd spent so much time and energy on the sociobiology controversy, that it might be time to turn back to things closer to home: his lab, his students, and, of course, his ants. While in the past Wilson had generally had only one or two graduate students at a time, the year after I started he took on two more: Leeanne Tennant, an up-and-coming ant biologist who had just graduated from the University of Texas, and Ani Patel, who was interested in the neurophysiology of musical perception. David Maddison, a gifted coleopterist and phylogeneticist, had joined the Wilson lab a couple of years before me. And, later, Gaby Chavarría, a bumblebee specialist from Mexico, joined the lab when her advisor, Jim Carpenter, left the MCZ for the American Museum of Natural History in New York.

Just down the hallway from the Wilson lab in the newer wing of the MCZ was the Hölldobler lab, with its own cadre of students, and a number of post-docs were now on the floor as well, including Peter Nonacs and Phil DeVries and others. And we were joined by a growing number of visitors from other parts of the MCZ or from out of town. As a critical mass of students and scholars was coming together, Hölldobler and Wilson were completing the work on their *magnum opus*, *The Ants* (which to their great surprise was later awarded the Pulitzer Prize in general nonfiction), and things seemed to be slowing down a bit for them. With all these factors aligned, Wilson decided he would start a new weekly tradition: Tuesday lunch in his office, when students, post-docs, staff members, and any number of visitors to the Wilson and Hölldobler labs joined for a casual meal and some engaging conversation.

Some of my fondest memories of Wilson and of graduate school are from these weekly gatherings when, as one might expect, the conversation ranged widely and covered everything from the history of exploration to the latest movies to politics. Stefan Cover, a gifted ant taxonomist who had recently walked away from his Ph.D. program at Stony Brook and was now managing the ant collection at the MCZ, was a superb storyteller. And Mark Moffett, a recent Wilson student who was doing a lot of work for *National Geographic*, always had an adventure to share about his time in the field. Rarely did I see Wilson as relaxed as he was during these lunches. And I'd like to think he enjoyed these times as much as the rest of us did.

Also during this period, Wilson was focusing more actively on what had inspired him to become a biologist in the first place: his love of the organism. In 1984 he had published *Biophilia*, still to me his most inspiring book, and in 1988 had edited *Biodiversity*. He was transitioning from pure scientist to environmental activist, a role that attracted even more attention to him, even if he probably would have preferred not to have to spend time on this—nature was in crisis, he felt, and he was duty-bound to do something about it. But he was, after all, a somewhat reluctant celebrity, and would rather have been collecting ants than lobbying politicians and giving talks about the need to protect biodiversity. Wilson was, at heart, a naturalist (a term he chose for

the title of his autobiography), but he recognized before most academic biologists that the decisions that would determine what kind of a planet we'd have 50 years hence would not be taken at universities or research sites but in corporate boardrooms and legislatures.

It came as no great surprise to Wilson, then, when one day I told him that, as much as I loved the research and intended to complete my doctorate, I wanted to do my part to help protect life on Earth but felt that following the traditional academic career path might not be the most effective way to do so. To better prepare for this work, I argued, I should also get a professional degree in a discipline such as public policy or business or law and gain some real-world work experience. He was immediately supportive, brainstorming with me on what the best professional degree might be. We settled on law, and roughly a year later I set aside my doctoral work to start the infamous first year at Harvard Law School. After completing that, I returned to my Ph.D. while working on my law degree. And in late 1995, with my newly minted Ph.D. and law degrees, I started working, with his blessing, at a Wall Street law firm.

After his bumper crop of students graduated and Wilson retired in 1996, things at the Wilson lab became quieter, of course, but he went on to have some of the most productive years in his career. Publishing book after paper after monograph after book, he went through his publication bucket list, including the systematic revision of the ant genus *Pheidole* in the New World. With Wilson's help, Stefan Cover and I had earlier spent two periods of close to a month each in Amazonian Peru, collecting ants at a site now called Reserva Amazónica, and all he asked for in return was that we bring him lots of *Pheidole* for his monograph. We indulged him. During that time, we collected 56 species of *Pheidole* (roughly 15% of all the species we collected at the site), and 30 of those *Pheidole* species, or well over half, were new to science. When we returned to the MCZ and showed him what we had collected, he reacted like a kid in a candy shop.

I continued to communicate with Wilson after leaving the safety of his lab, and ran into him occasionally at events. He liked to remind me that he felt my work on the relationship between diet and abundance in the ants, particularly tropical rainforest canopy ants, was original and important. But, after each of these encounters, I couldn't help but feel a bit melancholy. After all, he had inspired me to dedicate my career not just to study biodiversity but to protect it, though in doing so I had fewer opportunities to work directly with him or, for that matter, to spend time in the field, as he had done and so many field biologists before and after him have, exploring the wonders of the living world. I also felt, in retrospect, that I hadn't spent enough time in the field with him, as we had only been to the tropics together once, when we spent a few days in Panama visiting Barro Colorado Island. But there was little I could do about it then.

In the years following my time in the Wilson lab I occasionally wondered whether I had done the right thing in leaving behind my research and, what I loved the most, my fieldwork, and turning into an environmental infiltrator in the corporate world. More to the point, I wondered what Wilson thought of my unorthodox career path. I got my answer when, in 2009, most of his former graduate students and post-docs converged on the MCZ for a celebration of Wilson's 80th birthday. I was living in Zurich, Switzerland, at the time, and flew to Boston for the event. I knew he'd been working on his first (and only) novel, *Anthill*, but was surprised, and a little embarrassed, when, as I walked into the lab from the airport to join the early arrivals who were animatedly chatting with Wilson, he enthusiastically announced that the lead character of his novel, Raphael (a biology student who decides to go to Harvard Law School to become a more effective defender of nature), was based in part on my own trajectory. He later gave me a copy of *Anthill* inscribed "For John Tobin (Raphael at Harvard Law School), June 9, 2010, Ed." However, once I read the book I realized that the hero actually had more in common with Wilson himself than with me. Or, rather, with what Wilson wished he had been as a student: a cool, romantic James Bond of natural history!

Wilson often reminded us, without trying to, that he was more complicated than almost any of us realized. Although this fact became better known later in his life, I was very surprised when, as a teaching assistant in his Evolutionary Biology class, I learned of his almost obsessive fascination with sharks. Could anything be more different from ants than these brutish, solitary predators, so unlike social insects in their behavior and ecology?

Little known also is the fact that, despite his standing as a scientist, Wilson encouraged his students to travel the world and discover nature where it is found, and not to worry too much about research protocols and statistical analysis, at least not early in their careers. The important thing was to spend as much time as possible with organisms, preferably in the tropics. And, if students did that, a dissertation would no doubt grow out of it. And so, one after another, most of his students headed to the tropics, many of them to OTS field sites, with no set idea of what they would do when they got there other than to explore the diversity of life—as Wilson had done in New Guinea and other tropical locations when he was still a student.

A little appreciated fact is that Wilson would never have been Wilson, at least as we came to know him, had it not been for two remarkable women who made it all possible. First was his wife, Irene. As affable as Wilson was, he was notoriously reserved about his family, which he never discussed. Some of his students speculated that this resulted from his determination to shelter his family from the acrimony surrounding the sociobiology controversy, and that he'd never let his guard down after that. In any case, Irene seems to have accepted his almost complete dedication to science and to have made it possible, even encouraged it. Those who

know his work may remember the simple, and somewhat cryptic, dedication in *The Insect Societies*: 'For my wife Irene, who understands.' Enough said.

The other woman who made it possible for Wilson to become Wilson was his loyal assistant of nearly 6 decades, Kathy Horton, who helped him with everything from answering phone calls to producing typed manuscripts from his nearly illegible handwriting to preparing scientific illustrations and countless other critical tasks. Without a partner as dedicated as Kathy, who knew him as well as Kathy did, and who worked as much and as efficiently as she did, he could never have been as productive as he was. Anyone who has been touched by Wilson and his work owes Irene and Kathy a debt of gratitude.

Wilson never ceased to surprise me, and his political views surprised more than almost anything else. Most people don't realize quite how moderate, even liberal, Wilson was. In spite of criticism from the academic left for seeking to understand the role that genes play in social behavior, most of the political positions I heard him take over the years and the politicians he praised or criticized, suggested he was far from being a political conservative—though neither did he accept liberal orthodoxy without reservation. While Wilson did not believe that human behavior was infinitely plastic, to him biology was not the final determinant of anything—rather, biology was the beginning, and what we did with our lives beyond the relatively loose constraints that evolution imposes upon us is up to us. To Wilson, a human life well-lived, in which we transcend our own evolutionary history and lead lives with meaning and purpose, was not only biologically possible but morally desirable.

When Wilson would speak of death, particularly his own, he often referred to it as 'going up to the great rainforest in the sky.' And if that is where he is now, then I have no doubt that he is well, aspirator in hand and in the process of putting together a comprehensive collection of the local ant fauna. But, with his departure, he leaves behind a place that somehow feels poorer and a bit less magical than when he was with us.