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Introduction: The Perplexities of Water

FOR THREE HUNDRED FIFTY miles, the Missouri River ambles eastward across the face of the Show-Me state until suddenly, just before the Illinois border, it veers wildly and throws a nasty uppercut into the throat of the Mississippi. This wayward hook knocks the Mississippi on its heels and leaves behind an ugly kink—a big bend in a big river. A couple miles downstream, the City of St. Louis looks on, unfazed as the Big River gets on with its main business—its inexorable, snake-like sinuosity south to New Orleans. Water, as the proverb goes, finds the lowest level. (Unless, of course, the Scientist pours the water into a test tube and the Crow starts dropping pebbles into it . . . but more about that shortly).

In an interview with the *Chicago Tribune*, Mark Twain once quipped that “The river below St. Louis . . . is the least interesting part. One can sit on the pilot-house for a few hours and watch the low shores, the ungainly trees and the democratic buzzards, and then one might as well go to bed. One has seen everything there is to see” (2006, 89–90). But above or below St. Louis—across two-thousand-plus miles and two-million-plus years—one thing about the Big River seems permanent: it is bent on maintaining its twisted ways. Twain called the Mississippi “the crookedest river in the world” (a pun no doubt about its physical course and the gamblers and rabble-rousers he lived among during the four years he worked as a pilot on the riverboats): “in one part of its journey it uses up one thousand three hundred miles to cover the same ground that the crow would fly over in six hundred and seventy-five” ([1883] 1996, 21). (And that’s pretty smart of the Crow—to outwit the Water. But again, more on that later.)

Twain knew the waters of the Mississippi—he understood their character and moods. In *Life on the Mississippi*'s well known and often anthologized ninth chapter, "Continued Perplexities", he recalls how a slant of reflected light at sunset could portend good winds the next day, how a ripple of the water's surface foretold the untimely end of some luckless future steamboat, how a floating log was a sign that the river was rising. "The face of the water," Twain writes, "became a wonderful book—a book that was a dead language to the uneducated passenger, but which told its mind to me without reserve, delivering its most cherished secrets as clearly as if it uttered them with a voice. And it was not a book to be read once and thrown aside, for it had a new story to tell every day" ([1883] 1996, 118). From the surficial to the depths, the young Twain presented in *Life on the Mississippi* can never look away from the water. He cannot resist the language the River speaks or the songs it sings.

Twain's knowledge of (and attraction to) the vagaries of water feels sufficiently metaphorical (not to mention anthropomorphic) to justify turning to him to introduce this special issue of the *Journal of Folklore Research*—an issue dedicated to exploring a peculiar intersection of science and folklore in the context of the water-marked fable, the Crow and the Pitcher. Over the past decade, comparative psychologists have conducted dozens of experiments that have tested dozens of crows (and even a few raccoons) on variants of a common experimental paradigm: training animals to drop stones into test tubes partially filled with water to retrieve a bit of food floating on the surface. To be clear, this was not some happenstance collision of science and fable. The authors of the original 2009 report, Christopher Bird and Nathan Emery, explicitly invoked the Crow and the Pitcher fable as the frame that motivated their experiment (1410). In the years that have passed, the experimental "genre" has matured, and has become its own kind of bona fide tradition: *The Aesop's Fable Paradigm*, an experimental procedure to determine if crows and other creatures can grasp the causal connections between sinking stones and rising water.

We think that if we had issued a posthumous invitation to Twain to serve as special guest editor for this issue, he might have seriously considered it. Our plinking about in water metaphors notwithstanding, we cannot imagine the quintessential American storyteller—and charter member of the American Folklore Society—passing up the opportunity to comment on a scientific story about a crow who

knows how to use stones to disturb still waters. Twain was, after all, deeply attracted to science and technology. He was an inventor, a lifelong friend of Nikola Tesla. The year before he died, Twain was delighted to be recorded by Thomas Edison using state of the art motion picture equipment. Ever the Skeptic, Twain was keen enough to see the absurdities of science as well. He once quipped, "Scientists have odious manners, except when you prop up their theory; then you can borrow money of them" (1917, 223). (From an insider's perspective, one of us can attest to the obsequious turn so often taken in the scientist's mind under conditions of elevated flattery of a pet theory.) It is easy to imagine watching Twain's legendary eyebrows rise as he learns of psychologists attempting to "validate" an Aesopian fable of a thirsty crow who patiently drops stones in a vase to slurp up a drink of water—a fable indexed under motifs such as "animal understands water movements" and "animal exhibits patience." As a riverboat pilot, Twain knew better than most that navigating even the stillest of waters is tricky—he knew it is all about taking your time with the little things, not hurrying. (He even wrote his own *Animal Fable* in 1916—complete with a moral punch strikingly pertinent to many of the ideas explored in this special issue; see Conclusion).

The waters of Twain hold a still deeper connection to our folkloristic inquiry into the Aesop's Fable Paradigm of comparative psychology. That is, Twain's reflections on the perplexities of the River offer more than a set of fluvial observations about the character of the Mississippi between New Orleans and St. Louis, they constitute a memoir, one told by an older Twain struggling to capture his differing experiences of the Mississippi during two epochs in his life: the waters of his youth, bestirred by the excitement of the unknown, and the stiller waters of middle age long after he had abandoned the riverboats and headed west, the mystery of the Mississippi dispelled, absorbed into the schema of all-things-familiar:

Now when I had mastered the language of this water and had come to know every trifling feature that bordered the great river as familiarly as I knew the letters of the alphabet, I had made a valuable acquisition. But I had lost something, too. I had lost something which could never be restored to me while I lived. All the grace, the beauty, the poetry had gone out of the majestic river . . . All the value any feature of it had for me now was the amount of usefulness it could furnish toward compassing the safe piloting of a steamboat. ([1883] 1996, 119)

Here, we have the makings of our special issue's first moral: Once demystified, a thing can never be remystified again.

Not unlike the Mississippi River, the essays in this special issue can be viewed in more than one way. Mutable and doppelgangerous, each essay grapples with different and difficult-to-maintain points of view on the ways humans project themselves onto animals. In his orienting essay, K. Brandon Barker explores the tensions between two views of scientists intentionally choosing to join forces with a fable: one, a transactional affair wherein humans use animals to reflect human wisdom; another, an (equally transactional) affair wherein humans use animals to make points about animal wisdom. William Hansen, through his original historical research, reveals two points of view on the narrative of the Crow and the Pitcher (and others like it): its origin as a simple observation about a clever bird, and its later transformation into a decontextualized narrative adorned with the power of the Moral. There are also competing ways of seeing *what the crows themselves* are doing in the scientific experiments, as detailed in Laura Hennefield and Hyesung G. Hywang's essay: one set of views that envisions crows experiencing their own personal *Eureka!* moments concerning the connection between object volume and water displacement, and a second set of views that sees them laboring under a less enchanting (but still undeniably intelligent) stockpile of trial-and-error learning. Barker and Povinelli's discussion picks up on this latter duality in several ways, one of which traces out the diffuse worry among comparative psychologists that an objective description of animals might somehow leave them less interesting, more boring than our human stories would have it—possibly opening a floodgate of Twain-like regrets that could wash away our sense of mystery and connection to the natural world. Finally, Gregory Schrempp closes our essays by addressing the nuanced intermingling of folkloric and scientific thinking in the “fabling gestures” that complicate popular science, hinting all along that there are at least two views of how fables such as the Crow and the Pitcher can influence human cultural practice: one restricted to human activities outside science, and another that admits fables as permeating most human activities (including those of humans who pride themselves as being more “objective”).

Perplexities being what they are, we confess that there is another, less compelling reason to start with Twain, one that feels better to us—closer to the origin story of the-story-behind-the-story of this

interdisciplinary encounter with an Aesopian fable—one that has more to do with our very subjective points of view. Our meta story also begins along the Mississippi, in the city of St. Louis, where two friends, a young Folklorist and a former monkey mind Scientist discover that their professional worlds have collided in ways neither could have predicted.

It was a Thursday, and the young Folklorist had just arrived in St. Louis with his wife and six-month-old baby. They were there for the weekend, visiting their friend, the former monkey mind Scientist. Years earlier, the three of them had become friends when they had all lived in Lafayette, Louisiana, a town just a couple hours west of New Orleans. The former monkey mind Scientist was on sabbatical at Washington University in St. Louis for a couple of years, dipping his toes back in the turbulent waters of animal cognition. He had rented a small loft apartment in the Central West End, just a couple of miles from the Arch and the river. The Folklorist was living in Bloomington, Indiana, just beginning his first academic post. Now, the usual human activities associated with couple-with-baby-visiting-single-friend were occurring. The Folklorist was hauling suitcases and baby bags up from the car, his wife and the Scientist were shifting furniture around under the giant arched window of the apartment, creating a makeshift bedroom. Amid all of this, Baby Zoa finally woke up, crying for milk. As her mother hurried to fill a bottle, Uncle Monkey Scientist picked her up and began singing a tune:

Zoa, Zoa, Zoa,
On the floor, floor, floor,
Screaming more, more, more,
She's swinging her pink boa . . .
But little does she know—ah—
A boa constrictor—
Is coming—to get her!

Everyone was settling in for a relaxing weekend . . .

“By the way . . .” the Folklorist said, a few hours later, as he gently deposited Zoa on a blanket to change her diaper, “if it’s okay, we need to do a little shopping sometime this weekend. We’re looking for a new crib and some other stuff. It’ll only take an hour or so.”

“Perfect,” the former Scientist said. “How about tomorrow afternoon? I have to give a little talk for a group over at the medical school anyhow.”

“Perfect,” the Folklorist repeated, distractedly unfastening Zoa’s diaper. “What’s the talk about, anyhow?”

“Just some work I’ve been doing with a few of the graduate students in the seminar I’m teaching. Reanalyzing a bunch of published data.”

“Nice . . . chimp stuff?”

“Actually, no.”

“Ah, child stuff?”

“Crow stuff.”

“Whew, Zoa! That’s some stinky stuff!” the Folklorist exclaimed, pulling away the diaper and slipping on a fresh one—only to suddenly catch himself and look up at the Scientist “Wait, did you say . . . crows?”

“Yeah, did I ever tell you about this? The year I was closing down my chimp center, some colleagues of mine published a study about an Aesop’s fable about a crow who needs to drop stones into a jar to get a drink of water. I took it as a sign from God that I was getting out at the right moment.”

The Folklorist looked up.

“The Crow and the Pitcher?”

“Yeah—it’s an Aesop’s fable.”

“I know it’s an Aesop’s fable—I’m a folklorist!”

“Oh, sorry . . . of course. Anyhow, I was like, great, my fellow comparative psychologists are now teaching crows to drop stones into a test tube of water to get a floating worm . . . brilliant.”

“That’s crazy!”

“I know. I thought we were over rats pressing levers. But as I was preparing to teach my seminar, I discovered it’s become a cottage industry in the field—I think something like three dozen experiments have been published about it.”

“No, I mean that’s crazy that animal cognition scientists are using the frame of a fable to design experiments!”

“Oh, right . . . exactly. I was like, oh boy, here we go. Let’s see, how many Aesop’s fables are there . . . ?”

“You’re missing my point—”

“I could just imagine the next ten years of studies! For a moment I even thought about tracking down the collection of Aesop’s fables we had in my house as a kid and designing one myself!”

“Listen to me, fables are stories humans tell to express a lesson that is applicable, you know, to the lives of people—human people. They don’t actually have anything to do with animals, much less animal cognition!”

“Huh. I never thought about it quite like that.”

“What time’s your talk?”

“You’re welcome to come, but it’s no big deal. Just an informal lunchtime work-in-progress kind of thing.”

“Uh—I’m coming.”

The talk (and the weekend) came and went. But the Folklorist and the Scientist parted company forever altered. In the back of the Scientist's mind was one of the first conversations he had with the Folklorist, years earlier, back in Louisiana. The Folklorist had been a graduate student at the time, and they had met playing Ultimate frisbee—a game enjoyed by hundreds of thousands of people worldwide, that revolves around chasing a flying plastic disc.¹ One afternoon on the sidelines, the Folklorist and the Scientist had struck up a conversation about animal cognition. The Scientist now recalled how quickly he had demurred from the experimental work, wanting to avoid the endless technical conversations about the methodological details of Experiment 1, Experiment 2, Experiment 3 . . . and on and on up into the hundreds.

“The experimental stuff is interesting, but frankly, for a long time I’ve been far more interested in the sociology of the field.”

“The sociology?”

“Yeah, why comparative psychologists who try to study higher-order intelligence in animals keep doing what they’re doing, even though it’s pretty obvious it reveals more about the ways we think than the ways animals think. I’m really interested in the sociology that keeps all that going.”

“I think you mean the folklore.”

“Folklore? No, I mean the sociology.”

“Pretty sure you mean the folklore.”

The Folklorist's words were finally starting to make sense. To be fair, the Scientist really had been interested in human social relationships and institutions within science that he believed perpetuated certain unproductive practices. But as he looked out his arched window into the St. Louis sky, he thought about the titles he'd been crafting for his latest academic projects . . . a recent book chapter “Through a Floppy Tool Darkly: Toward a Conceptual Overthrow of Animal Alchemy” (Povinelli and Penn 2011), the rough-and-ready-dog-and-pony-show talk he'd been giving for the past year “How the Chimpanzee Got It's Theory of Mind without Even Trying” (Povinelli 2015), the title of the tongue-in-cheek appendix he had snuck into his latest book “Some Folk Psychological Challenges to the Objective Study of Ape Intelligence” (2012), even the terse title of an upcoming talk at New York University “Anthropomorphomania!” (2015). He struggled to remember a definition for folklore . . . *a body of popular myth and beliefs relating to a particular*

culture, subculture, or group of people and their transmission from one generation to the next. Was that it? There was more, of course, but the Folklorist had been right. He *was* interested in folklore . . . *scientific folklore.*

For his own part, the Folklorist's mind was racing, too. Sure, folklorists have long doubted the possibility of absolute objectivity, but does science not operate under a different set of rules? What will come next? Will scientists use the Tortoise and the Hare to design an experiment to test for higher-order notions of athletic strategy? Will ants be tested against grasshoppers for economic aptitude? And fables are only the tip of the anthropomorphic iceberg! What of the hedgehogs and wolves in Märchen—or mythological serpents, or elephant jokes? And then there was the ethical problem—the agnostic stance he had been committed to for so long. On the one hand, he was comfortable problematizing the kind of scientific thinking that always wants clear, positivist answers to murky, humanistic questions. On the other hand, even humanists have to draw the line somewhere . . .

And so it was only a matter of time, after their respective minds had settled, that the weekly phone calls began—at first an hour at a time, then several. Initially, they centered on the Crow and the Pitcher project, but quickly their view expanded into a timeless parlor of the human mind—the performance space where humans tell stories about animals, a giant rotunda that corralled science, popular science, pseudoscience, popular culture, ancient mythology and urban legend, children's play, pets, poetry, political agendas, art, and even the musings of the casual naturalist walking through the park. To be sure, there were many similar precedents in other fields, but this felt different.² For the Scientist, it was a better way of exploring what he saw as the powerful engines that drive the wheel spinning machinations of his former field. For the Folklorist, it was a more honest way to think about how the “relativistic” thinking in folkloristics interacts with the more “objective” truths sought by science. Numerous research projects flooded their minds—some scholarly, other performative—all with a common aim: ringing a new, interdisciplinary bell that could connect known folklore about animals, to the underlying and less obvious *scientific folklore* embedded in the scientific study of animals . . . a study of *cognitive folklore.*

This special issue presents the fruition of one of those projects. It began as a panel at the 127th annual meeting of the American Folklore Society (held jointly with the International Society for Folk Narrative Research) in Miami in October of 2016, consisting of presentations by Barker, Hansen, Povinelli, and Schrempp. Their contributions to

this issue represent slightly reworked versions of those talks. To those presentations, we add the contribution of Hennefield and Hwang, whose interests in the intersection of developmental and comparative psychology prepared them for a deeper examination not only of this scientific retelling of the Crow and the Pitcher, but also of the role that storytelling in general has played in their own scientific subdisciplines (and even their own early careers).

A closing word about a shadow contributor to this issue, Doctor Fomomindo.³ For the past several years, we have been touring a coauthored “traveling theatrical lecture” featuring this retired comparative psychologist (a fictionalized persona of the Scientist) and an only slightly more fictionalized talking-inner-ego-of-a-chimpanzee, Mojo. We have also turned to this duo in our published fiction, as well as more traditional theatrical work.⁴ Across these performance spaces, the genders of The Doctor and The Ape are fluid in the sense that for each project we have assigned genders that have seemed best suited to perform the intellectual and dramatic work we have intended. But one thing about Doctor Fomomindo remains fixed: here is a character who—though steeped in the objective enterprise of the science of animal cognition—is sober enough to realize how quickly human storytelling intrudes. In the context of this special issue of the *Journal of Folklore Research*, his sporadic appearance serves as an overt nod to the broader blending of genres contained herein (historical exegesis, folkloristic theory, cross-disciplinary interviews, scientific data, comparative literary analysis, even wonderfully playful drawings). It is our hope that this admixture of academic traditions can nudge new ways of thinking about a very old set of problems.

To wit, the Appendix adds one more monkey wrench into the folkloristic toolkit: an examination of a not-too-mythical former monkey mind doctor grappling with the complexities of folkloristic motif and tale-type indexes as a possible methodological solution to his life-long attempt to capture the genuinely paradoxical ways in which scientists—in which people—anthropomorphize animals. We intend Doctor Fomomindo’s effort to serve as a map to guide us not just through the choppy waters of a handful of laboratory crows who turned into the Crow, but also through the wilderness of cats, dogs, dolphins, bonobos, elephants, ants, seals, ferrets, alligators, fish, scrub jays, and who knows what other animals peeking through the thicket of Fomomindo’s preliminary index. Moreover, Doctor Fomomindo’s valiant and ever-expanding catalog sheds much needed light on

the growing interface between folklore and science, and beyond (see Schrempp's essay and our Conclusion herein). To be as direct as a blow from John Henry's hammer, this issue of *JFR* and Doctor Fomomindo's never-ending index, constitute a rough-and-ready starting point to our proposed future subdiscipline of *cognitive folkloristics*.

For the supposedly objective science of animal minds and for the scientists who we hope read this special issue, our genre blending exercise serves a slightly different purpose: to help the next generations of comparative psychologists get a more focused perspective on the scientific folklore embedded in the practice of their field. After all, these scientists are members of a species that demands interminglement with other animals in a way no other animals do. If the science of animal cognition is as steeped in "myth" as much as Povinelli's interview suggests, and the results of Hennefield and Hwang's meta-analysis reveal, then comparative psychologists might well heed Franz Kafka's admonition that sometimes getting what one wants requires a deliberate leap in the opposite direction. Doctor Fomomindo might help us turn the mirrors of our minds just enough to see that many of the extant genres of research into animal cognition (not just the Aesop's Fable Paradigm) are the (re)enactment of prescientific beliefs about both humans and animals. Though never at the expense of the facts of the experimental record, the fictional Doctor Fomomindo wants to raise the problem of anthropomorphism to the top of the beaker. And he has no problem exploring the problem through mixed genres: he claims the science of animal cognition has been a mixed genre from the get-go. Not just in the trivial (if still surprising) way that Aesop's Fable Paradigm has blended fable and science, but in the more pervasive sense that the entire enterprise of comparative cognition begins with—began with—the problem of anthropomorphism (see Chapters III and IV of Darwin [1871] 1969). As the century-and-a-half history of the field attests, the latest proliferation of experimental apparatus and method may stand little chance against the older (dare we say, primordial) human drive to tell stories. Overcoming that part of the human animal's cognition will not be easy—the Borgesian efforts of our good Doctor Fomomindo notwithstanding.

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Notes

1. For a complete description of the higher-order, role-based rules of this particular human game, see the *Official Rules of Ultimate, 11th Edition*, pp. 1–31 (available for download at www.usultimate.org).

2. Far too many people have thought about the human-animal relationship for us to attempt to properly characterize here. But we do have some idiosyncratic reasons for suggesting Babcock-Abrahams (1975), Lévi-Strauss (1963), Gillespie and Mechling (1987), and DeMello (2012). But perhaps our personal favorite is *Animals, Animals, Animals*—a Peabody and four-time Emmy Award winning educational television series that aired on the ABC network in the United States from 1976–1981. Every episode was hosted by Hal Linden who each week embarked on a historical, cultural, and scientific examination of a different group of animals. The lyrics of the show’s theme song say it all:

(Verse 1)

There are animals in history, in fables and in books
 Animals that climb in trees and fish that swim in brooks
 Man is just an animal who’s managed to survive
 A bear can sleep all winter and come out of it alive
 You can lead a horse to water, you can even milk a cow
 a tiger’s just a great big cat . . . a lady pig’s a sow

(Chorus)

Oh animals (animals) animals (animals) animals here and there Animals,
 animals, animals, animals, animals everywhere!

(Verse 2)

There are animals in games we play and in mythology
 Animals we keep as pets, the whole ecology
 A whale is just a mammal that spouts water in the air
 A worm can turn and disappear and then he isn’t there!

(Repeat Chorus)

3. FORMER MONKEY MIND DOCTOR. Although Doctor Fomomindo’s career was mainly spent investigating chimpanzees (and therefore he ought to rightly be named *Fochimindo*), he has intentionally adopted and incorporated the technically incorrect, vernacular “monkey” into his name as a way of hinting at the academic realignment of his postexperimental primate activities.

4. See Povinelli and Barker “Searching for Ratzinger” (2016) and *Confessions of a Former Monkey Mind Doctor* by Povinelli and Barker, directed by Paul C. Daily, with performances by Kate Braun and Aidan Lynch and performed at the Ivy Tech Waldron Arts Center and Indiana University in Bloomington, Indiana,

November 28–29, 2018. Earlier versions of “Confessions of a Former Monkey Mind Doctor” were produced in Göttingen, Germany in 2016 and Tartu, Estonia in 2017.

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