The Termites’ Dilemma
Scott Turner

A termite queen surrounded by her sterile retinue

I had an epiphany a few years ago: I realized that there was no such thing as a termite.

My epiphany came while trying to decide whether organisms, like termites, or mice, or cheetahs, are objects or actions? Most people, and this includes most biologists, would be comfortable with organisms being objects, but if you think about it, that can’t be true. An organism seems objective only because it is a focal point for the work of being alive: a flow of matter and energy that we call metabolism. An organism becomes a thing only when that flow stops. The rub is, the thing you have is no longer an organism: it is a corpse. Organisms seem to be verbs, not nouns.

This might seem to be a linguistic quibble, but only because we are accustomed to giving organisms identity. That seems reasonable. I, for example, have identity, as do you: to quote Descartes, cogito ergo sum, “I think, therefore I am.” We are willing to grant other organisms identity too, even if they lack the cogito part: we might expand on Descartes and say vivo ergo sum, “I live, therefore I am.” And that is my problem. Giving, say, a mouse an identity is easy, because it can do all the things we associate with a living thing: it can find its own food, it can digest it, it can reproduce. Identity is not so easily come by for a termite.

Consider the termites that I study, the mound-building termites of southern Africa. A worker in a termite colony has no real identity. It cannot reproduce; it relies on the king and queen and a few fertile brothers and sisters for that. It cannot find food without the collective efforts of its nest-mates. It can gather food, but it cannot digest it; it relies on special fungi they cultivate to do that. Even the impressive mounds these termites build are, in a weird sense, living structures, capturing winds to power the colony’s breathing, their architecture continually adjusted to meet the colony’s needs. In short, only the colony, not the termites in it, can say vivo ergo sum.

A fungus comb in its gallery. Termites use this as an extracorporeal digestive system, employing fungi to digest wood and dry grass to a richer composted diet

Is there a lesson lurking here? I think there might, despite philosophers’ warnings to avoid moralizing nature. Arguably, my termites are the most successful creatures in the African savanna. Their mounds are everywhere (about one every hectare). Each colony supports an enormous population of workers (one or two million), which
consume enormous quantities of grass, bark and other plant material. They turn over soil at incredible rates. Collectively, they control the very flow of carbon through the ecosystems they inhabit. They are the masters of their universe, but at the terrible sacrifice of their identity.

Is this not the very essence of the human dilemma? We have a seemingly ineradicable sense of self, yet we are social beings, called upon to sacrifice our identities to the myriad expressions of our collective nature. Termites and other social insects face no such dilemma: their choice was made for them by natural selection. And therein lies the moral lesson. The “human dilemma” is actually a precious gift: we know there is a balance to be struck, and we have the will to make a choice.

Dr. J. Scott Turner is a professor at State University of New York, Syracuse, and the principal investigator of the Earthwatch-supported South Africa’s Insect Engineers project. His recent book, The Extended Organism, demonstrates how structures built by animals, from spiders’ webs to the Great Barrier Reef blur the boundaries of the individual.