

Apples and Oranges, Ants and Humans

The Misunderstood Art of Making Comparisons

BY MARK W. MOFFETT

ANTS STAKE OUT TERRITORIES, BOLDLY GATHERING FOOD even from our dinner plates, and rear their progeny in elaborate safe havens. Communicative, persistent, hardworking, battle ready, risk-taking, and highly organized, whether they are agronomists, herders, or hunter-gatherers, ants form elaborate labor forces of superb military operatives and diligent homemakers, masters at both protecting and providing for their colonies. Leafcutter ants, for one, have societies decidedly more complicated than any other nonhuman animal, and carry out mass-scale agriculture to boot.

Likening ants to people as I have just done can raise hackles—Edward O. Wilson, my mentor and the founder of sociobiology, has gotten into some trouble for it. The question is, can making comparisons go too far?

Comparing ourselves to other mammals comes easier, because we are mammals ourselves, as our hair, warm-bloodedness, and ability to lactate confirm. For all that, while watching a documentary on mammals, you likely won't find yourself exclaiming, *Eureka, they*

are so like us! More often the differences strike us: quirks such as the fact that male elephants are outcasts—not members of any society at all, properly speaking. As for those relatives of ours—the chimpanzee and bonobo—how like them are we? Physically we resemble both apes, owing to a genetic closeness of the three species. But what of our social life? Most of the similarities that have been brought up bear more on broad facets of cognition than on the details of the apes' social organization we would otherwise think of as specific to people.

Those similarities are seldom as great or exclusive as they might seem. Insomuch as chimps and bonobos think as we do, the parallels often extend to other animals, too. Both are like us in recognizing themselves in a mirror; then again so do dolphins, elephants, and magpies. A claim exists, widely doubted, that ants do, too. At one time chimps were thought to be unique among nonhumans in making tools—employing twigs to snare termites is one example. Yet we know now of other toolmakers, such as woodpecker finches which



A very simple instance of a similarity to humans is shown by door-maker ants, *Stenamma alas*, which find a pebble of a suitable size to serve as the door to the colony entrance. In the left image an army ant has located the unprotected entrance; as soon as this enemy backs away, the guard ant within sticks her head out of the entrance to grab the pebble and move it into place (middle image). The image on the right shows the pebble blocking the doorway. Copyright Mark W. Moffett/Minden Pictures.

poke twigs to nab bugs. They can be socially manipulative; but then again so can just about any other social vertebrate, and especially other big-brained species such as the grey wolf and spotted hyena.

The fact is that though we share 98.7 percent of our genes with chimpanzees and bonobos, it's our differences that are most striking. Indeed, we are as different from them as apples are from oranges. In both apes, relationships are dictated by strict hierarchies of power, which are tyrannical in the chimp—especially in the males. On maturing, females of both species abandon childhood kith and kin for another community, never to return. The females are sexually receptive only on occasion, a condition made obvious by their swollen rear ends. The female chimp can pretty much either be beaten up or ignored by males except on the rare days she's in heat, at which point she often has sex forced on her. No wonder neither chimps nor bonobos have pair bonds or an extended family life, and mothers get little child support from dad—or anyone. Females aren't especially skilled at befriending each other, either; in fact a harried mother chimp must give birth at a private site to avoid having her baby killed.

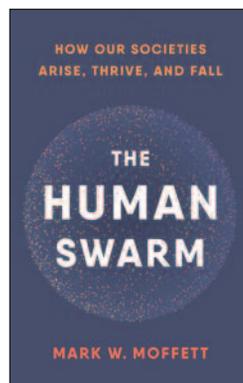
So the social lives of other mammals can seem downright weird, if not altogether inhuman. And next to their weirdness is ours as mammals: No chimp has to grapple with the rules of a speedway or the upkeep of a homestead. Nor does it contend with traffic congestion, public health issues, assembly lines, complex teamwork, labor allocation, market economies, resource management, mass warfare, or slavery. As alien as insects seem to us in appearance and intelligence, only certain ant and human societies do such things, along with a few other social insects such as honeybees and some termites.

If you find comparisons of ants to people troubling, I confess to a glitch in my brain. The idiom *compare apples to oranges* confuses me. When I hear it I have to stop to think whether it's intended to signify that apples and oranges shouldn't be compared since they are so distinct; any botanist, for instance, will tell you one is in the rose family and the other is a citrus. Or does it mean they *should* be compared because they are so alike? Both are plant matter; both contain seeds, are round, reach a similar size, grow on trees, are fruit—the list goes on and on, so much so that in some languages the word for “orange” labels this fruit as a sort of apple.

But (I imagine someone protesting) no human hunters have ever caught prey in the way ants do, swarming and biting; and no human residence resembles one of their nests. So when are we justified in comparing an apple to an orange, or an ant to a

human? American philosopher Nelson Goodman described the notion of similarity as “a pretender, an imposter, a quack.” I'm sure he would have had equally bad things to say about differences. Any two things, apples and oranges among them, have innumerable characteristics in common and an equally immeasurable number of dissimilarities. What interests someone, similarities or differences, depends on that person's point of view. Identical twins aren't identical in the eyes of their mother; and the members of one race, though some outsiders may fail to differentiate among them, don't look alike to each other. If nothing else, remember this: comparing identical things is boring. For a scientist making comparisons bears most fruit when parallels are noticed between ideas or things or actions ordinarily treated as distinct, which makes ants, alien as they may be, prime candidates for our scrutiny.

People and ants reach different solutions to the same general problems, sometimes by using completely different approaches; but then again so can different human societies or different ant societies. Hence slavery in ants, where individuals work against their interests immersed in another society, is different from how Americans carried out slavery, which in turn differed from the treatment of those defeated in war by ancient Greeks. In some parts of the world, we drive on the left side of the road, in others on the right. On busy routes of Asia's marauder ants, incoming traffic streams down the highway center while outbound ants take its flanks, a three-lane approach no human city has tried. Both patterns bespeak the importance of getting goods and services to the right places safely and efficiently when the populace depending on them is enormous. The biblical King Solomon, a shrewd observer of nature, was right to admonish the reader to go to the ant, thou sluggard, consider her ways and be wise—though their flair for violence indicates that while we can indeed learn much from considering the ant, it's not always advisable to emulate them! **S**



Adapted from *The Human Swarm: How Societies Arise, Thrive and Fall*, by Mark Moffett. Basic Books 2019.