

## Conclusion: Old Ideas and the Science of Animal Folklore

IDEAS ABOUT ANIMALS seem to float, like the Crow's food reward, atop a tide of cultural representations of animals. Recently, some folklorists have argued that—in both science and folklore—this appears to be a moment when the tides are coming in *toward* the idea that humans and animals are very much alike and *away* from the idea of human uniqueness, of recognizable borders between animals and humans.<sup>1</sup> That very well may be true, but even if we are living in a time when the tides are changing, we conclude this special issue where we began—reaching out from a flood of anthropomorphized behaviors, metaphors, and narratives in an attempt to snag the shirt sleeves of involved humanists and social scientists riding the waves. If we can grab your attention, we offer a warning: Be wary, look skeptically toward the recent trends in the scientific study of animal cognition that suggest it is time to welcome, with open arms, nonhuman animals into our comfortable anthropocentric analyses. As the science-minded folklorist Jay Mechling espouses, the border between human and nonhuman animals is “every bit as arbitrary and, hence, as cultural as those normally the focus of folklorists’ attention” (1989, 312).<sup>2</sup> For our part, we remain dubious that this tide—this most recent redrawing of the borderline, this animal turn—has much, if anything, to do with animals.

Like the animals who appear in fables, contemporary experiments in the Aesop's Fable Paradigm only confirm, once again, humans' perennial interest in other animals. We have looked closely at one genre of traditional narrative, the fable. We have considered one story from within that genre, the Crow and the Pitcher. We have focused on

scientific and folkloric representations of a single animal, the crow. We have done all this in order to zoom in on the problems that surround recent assertions that crows possess a higher-order cognitive ability to comprehend and to act in accordance with a theory-like understanding of water displacement. Even if many of our readers still believe that crows may understand the physics of water, we hope that our tempered interpretations of the Aesop's Fable experiments demonstrate how maddeningly puzzling work in animal cognition can be. For humanists and social scientists wanting to make claims in nonscientific disciplines that experimentation with animals and the science of animal behavior have proven the humanness of nonhuman animals, we suggest truly opening that can of worms by perusing the index in the Appendix. Then, consider seriously each and every one of the hundreds (or thousands) of studies that present critical ambiguities similar to those inherent in the Aesop's Fable Paradigm. Overwhelmed readers may soon find themselves asking, "What do we really want from animals?" After all, tides come in, and tides go out, time and time again . . .

I will conclude by quoting a remark by the illustrious Humboldt. "The muleteers in S. America say, 'I will not give you the mule whose step is easiest, but *la mas racional*,—the one that reasons best;" and as he adds, "this popular expression, dictated by long experience, combats the system of animated machines, better perhaps than all the arguments of speculative philosophy." Nevertheless some writers even yet deny that the higher animals possess a trace of reason; and they endeavor to explain away, by what appears to be mere verbiage, all such facts as those above given.

—Charles Darwin (1871, 456)

If we find a dog or a monkey exhibiting marked expressions of affection, sympathy, jealousy, rage, &c., few persons are skeptical enough to doubt that the complete analogy which these expressions afford with those which are manifested by man, sufficiently prove the existence of mental states analogous to those in man of which these expressions are the outward and visible signs.

—Georges Romanes (1878, 8)

It is an old belief that animals, and even plants, talk to each other, and that men can freely understand and answer them. But this belief, born of that primitive communism which makes the whole world kin, is gradually dispelled by a more exact observation of nature; and men, beginning to

draw the line more sharply between themselves and the lower creatures, are fain to confess that they understand the beast language no longer.

—James G. Frazer (1888, 81)

The only indication of deliberate plan and effort that I have ever noted in Unk Wunk [the Porcupine] was in regard to teaching two young ones the simple art of swimming—which porcupines, by the way, rarely use, and for which there seems to be no necessity. I was drifting along the shore in my canoe when I noticed a mother porcupine and two little ones, a prickly pair indeed, on a log that reached out into the lake. She had brought them there to make her task of weaning them more easy by giving them a taste of lily buds. When they had gathered and eaten all the buds and stems that they could reach, she deliberately pushed both little ones into the water. When they attempted to scramble back she pushed them off again and dropped in beside them and led them to a log farther down the shore, where there were more lily pads.

The numerous hollow quills floated them high in the water, like so many corks, and they paddled off with less effort than any other young animals that I have ever seen in the water. But whether this were a swimming lesson or a rude direction to shift and browse for themselves is still a question.

—William J. Long (1902, 234)

If the writers who make such startling discoveries in the wilderness would really study even the denizens of a barnyard, they would be saved from at least some of their more salient mistakes. Their stories dwell much on the “teaching” of the young animals by their elders and betters. In one story, for instance, a wild duck is described as “teaching” her young how to swim and get their food. If this writer had strolled into the nearest barnyard containing a hen which had hatched out ducklings, a glance at the actions of those ducklings when the hen happened to lead them near a puddle would have enlightened him as to how much “teaching” they needed.

—President Theodore Roosevelt (1907, 430)

There are some chimps who, far more than others, constantly seem to try to ingratiate themselves with their superiors. Melissa, for one, particularly when she was young, used to hurry toward and lay her hand on the back or head of an adult male almost every time one passed anywhere near her. If he turned toward her, she often drew her lips back into a submissive grin as well. Presumably Melissa, like other chimps who constantly attempt to ingratiate themselves in this way, is simply ill at ease in the presence of a social superior, so that she constantly seeks reassurance through physical contact. If the dominant individual touches her in return, so much the better.

There are many human Melissas: the sort of people who when trying to be extra friendly reach out to touch the person concerned and smile very frequently and attentively. Usually they are, for some reason or other, people who are unsure of themselves and slightly ill at ease in social contexts.

—Jane Goodall (1971, 243)

Lastly, the old silverback came forward. In all my years of research I never met a silverback so dignified and commanding in respect. His silvering extended from the sides of his cheekbones, along neck and shoulders, enveloped his back and barrel, and continued down the sides of both thighs. Having little to go by in comparison, except for zoo gorillas, I estimated his age as approximately fifty years, possibly more. The nobility of his character compelled me to seek a name for him immediately. In Swahili, *Rafiki* means “friend.” Because friendship implies mutual respect and trust, the regal silverback became known as Rafiki.

—Diane Fossey (1983, 139)

Language is obviously as different from other animals’ communication systems as the elephant’s trunk is different from other animals’ nostrils. Nonhuman communication systems are based on one of three designs: a finite repertory of calls (one for warnings of predators, one for claims to territory, and so on), a continuous analog signal that registers the magnitude of some state (the livelier the dance of the bee, the richer the food source that it is telling its hivemates about), a series of random variations on a theme (a birdsong repeated with a new twist each time: Charlie Parker with feathers). As we have seen, human language has a very different design. The discrete combinatorial system called “grammar” makes human language infinite (there is no limit to the number of complex words or sentences in a language), digital (this infinity is achieved by rearranging discrete elements in particular orders and combinations, not by varying some signal along a continuum like the mercury in a thermometer), and compositional (each of the infinite combinations has a different meaning predictable from the meanings of its parts and the rules and principles arranging them).

Even the seat of human language in the brain is special.

—Steven Pinker (1994, 342)

When the lively, penetrating eyes lock with ours and challenge us to reveal who we are, we know right away that we are not looking at a “mere” animal, but a creature of considerable intellect with a secure sense of its place in the world. We are meeting a member of the same tailless, flat-chested, long-armed primate family to which we ourselves and only a handful of other species belong. We feel the age-old connection before we can even stop to think, as people are wont to do, how different we are.

Bonobos will not let us indulge in this thought for long: in everything they do, they resemble us. A complaining youngster will put his lips like an unhappy child or stretch out an open hand to beg for food. In the midst of sexual intercourse, a female may squeal with apparent pleasure. And at play, bonobos utter coarse laughs when their partners tickle their bellies or armpits. There is no escape, we are looking at an animal so akin to ourselves that the dividing line is seriously blurred.

—Frans de Waal (1998, 1)

It took me many years to realize that these stories offered a worthy glimpse into animal minds. I was cautious simply because stories don't prove anything. Like most people who take this issue seriously, I wanted to see hard evidence and verifiable studies, particularly since concepts of human uniqueness are at issue, and the stakes are very high. Unfortunately, I'm still waiting. Studies have been done—scores of them—but they, too, almost always, contain some maddening ambiguity, at least in the eyes of other scientists. . . .

Even the hardest of hard-nosed scientists, those sifting through impossibly large piles of data in cosmology and quantum mechanics, resort to metaphor and analogy when trying to explain or understand their data. . . . Ultimately, when we look at studies of animal behavior, we are looking for a familiar story that helps us understand what we are seeing. . . .

In any event, the sciences that study intelligence and consciousness still swirl with new studies and controversy. Many of the stories that will unfold offer a perspective on this debate, and carry with them their own implications about the nature of intelligence. There is no agreement about the definition of this signal ability—there is even a longstanding debate about whether intelligence is one ability or an ensemble, of many. When you think about it, this is astonishing in itself, since the planet's greatest minds have been struggling to understand intelligence since antiquity. Still, there is plenty of lively thinking, as well as a flood of new evidence about what is going on in the brain when we and other species think, communicate, and dream.

—Eugene Linden (2002, 7–19)

Old ideas, drowned in the passage of time, do not stop rising to pertinence. Letting the water take us, we find ourselves thinking again on Mark Twain, who personified more things than the Mississippi River. Twain also had a knack for juxtaposing human and anthropomorphized animals in pertinent scenarios. In the first decade of the twentieth century—during the controversial times of the *nature fakers* referenced in the preceding quotes—Twain wrote a fable

entitled, “A Fable,” which he published in 1909, one year before his (actual) death. Twain’s fable begins with an artist having made a small, beautiful painting, which the artist then hangs in such a way that he can see its reflection in a mirror. The artist says, “This doubles the distance and softens it, and it is twice as lovely as it was before” (1909, 59). By way of anthropomorphized word of mouth, the animals in the woods soon learn of the beautiful painting from the house cat whose position as a civilized, learned (enculturated?) pet brings him much admiration from the other animals. With great zeal and adjectival embellishment, the cat tells the other animals about the “wonderfully flat . . . oh so beautiful” painting. Impressed and encouraged, the animals also ask the cat to tell them about the mirror, which the cat describes as a “hole in the wall” that one looks into in order to see the “unimaginable beauty” of the painting (1909, 59).

Despite the cat’s performance, the ass remains dubious: “When it took a whole basketful of sesquipedalian adjectives to whoop up a thing of beauty, it was time for suspicion” (61). (There’s always one!) Predictably, the ass—challenged by the cat—ventures off to the house of the artist to see the painting for himself. When ass arrives, he—of course—naïvely stands between the mirror and the painting so that the only thing he sees in the mirror is, quite simply, an ass: “a handsome ass, and friendly, but just an ass” (61). Upon hearing the ass’s report, other animals cannot resist making the trip and looking in the mirror-hole for themselves. The bear, Baloo, returns to say that both the cat and the ass have lied: “there was nothing in the hole but a bear” (62). And the process is repeated for the cow, the tiger, the lion, the leopard, the camel, and eventually even the elephant king Hathi, himself, who dismisses the lot: “Anybody but a near-sighted fool could see that there was nothing in the hole but an elephant.” Foolish at its core, Twain’s fable ends with this moral by the cat:

*You can find in a text whatever you bring, if you will stand between it and the mirror of your imagination. You may not see your ears, but they will be there. (62)*

Twain clearly thought a great deal about the relationship between humans and animals, and it is interesting that his more ameliorative gestures were often saved for any animal but humans, whom he eventually deemed to be the lowest of all species.<sup>3</sup>

Twain wants to show us that there is beauty to behold if we could only get out of our own way. Literary critics have interpreted Twain's "A Fable" as a critique of the very enterprise of literary criticism or as a defense of writers—with at least one anthropomorphizing writer, Twain's friend Rudyard Kipling, being overtly referenced via Twain's names for the bear and the elephant. We have no corroborating evidence that Twain's fable refers directly to the problems of anthropomorphism in the study of animal cognition, but is applicability across a range of contexts not a key feature of the lessons fables teach us? Is Twain not telling us to be wary of projections, of mirrors, and specifically of mistaking our projections in the mirror for our own foregone conclusions? Can we see our ears? If not, can we at least feel them and recognize them as our own?

Folkloristic genre theory suggests that a conflict arises when "objective" animal-cognition science is framed with an Aesopian fable because such a frame makes it impossible not to interpret the animal subjects as always partially human. If the anthropomorphized animal characters in fables have nothing to do with the experimental designs in the Aesop's Fable Paradigm, then why were the chosen animal subjects crows—as opposed to rabbits, dogs, squirrels, or raccoons? (Actually, raccoons were recently subjected to the Aesop's Fable Paradigm; see the Appendix, H1a.2) If our genre-based argument is correct, it would go a long way toward explaining the apparent hesitancy, or even unwillingness, to accept other, less anthropomorphized explanations for the crows' behaviors. And if it turns out to be the case that our argument only relates to the Aesop's Fable Paradigm, we think, at least, we would be identifying an interesting and important historical interlude. But this is not a one-off historical moment. Claude Lévi-Strauss teaches us that animals-and-humans are good to think, and we wonder if animals (and humans) are impossible not to think.<sup>4</sup> These are questions of animal scientists: Do Bees understand math? Does Chimpanzee have religion? Does Seal dance? Does Dog play games? What about Orangutan's charades? Does Rat empathize with her cage mates? Does Raven, peeking through a tiny hole in a wall, think about the thoughts of the other ravens? These questions are ours: Do animals as thought magnets—as *intuition pumps* in Daniel Dennett's nomenclature—pull us closer to the actual contents of other animals' minds? What if the integrative tendencies of people's minds produce—in the case of a scientific understanding of animal others—a deluge of untruths?

We have reached a familiar endpoint, the point where one side's anxieties about anthropomorphism can be mistaken for a weak characterization of animals, and where the other side's anxieties about over-reaching human exceptionalism can be mistaken for anthropomorphism disguised as science. Whether or not we end here, the cycle will continue. But if we end here, we know that future progress will be difficult. So let us attempt to move this interdisciplinary discussion of science and folklore toward a less familiar (starting) point: For every specific domain of cognition—space, time, colors, food, sex, physics, and so forth—humans and animals must be radically the same and radically different.<sup>5</sup> As for similarity, even when comparing humans and birds, shared characteristics related to the presence of cognition, goal-directed behavior, and the ability to learn and to adapt cannot be denied. But folklorists, who work across such a wide range of traditionalized human contexts, must recognize the patterns of behavior that are not shared.

It is like the duck and goose decoys traditionally used to lure water fowl to the surface of some delta marsh. The bird, detecting a familiar shape in familiar contexts, acts accordingly—not having to wonder at all about whether the decoy is made of reed, Styrofoam, or wood. Humans, too, recognize and react to familiar contexts without the need for higher-order, abstract representations of that context. But only humans have created laws (necessary conservation laws) regulating hunting practices associated with the decoys. And after having ripped the hand-shaped models from their original purpose, only humans have reinterpreted the value of these wooden figurines within the contexts of art. Carved and painted to a point of high realism, the decoy presents the duck or goose just as it appears out in the world, with the only difference being that the decoy cum folk art has nothing to do with actual birds except as manifestations of human imagination and action—as art.

Are we saying that science, like art, can produce “birds” that have nothing to do with *birds*? Remember, animals can be treacherous to think.

Wading—knee deep—through interdisciplinary waters, the Scientist and the Folklorist moved carefully. As they looked across the surface, every ripple promised some new monster. Holding a flickering torch, the Scientist looked down and whispered, “Here there be dragons.” The Folklorist tried to sing away anxiety:



Sing a song of sixpence,  
 A pocket full of rye.  
 Four and twenty blackbirds,  
 Baked in a pie.

Having forgotten the end of the rhyme long ago, he trailed off into silence. There was only the sound of sloshing feet. Suddenly, the Scientist: “Four and twenty black birds! What an excellent idea!”

“Idea? That was only a nursery rhyme my mother sang to me as a child,” the Folklorist said.

“Yes, I too know of that rhyme. But I mean the number of birds.” Recently, the Scientist had haggled over a meta-analysis of experiments in the Aesop’s Fable Paradigm. The meta-analysis showed that crows dropping stones were *at least* as likely to be learning from trial-and-error as from some conceptual understanding of water displacement. Even though the meta-analysis used all of the crows from the original experiments, some dissenters argued that the meta-analysis lacked a sufficient amount of data to be valid. The Scientist found himself asking, *how many birds does it take to prove a fable?* And, now, thanks to the Folklorist’s song, he had his answer.

“Four and twenty. That is how many birds it takes to prove a fable,” the Scientist winked. “Don’t you see? The idea was right there in the rhyme.”

The Folklorist agreed: *Four and twenty is a good number of birds.*

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## Notes

1. In her introduction to a special issue of *Journal of Folklore Research* on the intersection of animals and folklore, Sabina Magliocco outlines recent trends in scholarship of animals as the “animal turn”:

Moreover, recent research on animals has illustrated that many of the distinctions we have drawn to separate ourselves from them—language, culture, self-awareness—in order to justify their instrumentalization and commodification, may well be arbitrary and wrong. Today, some biologists and animal ethologists [ . . . ] increasingly write about animal languages, cultures, emotions, and even morality. The growing interest in this fluid boundary, and the ethical reflection it entails, are known as the “animal turn” in scholarship. (2018, 3)

Magliocco and the other authors of the special issue also foreground contemporary notions of “posthumanism,” which grants personhood to nonhuman entities such as animals and cyborgs.

2. Inasmuch as the animal/human border is nothing more than an abstract line of demarcation that can only be “recognized” and “traced” by humans wielding our species-specific, cognitive capacities for creating spatial (and geometric) metaphors as we attempt to answer perennial questions—“what is human?” and “what is animal?”—we certainly agree.

3. In his philosophical essay, “The Lowest Animal” (1896), Twain reverses the (colloquially understood) direction of humans’ evolutionary “ascension/descension,” placing man at the bottom of all evolutionary processes. With a wink, Twain responds ethically to Darwin’s theories. The essay details several “experiments” that demonstrate, for examples, the facts that anacondas do not kill for cruelty’s sake (though man does), that man is avaricious (while animals are not), that only humans enslave (while “higher” animals do not), and that only “reasoning” humans kill in the name of religion.

4. Lévi-Strauss’s famous adage comes from *Totemism* (1962). Here, is the passage as translated by Rodney Needham:

The animals in totemism cease to be solely or principally creatures which are feared, admired, or envied: their perceptible reality permits the embodiment of ideas and relations conceived by speculative thought on the basis of empirical observations. We can understand, too, that natural species are chosen not because they are “good to eat” but because they are “good to think.” (1962, 89)

By aligning totemism with processes of human minds, Lévi-Strauss deftly avoids overly simplified explanations according to bottom up processes (“a natural stimulus”) or top-down processes (arbitrary pretext).

5. For a discussion of this radical approach to similarity and difference in comparative psychology, see Povinelli’s *Folk Physics for Apes* (2000), especially Chapter 12, “Toward a Folk Physics for Chimpanzees.”

## References Cited

- Darwin, Charles. (1871) 1969. *The Origin of Species and The Descent of Man*. New York: Modern Library.
- de Waal, Frans, and Frans Lanting. 1997. *Bonobo: The Forgotten Ape*. Berkeley: California University Press.
- Fossey, Diane. (1983) 2000. *Gorillas in the Mist*. Boston: Houghton Mifflin.
- Frazer, James G. 1888. “The Language of Animals.” *The Archaeological Review* 1 (2): 81–91.
- Goodall, Jane. 1971. *In the Shadow of Man*. Boston: Houghton Mifflin.
- Lévi-Strauss, Claude. 1963. *Totemism*. Translated by Rodney Needham. Boston: Beacon.
- Long, William J. 1902. *School of the Woods: Some Life Studies of Animal Instincts and Animal Training*. Boston: Athenaeum Press.

- Linden, Eugene. 2002. *The Octopus and the Orangutan: New Tales of Animal Intrigue, Intelligence, and Ingenuity*. New York: Plume.
- Magliocco, Sabina. 2018. "Folklore and the Animal Turn." *Journal of Folklore Research* 55 (2): 1–7.
- Mechling, Jay. 1989. "'Banana Cannon' and Other Folk Traditions between Human and Nonhuman Animals." *Western Folklore* 48 (4): 312–23.
- Pinker, Steven. 1994. *The Language Instinct: How the Mind Creates Language*. New York: Harper Perennial.
- Povinelli, Daniel J. 2000. *Folk Physics for Apes: The Chimpanzee's Theory of How the World Works*. Oxford: Oxford UP.
- Romanes, Georges. (1878) 1882. *Animal Intelligence*. London: Kegan Paul.
- Roosevelt, Theodore. 1907. "Nature Fakers" *Everybody's Magazine* 17 (3): 427–30.
- Twain, Mark. (1896) 1962. "The Lowest Animal." In *Letters from the Earth*, ed. Bernard DeVoto, 75–84. New York: Harper & Row.
- . (1909) 1992. "A Fable." In Mark Twain: *The Celebrated Jumping Frog and Other Stories*, by Mark Twain, 59–62. Pleasantville: Reader's Digest Association.

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